# Table of Contents

Introduction ................................................................................................................................. 3  
Games, Interactive and Immersive ............................................................................................. 3  
Research Process and Research Merit ....................................................................................... 4  
Research Ecosystem ................................................................................................................... 4  
The Next Five Years ....................................................................................................................... 6  
Institutional Background ............................................................................................................ 7  
Vision, Mission and Goals .......................................................................................................... 8  
Governance ................................................................................................................................ 9  
Membership ............................................................................................................................... 12  
Research Facilities ..................................................................................................................... 17  
Research Direction ..................................................................................................................... 17  
Game and Interactive Media Studies ......................................................................................... 17  
Game and Interaction Science ................................................................................................. 18  
Interactive Media for Understanding ......................................................................................... 18  
Achievements and Results ......................................................................................................... 20  
Academic Networks ................................................................................................................... 20  
Research Groups ....................................................................................................................... 23  
CFI lab infrastructure ................................................................................................................. 28  
Conferences ............................................................................................................................... 29  
Knowledge Dissemination Productions .................................................................................. 30  
Selected Projects ....................................................................................................................... 35  
Campus Collaborations ............................................................................................................... 39  
Student Experience .................................................................................................................... 42  
Future Directions ....................................................................................................................... 47  
The Network for the Virtual Future ............................................................................................ 47  
Games Institute Research Clusters in the Next Five Years ....................................................... 48  
Interdisciplinarity and Transdisciplinarity ................................................................................. 50  
Financials ................................................................................................................................ 56  
Games Institute Income and Expenses 2015/16 to 2019/20 .................................................... 56  
Five-Year Financial Forecast ..................................................................................................... 57  
APPENDICES ............................................................................................................................... 60  
Appendix 1. Membership .......................................................................................................... 60  
Appendix 2. Games Institute Events .......................................................................................... 65  
Appendix 3. Member Biographies of Games Institute Advisory Board ..................................... 71  
Appendix 4. Games Institute Communications Products and Channels .................................... 79  
Appendix 5. Member Statements ............................................................................................... 83  
Appendix 6. Publications .......................................................................................................... 128  
Appendix 7. Support Letters .................................................................................................... 129
Introduction
The Games Institute conducts research across the broad field of interactive immersive technologies and experiences. This field includes games, but it has expanded to incorporate virtual and augmented reality, large interactive and collaborative displays, smartphones and tablets, and any other device where game-like interactions drive the user experience. The field is constantly looking to the future, to emerging technologies and their resultant applications and experiences, and the Games Institute is dedicated to exploring, critiquing, and designing the forward trajectory of the field.

The Games Institute (Games Institute) was initially approved by Senate in 2010 and operated under the Faculty of Arts. It was renewed by Senate in 2015 and, in late 2017, became a University Institute, operating under Policy 44 and the purview of the Vice-President, Research and International.

Games, Interactive and Immersive
From its beginnings, the Games Institute viewed the exploration of games as expansive and multimodal. Videogames are created and produced by companies ranging from the large (Ubisoft, Electronic Arts, Blizzard) to the very small (too numerous to mention). The best-known games feature rich, sophisticated graphics, themselves the subject of research in the humanities and computer science alike. The lesser-known games capture the attention of scholars around the globe in attempts to tell rich stories, to convey complex social and political issues, and to use a medium typically based solely in entertainment to deal with issues in physical and mental health, activism and social justice, climate impact and artificial intelligence. This is the study of games as forms of art, as guides for understanding, and as immersive computer programs with demanding interfaces and strong human-computer interaction.

While games remain a major focus in its research, the interests of Games Institute researchers span many types and purposes of interactive immersive technologies and experiences. Affordable virtual reality (VR) headsets brought a new focus, as did the appearance of augmented reality (AR) games and applications. Both of these technologies place the viewer removed from the physical world—VR replacing the physical world completely and AR creating an interactive layer on top. For Games Institute researchers, these technologies brought new light to the study of both all-virtual and hybrid real-virtual settings and interactions. Applications ranging from games with empathy-inspiring experiences to innovative means to understand complex issues, from ways to conduct and enhance health-care to first-person immersive views of travel destinations. Games Institute research explores the technology, the interfaces, and the human responses to these experiences.

Interest among Games Institute researchers also includes both small and large screens and their experiences. Small screens include smartwatches, smartphones, and interactive interfaces embedded in any number of technologies; the computer screen, beyond games, websites and other information displays, all of them interactive and many immersive; large public touch-screen displays, display walls, and more—Games Institute researchers care about how these technologies work, but even more about how people use them, respond to them, and experience them.
Research Process and Research Merit

As a university research institute governed by Policy 44, the Games Institute has as its primary goal the exploration, process, production, and dissemination of top-quality research. The Games Institute has consistently and continually delivered on this goal. Yet the manner in which the Games Institute carries out its research program is every bit as important as the research and its dissemination and recognition. The Games Institute has been built and implemented as a place where the researchers themselves – students and faculty alike – conduct their research in a setting where their ideas, their creativity, their personalities, and their identities are empowered, valued, and rewarded.

The Games Institute is concerned with the entire research process as a continuum with publication only one stage along the line. All stages in the process are conducted by human beings doing their work in the contexts of all aspects of their jobs, their lives, their collaborators and teams, and the societies and cultures in which they live and their research will impact. The Games Institute is about the researcher, with a holistic view of how research works and how researchers make it happen. To this end, traditional outputs of university research – conference talks, journal articles, scholarly books, etc. – are valued and yet equally valued are the implementation of collaborative projects, the management of research teams, the applications for funding whether or not the funding is granted, and the following through of research results to determine how they might affect audiences both inside and outside the academy.

The focus is on the full research process and, with it, the stories that emerge from this process—valuing innovation and thinking outside the box in both research and its dissemination. The Games Institute places major importance on the well-being of its members with the ultimate goal that they feel welcome, they are treated well, and as an Institute learn from them and their experiences. Researchers guide the Games Institute, and it’s the Institute’s goal to provide the best possible environment – physically, socially, and culturally – for their work.

None of this is to suggest, of course, that Games Institute researchers are not evaluated according to the guidelines of their departments, Faculties, and disciplines. Indeed, the goal is to enhance the merit process of the researcher doing the work, not to claim credit for academic output. We understand that that the role of the centres and institutes in this system is to support the researchers in achieving the results that the academic rewards system demands. The Games Institute intends to work with the Faculties over the next five years to make this merit process fully transparent and fully beneficial to the Faculty and Institute alike.

Research Ecosystem

The Games Institute supports its researchers through its infrastructure and administration.

Space

The Games Institute occupies 9000 square feet in East Campus 1. In this space are fifty cubicles, four offices, four lab spaces, a maker space, a 30-person presentation space, and a large collaboration area. Cubicles are used almost exclusively by graduate students and postdoctoral fellows as a supplemental space for collaborations and independent work. Since 2018 all fifty cubicles have been in regular use. The presentation space is used for talks, team meetings, and research requiring larger spaces. The collaboration space holds fifty or more people for talks and is used for design sessions, collaboration meetings, and meetings with researchers and extra-academic partners from off campus.
Interdisciplinarity
The Games Institute was founded and designed to support research that crosses disciplinary boundaries. Single-disciplinary work is most certainly welcome, yet the Institute most strongly encourages interdisciplinary and, ideally, transdisciplinary intersections. This document captures and explains this principle and its achievements.

Equity, Diversity, and Inclusion
The Games Institute was established under one simple principle: if you are a graduate student, postdoctoral fellow, or faculty member focusing on games or other game-like interactions and media, you are welcome. That principle still holds ten years later and the overarching “welcome” embraces the principles of equity, diversity, and inclusion, in all its manifestations, that the University of Waterloo espouses. The Games Institute worked to establish a safe space for women game-players back in the days (starting in 2014) of harassment and threats during the controversy known as GamerGate, and continues to do so for the purposes of racial equity, cultural acceptance, and equity across all genders. To address these issues as they exist and as they evolve, the Games Institute Working Group on Anti-Racism, Decolonization, and Equity, Diversity, and Inclusion was established.

Labs and Connected Research Environments
The Games Institute hosts three research networks, eight research communities, and lab areas for six CFI-funded equip grants:

- **Research Networks:** IMMERSe (The Interactive and Multimodal Experience Research) was created through a SSHRC Partnership Grant, while SWaGUR (The Saskatchewan-Waterloo Games User Research program) came into being through an NSERC CREATE grant. The CanHaptics Network began in 2019 to act as a home for haptics researchers and practitioners. The Feminist Thinktank, the Games and Narrative Group, the Game Studies Research Group, the HCI Games Group, the Human-Computer Interaction Research Group, the Human-Computer Interaction and Health Lab, qCollaborative, the TouchLab, and the Virtual Reality Working Group all operate in the Games Institute space through workspaces, meetings, and events.

- **CFI Labs:** the 3D Printing Facility, the Haptics Computing Lab, the HCI+ Health Lab, the Storyboard Lab, the Waterloo Games Analysis and Monitoring Environment (WatGAME), and the Waterloo Virtual Reality Storytelling Lab (WatVRStory). In all cases, the infrastructure brought into the space has been made available by grant applicants to all Games Institute residents. These labs provide the backbone for the majority of the research conducted in the Games Institute. The labs to date focus on, respectively, game-capable computers and software, along with biometric measuring equipment; 3D printing for design and testing of interactive media materials; a large interactive touchscreen for testing of uses in public locations; virtual reality and augmented reality equipment; a maker space for designing haptic interfaces; a set of large collaboration screens for designing and testing large multiplayer simulation games and experiences.

The Games Institute is also connected strongly with the following Waterloo organizations: the Multisensory Brain and Cognition Lab, HCI Waterloo, the DRAGEN Lab, the Critical Media Lab, and the Stratford School of Interaction Design and Business. Outside Waterloo, ongoing connections have been established with the Milieux Institute at Concordia, particularly its Technoculture, Art and Games (TAG) Lab; the Game Design and Development program at Wilfrid Laurier University; the UC Davis Digital Humanities Laboratory (ModLab); the Collaborative Human Immersive Interaction Laboratory at the
Ontario Tech University; the Innovations in Visualizations Laboratory at Simon Fraser University; the EQUIS Lab at Queen’s University; and the Interaction Lab at the University of Saskatchewan. Members of the Games Institute have collaborated with these external research environments and in some cases spent time there.

**Staff**

From its inception, the Games Institute has maintained a staff team whose role is effective management of the Games Institute space for all purposes. They ensure the research can be carried out and completed, and they complement the research through administrative activities such as research communication, project management, financial management, event planning and implementation, inventory management, grant preparation, and strategic planning. They also act as a liaison between Games Institute researchers and their home departments and faculties for purposes of account management and transfers, and for graduate student and postdoc agreements and payments.

**Research Communications and Knowledge Mobilization**

The Games Institute considers the traditional academic means of research dissemination – conferences, papers, books, etc. – to be extremely important. But we realize that relatively few people have access to these means and yet might be highly interested in what they have to say and what they mean for the world. Research matters to the world outside academe, and to help spread the research beyond its traditional venues, the Games Institute has initiated two significant processes:

- A research communication practice that focuses on research stories and on dissemination that uses language suited to a broader audience but that is nonetheless accurate in its depiction of the research and its applications and implications.
- Methods of disseminating research through innovative knowledge mobilization that uses the principles of games and other interactive media. We have implemented these methods both inside the Games Institute and with external partners (all such projects explained in this document), and we plan to enhance this capability substantially over the next five years.

**The Next Five Years**

The Games Institute is poised to grow in size, membership, reputation, and impact over the next five years.

In 2021, the Games Institute will launch the Network for the Virtual Future, a pan-faculty (and beyond) initiative in which academic researchers and partners in industry, government, and the non-profit sector will join forces to understand, predict, and guide the development of our involvement with remote, interactive, and virtual technologies over the next decades. This initiative will begin as part of the Games Institute and represents a major expansion of the institute.

The Network for the Virtual Future is one of the ways the Games Institute will grow over its next five years. But it is not the only way. In addition, the Games Institute will develop research relationships with more and more faculty members and centres and groups at Waterloo, adding to the research clusters and the research ecosystem in the process. An additional goal is the development of an increasing number of international partners and industry and non-profit partners. The research communities currently in place will attract increasing numbers of high-quality students, and new faculty and new partners will add strongly to this list.
Also beginning in 2021, the Games Institute will explore the possibility of launching one or more interdisciplinary academic programs in cooperation with Waterloo Faculties and departments and, where feasible, other academic institutions. There is no academic program in Game Studies in Canada as yet, let alone Game and Interactive Media Studies or Game and Interaction Science. Given the growth in the field, this is a lack that Waterloo, through the Games Institute, is exceptionally capable of addressing.

Institutional Background

The rise of immersive experiences—digital games, Virtual Reality (VR), Augmented Reality (AR) and now Extended Reality (XR)—has created a global industry aimed to surpass $390 Billion by 2025. Immersive technologies have grown from simple games and simulations of the 50s and 60s, to the home consoles of the 70s and 80s, to today’s fully immersive and realistic environments. More than novel entertainment, immersive experiences drive medicine, military, retail, education and many other applications.

The Games Institute was established in 2010 with a focus on establishing Waterloo as a national hub for game-related and game-driven design and development research in Canada. While there are numerous digital media centres around the country, and the work in these centres sometimes includes games, the Games Institute remains the only Canadian university research centre with an exclusive focus on the vast world of games, game-driven interactions, immersive technologies and the play and study of games.

Initially constituted as a Faculty-based research centre with Dr. Neil Randall (English) as its inaugural Executive Director, along with by Drs. Karen Collins (Communication Arts), Chrysanne Di Marco (Computer Science), and Stacey Scott (Engineering), its inaugural Associate Director. In 2017, the Institute became the first, and currently only, University-level research institute led from the Faculty of Arts.

Games are inherently multidisciplinary and the Games Institute uniquely draws in researchers from all disciplines to provide an inter- and transdisciplinary environment where innovative modes of knowledge can thrive to conduct expansive, multimodal and creative research. Members include faculty, graduate students, post-doctoral fellows, and undergraduate students from all Faculties, as well as industry and not-for-profit collaborators with interest in research, research creation, teaching and outreach.

The Games Institute is a research centre, yet its definition of research extends well beyond academic norms. Research for the Games Institute includes ubiquitous innovation, rich and varied student experience in a fully collaborative student and faculty environment, inventive knowledge mobilization, and extensive community outreach. It is about mastering the academic demands of research while simultaneously demonstrating that academic research has its very real constraints. These modes of thinking take place, on a daily basis, within an environment that leads through multi-disciplinarity, inclusivity, diversity, and responsibility.

Today, the Games Institute is recognized as a centre of excellence and is home to a diverse list of partners from Waterloo and other campuses as well as industry and non-profit organizations. Membership boasts 48 faculty, 7 post-doctoral fellows, 85 graduate students (including alumni), and 12 undergraduate students and is the largest centre of its kind worldwide. Since its last review in 2015, Games Institute members have garnered $5,435,977 in game-specific research funding, they continue to create and build national and international networks and the Institute is home to an internationally renowned publication on game studies.

**Vision, Mission and Goals**

The Games Institute seeks to advance the study, design, and purpose of immersive technologies and experiences through an interdisciplinary and transdisciplinary approach to research.

**Vision:**
To be the leading centre on games, interactive immersive technologies and experiences research.

**Mission:**
To foster an inclusive ecosystem of research, education, knowledge dissemination, outreach and collaboration on interactive immersive technologies and experiences.

**Research Goals:**
To be the central hub for games-related research in Canada by establishing strong academic and industry research projects.

**Education Goals:**
To support and promote innovative, cross-disciplinary graduate training and mentorship in all aspects of game and immersive technology development, understanding and impact.

**Outreach Goals:**
To encourage public engagement and understanding of the importance and impact of games and interactive immersive technologies through faculty and student outreach activities.

**Equity, Diversity and Inclusion Goals:**
To continually improve, engage in and actively participate in the continued awareness and expansion of understanding of issues of equity, diversity, and inclusion across the Institute itself and the broader industry.
**Governance**

The Games Institute is governed by Policy 44 – Research Centres and Institutes as a University Research Institute (approved in 2017). As such, the Institute’s governance structure aligns with policy and is highlighted in the chart below.

![Figure 1: Games Institute Governance Structure](image)

The Games Institute is committed to the active engagement of individuals identifying as women, non-binary, LGBTQTS+, Indigenous, First Nations, Métis and Innu, as well as people of colour and people with various abilities. While achieving true equity in representation of the lived experience of individuals stemming from these different groups is a work for generations and requires a major shift in society and culture, the Games Institute has been successful in achieving, as a first step, gender and disciplinary equity in its formal governance bodies and overall membership.

**Advisory Board**

The Games Institute’s Advisory Board acts as its Governing Body as defined in Policy 44 with the Vice-President, Research and International as its Responsible Officer. The primary responsibility of the Advisory Board is to ensure the appropriate governance of the institute, the fulfillment of its goals and vision, provide direction and advice on the development of strategic directions for the Institute, and – last but not least – the promotion of deeply collaborative inter- and transdisciplinary research. The Advisory Board’s membership includes the Games Institute Executive and Associate Directors, three Waterloo Deans, Games Institute researchers, and representatives of the Games Institute’s industry and academic partners. Excluding ex-officio members, the Advisory Board includes: six (6) people who
identify as women and five (5) who identify as men, five (5) members from Arts disciplines and four (4) from STEM fields, one non-Turtle Island\(^2\) Indigenous person, and one individual who identifies as Black.

As of November 2020, the Games Institute Advisory Board is composed of (*denotes ex-officio members):

**University of Waterloo Leadership:**
- Charmaine Dean*, Vice-President, Research and International, Chair  
- Sheila Ager*, Dean of Arts  
- Lili Liu*, Dean of Applied Health Sciences  
- Mary Wells*, Dean of Engineering  

**Games Institute:**
- Neil Randall* (English Language and Literature), Executive Director  
- Mark Hancock* (Management Sciences), Associate Director  
- Michael Barnett-Cowan (Kinesiology)  
- Aynur Kadir (Communication Arts)  
- Kristina Llewellyn (Social Development Studies, Renison University College)  
- Lennart Nacce (Stratford School of Interaction Design and Business)  
- Jennifer Roberts-Smith (Communication Arts)  
- Oliver Schneider (Management Sciences)  

**External:**
- Kishonna Gray, Assistant Professor, University of Illinois  
- Evan Jones, President/CEO, Stitch Media Inc.  
- Andrea Kerswill, Director of Innovation, Scotiabank  
- Stacey Scott, Associate Professor, University of Guelph, former Games Institute Associate Director (2010-2015)  
- Bart Simon, Director, Milieux Institute, Concordia University  

**Anti-Racism, Decolonization, Equity, Diversity and Inclusion Working Group**

In order to ensure the continued awareness and expansion of understanding of issues of equity, diversity, and inclusion, the Games Institute formed the Anti-Racism, Decolonization, Equity, Diversity and Inclusion Working Group in 2020. The mandate of the Working Group is to establish policies, practices, and education for Games Institute members, associates, partners, and colleagues. The Working Group is composed of faculty and student members of the Games Institute and is supported by Games Institute Executive and Associate Directors and Games Institute Administration.

Its goal is to create, strengthen and implement policies, procedures and culture aimed at ensuring Games Institute’s activities, member composition, administrative and research processes withstand scrutiny in the areas of representation, equity, inclusion, and diversity. It is the ambition of the Working Group that, in time, it will be able to advise project teams on how to make their work reflect these principles, assist faculty supervisors with engaging mentors and co-supervisors for their students to ensure as diverse training as possible, and develop a plan for systematic and ongoing assessment of Games Institute’s progress in this realm.

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\(^2\) From outside of North America.
**Student Council**
A goal of the Games Institute has been to support and promote innovative, cross-disciplinary graduate training and mentorship for our HQP membership. To more readily respond to the needs and interests of the Games Institute’s largest demographic – our students – and to provide them with opportunities for direct involvement in Games Institute activities, the Institute is in the process of launching its Student Council. The Student Council is accountable to the Games Institute Associate Director and to the Anti-Racism, Decolonization, Equity, Diversity, and Inclusion Working Group. It aims to actively participate in Games Institute culture to promote a supportive, diverse, and inclusive environment, strengthen student participation in the Games Institute community and its activities, contribute to the overall wellbeing of the community and keep an open line of communication with Games Institute Leadership and Administration to ensure student voices are represented in day-to-day operations.

**Executive Committee**
Originally including only the Executive and Associate Directors along with the Games Institute support staff manager, the Games Institute Executive Committee has been expanded to consist of the Executive and Associate Directors, Associate Director, Strategic Planning and Administration (acting as Managing Director), the Chair of the Anti-Racism, Decolonization, Equity, Diversity and Inclusion Working Group, two representatives from the Student Council and two representatives from the Games Institute faculty membership. The student and faculty members of the Executive Committee must represent different Faculties. The Executive Committee will make recommendations to the Games Institute leadership pertaining to the planning of the annual budget, research directions and programs, outreach and expansion of membership, day-to-day operations, etc.

**Administration**
The Games Institute considers a strong administrative team to be of crucial importance to its success. The Games Institute Administration is overseen by the Associate Director, Strategic Planning and Administration (acting as Managing Director) and includes project management, research communications, operations, community curation and technical support staff. The Executive Director works closely and continually with the Administration staff to guarantee a tight, effective implementation of all Games Institute activities. Administrative presence throughout the Institute’s governing bodies supports a comprehensive information flow and responsiveness of the overall Games Institute governance structure.

From time to time, the Games Institute may constitute other working groups or committees to respond to the ever-changing needs of its membership and ensure continued innovation in research, training, outreach and communication efforts.
Membership

The Games Institute membership philosophy has always been open and inclusive: any faculty (regular, adjunct or research faculty), post-doctoral fellow or graduate student who engages in game- or immersive technology-related research or teaching may become a Games Institute member at any time. The Games Institute membership strategy has never been based on a targeted recruitment campaign to increase membership numbers; rather, it has relied on active and engaged membership. Over the last five years, membership has grown organically by individuals’ interest, introduction by another member of the community, or invitation by Games Institute leadership.

Members are generally accepted or declined by the Executive Committee and membership terms last as long as the member wishes to remain a member, or until membership revocation via procedures outlined in the original 2010 Games Institute Constitution. Membership benefits include access to the Institute's facilities and equipment, access to shared funding opportunities and research collaborations, participation in seminars, public lectures, workshops and conferences held by or supported by the Institute, and participation in the governance of the Institute, among others. It is expected that members are actively engaged in and contribute to Games Institute activities, including events, interdisciplinary work, knowledge mobilization and translation, mentorship, community building, etc.

Currently, the Games Institute active membership includes over 150 members (student and faculty) from all six Faculties and 20 departments (see Table 1: Games Institute faculty membership by department below). The overall Games Institute membership doubled since its change of status from Arts-based to a University-level research institute (early 2017) and the full listing of Games Institute members is noted in Membership.

Faculty Membership

The Games Institute faculty membership includes representation from all six Faculties and twenty (20) departments/Schools.
<table>
<thead>
<tr>
<th>Faculty</th>
<th>Departments</th>
<th># of Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Health Sciences</td>
<td>Public Health and Health Systems, Kinesiology, Recreation and Leisure Studies</td>
<td>5</td>
</tr>
<tr>
<td>Arts</td>
<td>English Language and Literature, Communication Arts, Psychology, Classical Studies, Drama and Speech Communication, History, Fine Arts, Sociology and Legal Studies, Social Development Studies, Stratford School of Interaction Design and Business</td>
<td>23</td>
</tr>
<tr>
<td>Engineering</td>
<td>Management Sciences, Mechanical and Mechatronic Engineering, Systems Design Engineering</td>
<td>7</td>
</tr>
<tr>
<td>Environment</td>
<td>Geography and Environmental Management</td>
<td>2</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Statistics and Actuarial Science, David R. Cheriton School of Computer Science</td>
<td>10</td>
</tr>
<tr>
<td>Science</td>
<td>Optometry and Vision Science</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 1: Games Institute faculty membership by department

Applied Health Science is projected to become the third-largest membership group for the Games Institute over the next five years following the strong trend of games and immersive technologies in health applications.

Over the past five years, Games Institute’s interdisciplinary ecosystem has played a noteworthy part in the recruitment of faculty members to three Waterloo Faculties: Applied Health Sciences, Arts, and Engineering, including:

- Jennifer Boger (Systems Design Engineering),
- Kerstin Dautenhaun (Electrical and Computer Engineering),
- Lai-Tze Fan (English),
- Aynur Kadir (Communication Arts),
- Ashley Kelly-Mehlenbacher (English),
- Brad Mehlenbacher (English),
- Lennart Nacke (Stratford School of Interaction Design and Business),
- Oliver Schneider (Management Sciences),
- Jim Wallace (School of Public Health).
In the period of this report, Games Institute members have garnered $5,435,977 in games-related research and project funding. Over the five-year period, continuous growth in research funding has driven the membership to lead national and internationally recognized projects, networks and industry-led initiatives.

Members of the Games Institute actively seek research and industry sponsored research grants. Over the past five years, funding for games-related research has seen an upward trajectory and is expected to continue as more industries recognize and begin to implement interactive immersive technologies in their business. The chart below outlines the breakdown of research grant funding held by members of the Games Institute.
**Student Membership**

Students and post-doctoral fellows are an important cohort within the Games Institute. With 85 graduate student members and seven (7) post-doctoral fellows and 12 undergraduate students, the Games Institute has a robust student cohort from a variety of departments. Figure 6 below represents the Games Institute student membership growth over the last five years. For a full listing of Games Institute student members, see Student Members on page 61.

![Figure 4. Games Institute student membership growth](image)

The Faculty affiliation of Games Institute student population varies from semester to semester with approximately 50% from the Faculty of Arts and the remaining 50% from other Waterloo Faculties. See Figure 7: Games Institute student membership by Faculty below for a breakdown of Games Institute student membership.

The Games Institute proudly welcomes all interested students as members and aim to provide a welcoming and inclusive environment for all. Figure 8. Games Institute Student/PDF membership by identity outlines the identity breakdown of Games Institute student/PDF members. Similar to the Games Institute faculty membership, student membership from Applied Health Studies is expected to see significant increases over the next five years.

![Figure 5: Games Institute student membership by Faculty](image)  
![Figure 6. Games Institute Student/PDF membership by identity](image)
**Administration**
The Games Institute Administration is a small and effective support team, consisting of two faculty positions, the Games Institute Executive and Associate Directors, and 4-7 support staff members (depending on the need and number of co-op placements each semester). The administration team supports the Games Institute membership from a functional perspective in terms of coordination, logistics, management of equipment and labs, facilitation of access to space, project management, research communications, community curation, event coordination, as well as coordination with various university units and external groups to help fulfill the research needs of our community.

Games Institute staff also play an important role in the professionalization and mentorship of student members. In particular, Games Institute staff provide workshops on knowledge translation, inclusive communications, grant writing, game design/development and maker support, interdisciplinary collaborations and – crucially – actively creates opportunities for Games Institute members to explore, discuss and consider matters surrounding equity, diversity and inclusion. The latter includes, among others, a thorough onboarding and introduction of new members to Games Institute’s interdisciplinary nature and how inclusivity and diversity bring value to our activities.

All Games Institute staff are required to complete training pertaining to EDI (OHD’s Principles of Inclusivity Series, HREI’s courses on unconscious biases and Indigenization, Equity Office’s Making Spaces program, etc.) as well as courses on excellence in service and support (responding to sexual violence disclosures, suicide prevention, mental health resources and awareness, accessibility in communications, etc.). Whenever a need for short-term or part-time support positions arises, the Institute often recruits from within the Games Institute graduate student population, thus contributing to the professionalization of HQP.

The Games Institute’s Associate Director, Strategic Planning and Administration, is also heavily involved in staff-driven activities on campus, currently serving on the Board of Directors of the Staff Association, a number of university-level committees, such as the Provost Advisory Committee on Staff Compensation and Staff Relations Committee, and co-chairs the UW Sexual Violence Task Force mandated by the Province of Ontario.

As of November 2020, Games Institute’s support team includes:

- Associate Director, Strategic Planning and Administration acting as Games Institute’s Managing Director (1 FTE);
- Research Project Facilitator acting as project manager for collaborative initiatives (1 FTE);
- Research Communications Officer (1 FTE) responsible for knowledge translation, mobilization and other research communications initiatives centred around Games Institute research activities;
- Operations Coordinator (1 FTE, staffed by co-op employees) accountable for day-to-day operations, events and resource management;
- Community Experience Curator (0.3 FTE, staffed by Games Institute graduate students) responsible for community activities, online collaboration platforms management, events;
- IT support staff (0.5 FTE, duties performed by Arts Computing Office and Computer Science Computing Facility staff) accountable for lab and computer equipment oversight; and
- others, as needed.
Research Facilities

The Games Institute research space in East Campus 1 encompasses 9000sq ft, four enclosed labs, 50 student cubicles, four shared faculty offices, two administrative offices, one enclosed large presentation room (30 person capacity) and a large open-concept collaboration/event area (80 person capacity). The facility was opened in 2015 and has quickly become a major draw for faculty, students, and the public.

The space currently houses six CFI-funded labs from researchers based in Arts, Engineering and Applied Health Sciences and hosts eight collaborative research groups and one internationally renowned publication. Given the need for larger spaces for projects involving motion research and games, robotics and games, and other forms of games-driven research, there are clear signs that the need for space will soon outpace our capacity. Prior to the COVID-19 pandemic, some of our student members were sharing cubicle space, research studies would take place in meeting rooms when labs were not available, and a growing number of Games Institute members use the open collaboration space as a drop-in space for ongoing work, meetings and collaborations.

The potential for innovative and transformative games research is enormous with new forms of games and immersive, interactive technologies research and experiences emerging rapidly. Couple these opportunities with projected membership growth and additional physical space will become a priority within the next five years. It is expected that Games Institute faculty members will support any such new space with CFI and other infrastructure grants.

Research Direction

The Games Institute promotes and supports interdisciplinary, transdisciplinary and collaborative research to understand, design, enhance and solve global problems through games, game-driven technologies, interactive immersive technologies and experiences. As an unconventional research centre, the Games Institute expands its activities beyond traditional academic norms in a broad, inclusive approach. Its inclusive, interdisciplinary environment promotes collaboration, brings together diverse perspectives, and sets the stage for a wide scope of questions on the impacts, applications and innovations of games and immersive technologies.

The Games Institute is open to any field of research that explores interactive immersive technologies and experiences. This has been its mantra from its inception. Over the past five years, research has coalesced around three broad clusters: Game and Interactive Media Studies; Game and Interaction Science; and Interactive Media for Understanding. The Games Institute’s researchers work within these major clusters. While these clusters, on the surface, focus on either the Social Sciences and Humanities (SSH) or the Science, Technology, Engineering, and Mathematics (STEM) clusters, the interdisciplinary basis of the Games Institute has seen each cluster welcome members from any discipline as their research interests coincide.

Game and Interactive Media Studies

Game and Interactive Media Studies covers a range of sub-disciplines which in themselves have developed as constellations of disciplinary focuses largely in the humanities and social sciences. This cluster incorporates game studies, primarily a humanities-based exploration of games and game culture, with digital media studies, a set of linked areas driven primarily by the humanities and social sciences.
The Games Institute has been instrumental in building the game studies field at Waterloo and has helped attract both professors and students to the Waterloo community. The Games Institute disseminates its work in the major game conferences, journals, and books, and has led game studies work in three kinds of knowledge dissemination. First, the *Games in Context* academic book series, begun in 2017, boasts seven books on games research and has three more in preparation. *Games in Context* is published by Palgrave with series co-editors from the Games Institute. Second, the Games Institute staffs and hosts an online middle-state publication (semi-academic, semi-journalistic) called First Person Scholar, which has risen steadily in significance and reputation. Third, the Games Institute plans to host annual conferences during the next five years: the first of these, scheduled for June 2021, is the International Conference on Games and Narrative, covering a continually important and controversial topic in game studies.

**Game and Interaction Science**

Game and Interaction Science covers research largely in STEM disciplines, but often complemented by the social sciences and the humanities. This cluster studies the multimodal and multisensory means players use to interact with their games and how viewers of virtual reality, augmented reality, and other interactive immersive media engage with their virtual experiences. The cluster includes the fields of computer science, psychology, health science, kinesiology, systems design engineering, and human factors engineering.

The HCI Games Group explores gamification, games user research, and games for human health, wellbeing, and fitness, as well as the fields of human-computer interaction principles for games and related technologies. The Touchlab examines human-computer interaction, information visualization, and digital surfaces ranging from the very small to the very large. The Human-Computer Interaction and Health Lab studies the use of technology and interactive media and applications to prevent disease, prolong life, and promote human health. The Haptic Computing Lab examines the role of touch interfaces and haptic feedback in interactive applications. Directors of these various labs, along with their students, meet and collaborate regularly in the Games Institute space. This cluster focuses its work on dissemination at conferences, and Games Institute faculty members have not only organized and led prestigious Computer-Human Interaction (CHI) conferences, they have also created the annual conference known as CHI Play.

**Interactive Media for Understanding**

Interactive Media for Understanding is derived from the concept of serious games and expanded to include game-driven simulations in any immersive media. The Games Institute was created in part because of the belief among the founders that games can teach. Games designed as concise yet accurate simulations of a process or event can, through the game’s interaction mechanics, help the players understand the issues being represented. This principle holds true of other forms of interactive immersive media as well: in an interactive structure known as choice-and-consequence, the player or viewer acts on the virtual environment through resource management, dialogue choice, or other designed systems, and by seeing the consequences of their choices, the player or viewer can understand something of the event or process being simulated.

This cluster requires strong interdisciplinary collaboration, and, in a very real sense, draws together the two clusters described above. An international conference covering this work is in the planning stages.
for 2022. Meanwhile, the Games Institute has joined forces with the Research Equity, Diversity, and Inclusion (REDI) council, along with the Council for Responsible Innovation and Technology (CRIT), to launch a game design showcase in which designers are challenged to create cooperative boardgame simulations that demonstrate issues surrounding racial equity and racial violence. This showcase will be followed in 2021 with an event for which designers will create games that highlight indigenous issues in Canada.

Researchers at the Games Institute have made use of simulated representations regularly as a means to engage player understanding. For a general public open house, the Institute for Quantum Computing engaged the Games Institute to create a simple game to help visitors of all ages and backgrounds begin to understand a few core concepts in quantum physics. For an audience of medical professionals, the VEGA (Violence, Evidence, Guidance, and Action) Project worked with the Games Institute to design a game to help service workers take the recommended steps when encountering an individual who shows signs of having experienced or witnessed intimate partner violence. For an audience of policy-makers in the provincial government, the Games Institute designed a cooperative boardgame that was played at a large professional development meeting, with each player representing a stakeholder in the management of the St. Lawrence River basin. For Correctional Service Canada, the Games Institute is designing a gamified process by which newly released offenders engage with elements of society that have changed significantly during their incarceration. For an audience of high school students and teachers, the Games Institute has designed a virtual reality simulation of the Nova Scotia Home for Colored Children in which visitors to the simulation environment to hear stories from former residents of the Home.

In all these cases, and other such projects, the Games Institute works closely in collaboration with experts in the knowledge areas represented in the game or media artifact. Indeed, this form of creating understanding will be central to numerous projects over the next five-year period of the Games Institute, as researchers from multiple disciplines explore the power of interactive immersive media to teach through participatory simulation.
Achievements and Results

The collective knowledge and research conducted by Games Institute members has resulted in the establishment of national networks, significant academic contributions and publications as well as societal impact through industry and non-profit partnerships. Highlights of these contributions are listed below.

Academic Networks

Research generated by Games Institute members contribute to the body of knowledge in the gaming research field, grow Waterloo’s reputation as a national hub, and connect broader research networks in the area of games and immersive, interactive technologies. With support of Tri-Agency funding, the Games Institute has successfully created two major research networks and laid the foundations for a third.

Interactive and Multi-Modal Experience Research Syndicate (IMMERSe)

SSHRC PG, $2.5 million cash; PI: Neil Randall (English); Games Institute faculty co-investigators: Karen Collins (Communication Arts), Chrysanne DiMarco (Computer Science), Mark Hancock (Management Sciences), Stacey Scott (Systems Design Engineering), Fue-Sang Lien (Mechanical and Mechatronics Engineering)

Based at the Games Institute, IMMERSe represents a fully multidisciplinary (across computer science, engineering, social sciences, and humanities), multimodal, multi-thematic, multi-institutional network with academic, industry and non-profit partners in Canada and the US. IMMERSe was the Games Institute’s first large collaborative network and the Institute’s interdisciplinary ecosystem helped the network partners ground their activities. Indeed, the existence of the Games Institute can be credited – in large part – with the grant being awarded to Dr. Randall.

The IMMERSe network was Waterloo’s first SSHRC Partnership Grant (2012-2020) and includes 28 faculty contributors and close to 100 students from the University of Waterloo, Carleton University, Concordia University, McMaster University, Ontario Tech University, and University of California-Davis. IMMERSe researchers conceptualized the “world of games” through a series of six “themes”: a lens through which researchers focus on specific aspects of games research. The network reflects the comprehensive nature of the games world, which encompasses everything from story, to character, to cultural studies, all the way to art, user analysis, technology design, psychology, and health studies.

The corpus of innovative interdisciplinary research published throughout the eight-year span of the network includes over 2,000 entries. IMMERSe contributors completed research in the areas of mobile games, virtual worlds, gambling games, simulation games, augmented reality games, and the full rich panoply of entertainment gaming. Results of the network have ranged from published work in journals, anthologies, and books; to physical game development; to the exploration of research findings in presentations, workshops and conferences.

IMMERSe and Mitacs

An important initiative originating from IMMERSe has been the establishment of its strong relationship with Mitacs to provide the IMMERSe network with new potential avenues for HQP internships with both for-profit and non-profit organizations. Dr. Randall’s (PI) activities in this regard helped initiate conversations that, subsequently, led to the Mitacs-SSHRC partnership, by which all approved SSHRC
Partnership Grants automatically gain access to a streamlined approval process for Mitacs Accelerate research proposals. Joint projects with non-profit organizations undertaken by IMMERSe researchers have also helped to catalyze the inclusion of non-profit organizations as eligible Mitacs partner institutions.

IMMERSe was the first network to benefit from the Mitacs-SSHRC partnership and, since 2015, was able to secure a dozen Mitacs-funded awards with industry and non-profit partners that provided funding for close to 30 graduate and undergraduate students across the network.

**SWaGUR: The Saskatchewan-Waterloo Games User Research**
NSERC CREATE, $1.65 million cash; PI: Regan Mandryk, University of Saskatchewan; Games Institute Faculty co-investigators: Mark Hancock (Management Sciences), Stacey S. Scott (Systems Design Engineering), Lennart Nacke (Stratford School of Interactive Design and Business), Neil Randall (English)

The Saskatchewan-Waterloo Games User Research (SWaGUR) program is the first of its kind in Canada. Based at the Games Institute, SWaGUR brought together a multidisciplinary team at the Universities of Saskatchewan and Waterloo with the long-term goal of training 85 HQP in Games User Research in an interdisciplinary environment (across science, engineering, social science, and humanities) and in collaboration with industrial partners to apply academic and experiential learning in an industrially-relevant context. Addressing human-computer interaction, digital information, and communications technologies, this initiative generates technologies and provides training in the development of technologies that change how people interact with digital information. Similar to IMMERSe, the existence of the Games Institute at Waterloo can be credited – in large part – with the program receiving funding from NSERC.

Thanks to its full integration with the Games Institute ecosystem, SWaGUR offers students a multi- and interdisciplinary environment where they are taught five critical components of games research: read and critique research on player experience, game motivation, gamification, and game design; learn various evaluations methods for creating research questions; practice creating controlled experiments to measure game quality; evaluate player experience through techniques that do not involved the user; and practice skills related to survey design and deployment, interview and focus group facilitation, and player observation.

SWaGUR also educates students about the gaming industry within a global and Canadian context. One of the main required courses for all SWaGUR students covers five critical components of games research: read and critique research on player experience, game motivation, gamification, and game design; learn various evaluations methods for creating research questions; practice creating controlled experiments to measure game quality; evaluate player experience through techniques that do not involved the user; and practice skills related to survey design and deployment, interview and focus group facilitation, and player observation.

**CanHaptics Network**
The CanHaptics network is a new initiative launched in 2019 and led by Games Institute member, Dr. Oliver Schneider (MSCI) and is a collective of researchers, industry practitioners, and community stakeholders across Canada. The goal of the network is to make technology more human by making it physical - pushing out from the screen to be graspable, holdable, and engage with all of human senses - and do so by putting people, not technology, first. Driven by researchers from five universities across
Canada (with membership expected to grow in the coming years), HCI researchers and technologists dedicate their efforts to helping people through physical interactive technology like haptics, virtual reality, wearables, and more. CanHaptics network aims to:

- Accelerate research and innovation in haptics, further entrenching Canada as a leader in interactive physical technology and attract and retain top technology and design talent and companies to Canada.
- Provide companies with a pipeline for talent and connect industry practitioners to cutting-edge research to enhance their technology and designs, by grounding research with real needs of real people.
- Connect community partners with researchers and industry partners to tackle real social problems that matter to people. This ensures that our research projects translate into action; impacting communities and building positive relationships, and help translate research projects into impact for their communities.
- Establish a tighter research community in Canada, streamlining collaboration across space (connecting researchers at different institutions), time (improving institutional knowledge and training across generations of students), and communities (connecting researchers with industry and community partners).

The Games Institute serves as the central node of this new network and is already supporting the network with administrative/project management assistance and minor funding support for events. In late 2020, CanHaptics is launching a collaborative, multi-institution, online course for HCI students at the collaborating institutions.

**Other Initiatives**

Over the past five years, the Games Institute has expanded its external partnerships significantly and aimed to created two new major research networks.

First, submitted for consideration to the now defunct NCE program in 2017, the AVENIR network was aimed at creating critically informed digital applications to help Canadians interpret and assimilate the avalanche of information in the rapidly changing world of science, technology, health and society. The AVENIR network involved academic and industry partners focused on developments in virtual reality, augmented reality, serious games and interactive simulations. Along with 53 academic partners in Canada and 10 internationally, the proposed AVENIR partnership included committed industry partners included entities from the multimedia and banking to games development corporations.

Second, a smaller subset of partners from the AVENIR network, came together in 2019 to propose the Consortium for Augmented, Virtual, and Extended Reality Narrative Studies (CAVERNS). The interdisciplinary team of researchers from 12 universities in Canada and five internationally working with 20 companies and non-profit organizations in the Extended Reality (XR) – which includes Virtual and Augmented Reality technologies – and videogame sectors aimed at exploring the potential of XR storytelling to address the issues underlying the understanding and creation of rich narratives in these emerging media and to develop a series of best practices and tools for creating and analyzing XR media for the industry.

While these initiatives have not, as yet, received funding for their operations, the work put forth by Games Institute researchers and staff involved in these initiatives provides exciting opportunities for
further collaborations across Canada and internationally. The Games Institute continues to actively seek funding structures to fully launch and support these networks.

Research Groups

One of the primary goals for the Games Institute is to foster interdisciplinary collaboration between its members. Over the last five years, the Games Institute has seen the formation of a number of research groups which not only support discipline-specific work but are also open to all Games Institute members who are interested in expanding their knowledge base. Such structures encourage collaboration, cross-disciplinary pollination of ideas and concepts and provide peer groups where researchers can discuss, present and critique each other’s works from a variety of vantage points. All groups are supported by Games Institute administrative staff, including the Research Communications Officer who offers direct support for Knowledge Mobilization/Translation initiatives, media engagements, publication submissions review and grant-writing, among others. The key research groups based at the Games Institute are described below.

Feminist ThinkTank

The Feminist ThinkTank is hosted by research directors of the qCollaborative (see page 26 for details) and based at the Games Institute. The purpose of the ThinkTank is to advance research thinking towards intersectional feminist design by creating space for interdisciplinary crossovers and idea sharing. Dr. Shana MacDonald (Communication Arts) and PhD researcher Brianna Wiens (York University) established the ThinkTank after touring the Games Institute and observing the success of the other affiliated research groups. Recognizing the potential to bring a similar interdisciplinary approach to their intersectional feminist design research, they worked with the Games Institute’s administrative team to develop an engagement strategy for the ThinkTank.

The Feminist ThinkTank has provided students with opportunities to advance their knowledge through participating in critical reading groups, brainstorming sessions, research review, and research creation opportunities. For example, in 2019, the ThinkTank hosted a research creation workshop to develop artifacts that articulate embodied feminisms. Games Institute graduate researchers have learned to integrate complex seminal theories from disciplines such as film studies, gender studies, psychology, rhetorical theory, and critical race studies.

Games and Narrative Group

Led by Drs. Ken Hirschkop and Neil Randall (English Language and Literature), the Games and Narrative Group is a humanities-driven research group focusing on exploring the intersections between game studies, narrative, and rhetorical theory. The group was founded in 2019 in order to provide a way for Games Institute researchers to collaborate on literature analysis directed toward generating research outcomes that articulate how classic rhetorical and narrative theory relate to contemporary game studies research. Almost since their inception, videogames have used narrative. Sometimes the narrative element has been implicit, other times open, but games have exploited narrative techniques, employed narrative suspense, and relied on narrative characters with ever greater sophistication. There is, however, debate over the role narrative plays in videogames. This is what the Games and Narrative Group aims to address through their collective research.
Following COVID-19 restrictions, the group’s weekly meetings moved to an online collaboration platform. Each meeting is dedicated to analyzing a particular reading and object text, determined by the group.

The Games and Narrative Group is in the process of launching a new international conference series to take place virtually in 2021. The inaugural International Conference on Games and Narrative will provide an opportunity to examine the intersection between videogames and narrative through a variety of online formats: live lectures, speaker panels, video essays, workshops, and live streaming gameplay with commentary and discussion. See page 29 for details on the conference.

**Game Studies Research Group**

There are significant differences in how varying disciplinary environments understand, among others, supervision and funding of students which, consequently, creates differences in how students are supervised and how they interact with their colleagues. For example, STEM disciplines favour lab-like structures where students working with the same supervisor form close-knit groups working together, often participating in weekly meetings to report on their progress. In Arts, supervisors oversee the work of their students on a more individual basis, lab-like structures are not common, and students usually conduct their work much more independently than their colleagues in technical disciplines with much less frequent collaboration with their peers.

Recognizing the need and value for humanities students to participate in collaborative, generative, and consistent graduate research sessions, Dr. Neil Randall (English, Games Institute Executive Director) founded the Games Studies Research Group. The group offers a wide array of graduate students from various backgrounds within the humanities the opportunity to discuss their research on a biweekly basis in order to share feedback on research projects, brainstorm new and developing ideas, and generally provide support for Arts-driven game studies initiatives. Members are given a platform to share and explore various research topics, while also participating in multimodal ways of engaging with the material—including live streams, multiplayer critical game sessions, and more traditional deconstruction of shared readings or games.

Despite the hurdles of COVID-19, this group has continued to prosper, migrating their meetings online and offering a haven to these graduate students who may otherwise felt isolated. In many ways, the group has thrived in this online environment, which has offered more ways of connecting research goals, projects, and members together. In addition to their theoretical reflections, the group is also actively working towards a myriad of deliverables to reflect the knowledges, skillsets, and strengths of its members in a tangible way, simultaneously providing CV opportunities and moral support in these uncertain times.
**HCI Games Group**
The HCI Games Group conducts research in information and communication technologies, design, psychology, and human-computer interaction related to games and gamification. Led by Dr. Lennart Nacke (Stratford School of Interactive Design and Business) and based at the Games Institute, the group’s current research areas include:

- **Gamification**: Involves the use of game design principles in systems that primarily support non-game tasks, with the goal of increasing fun, engagement and motivation;
- **Games user research**: Developing new methods and tools for improving player testing and user research in games and entertainment systems;
- **Games for human health, wellbeing, and fitness**: Focusing on making sports, physiological exercise, health, and wellbeing applications more playful, especially in light of the recent increase in sensor use and the quantified self movement;
- **HCI for games**: Finding novel sensors and interaction paradigms that drive the manner in which we interact with computers in a meaningful and engaging way;
- **Affective gaming**: Research using psychophysiological analysis and physiological sensors to track player sentiments when gauging engagement, cognition and player emotions;
- **Social relationship-building games**: Developing games and installations that can be used in public spaces to build relationships and foster social interaction in groups.

**Human-Computer Interaction Research Group**
Led by a multi-disciplinary group of Games Institute faculty members (including, Engineering, Math-Computer Science, Arts and AHS), the Human-Computer Interaction (HCI) Research Group is a central collaboration initiative for Games Institute members involved in HCI research. Members of this research group stem from individual faculty-led labs; for example: HCI Touch Lab (Mark Hancock, MSCI), Haptic Computing Lab (Oliver Schneider, MSCI), Multisensory Brain and Cognition Lab (Michael Barnett-Cowan, Kinesiology), HCI+Health Lab (Jim Wallace, School of Public Health), HCI Games Group (Lennart Nacke, Stratford School of Interaction Design and Business), among others.

This large group of faculty and graduate students meets once per week in the Games Institute’s Presentation Room and/or via Games Institute-supported Slack (post-COVID) to provide ongoing knowledge exchange, present and critique current research, discuss new initiatives, serve as an informal peer-review space for student conference presentations/publications, form collaborations for studies and articles, and create social interactions between the various labs and research groups. Meetings of the group are open to visitors from the Games Institute, other Waterloo departments and centres, and other universities who wish to explore new topics.

In May 2020, following the restrictions brought forward by the COVID-19 pandemic and the subsequent cancellation of many discipline-specific conferences/workshops (including CHI 2020), members of the HCI Research Group organized a virtual conference for HCI researchers at Waterloo to ensure that – despite the cancellations – students had an opportunity to present their research and to engage in conversations about cutting-edge research spanning haptic user experiences, food literacy games, player behaviour on large displays, VR in the workplace, and other areas. Leveraging the Games Institute’s support, a digital record of the presentations is publicly accessible to provide HCI graduate researchers with a platform to present a year’s worth of CHI 2020 research that would have otherwise remained unpublished.
The Human-Computer Interaction (HCI) community at the Games Institute has grown considerably due in part to the connections the researchers were able to make with other Games Institute members. For example, when new faculty members Drs. Oliver Schneider (MSCI), Daniel Harley (Stratford School), and Leah Zhang-Kennedy (Stratford School) joined the Games Institute, they were introduced to faculty members leading the HCI labs. Through this connection, they joined the weekly lab meetings, which led to them becoming permanent faculty members in the Games Institute HCI community. Subsequently, they brought in their own students to the lab meetings so that those students could connect with Games Institute members. As the Games Institute attracts more researchers to join the HCI community, more interdisciplinary perspectives are added, which strengthens the overall support available to each individual. Consequentially, researchers are exposed to more ideas, receive more robust feedback for their publication submissions, and gain access to more opportunities for collaborations with other scholars and industry partners.

**Human-Computer Interaction and Health Lab (HCI+Health Lab)**

Founded by Games Institute member Dr. Jim Wallace (School of Public Health and Health Systems) and based at the Games Institute, HCI+Health Lab researchers study how technology can be used to prevent disease, prolong life, and promote human health. The work in the lab is based on the use of theoretical perspectives and research methodologies from the Human-Computer Interaction (HCI) and Computer-Supported Cooperative Work (CSCW) research communities to design and implement new technologies, and deploy those technologies to understand their impact. Areas of interest include: the impact and potential disruption of mobile and wearable devices on the healthcare system; their use in augmenting and betterment of personal health management; the role of computer games in motivating health and well-being; and the role of peer support on social networking platforms like Facebook or Reddit for people with chronic illnesses. Such a wide variety of research questions requires the group to bridge many disciplines from health science, computer science, psychology, to human factors engineering.

**qCollaborative**

qCollaborative is a joint initiative of researchers from the Games Institute: Drs. Jennifer Roberts-Smith and Shana MacDonald (Communication Arts), along with Dr. Milena Radzikowska (Mount Royal University), and Dr. Stan Ruecker (University of Illinois) and Brianna Wiens (PhD candidate, York University). qCollaborative members work with universities, private industry, government, and not-for-profit organizations in the Americas and Europe. The qCollaborative undertakes design research projects and its work can be described as critical feminist research. Projects are typically collaborative, paced to encourage reflection, and fall into one of four research areas: (1) feminist placemaking, (2) materializing the digital, (3) remediating experience, and (4) design for social justice. Members seek to create safer, more inclusive public spaces for marginalized and targeted communities and are committed to challenging and changing unjust behaviours such as racism, colonialism, (cis)sexism, homophobia, transphobia, ablism, classism, and xenophobia wherever they occur, including in academia, in social justice movements, and in researchers themselves.
Virtual Reality Working Group
Led by Drs. Michael Barnett-Cowan (KIN) and Neil Randall (English), the VR Working Group is a Games Institute collaboration initiative for researchers interested in exploring the opportunities VR technology affords. The Working Group meets, on an alternating schedule, at the Games Institute facilities (EC1) and at Barnett-Cowan’s Multisensory Brain and Cognition Lab (TJB), once per week to discuss topics of interest. The group’s membership includes graduate students from Applied Health Sciences, Arts, Math-Computer Science and Engineering. Scholars in the humanities and social sciences working in areas such as literature, history, anthropology, and psychology, recognized long ago the capacity for language and narrative to increase engagement with a story or topic and thus to enhance the flow of information between communities and cultures. At the same time researchers in the sciences, such as HCI specialists, health experts, engineers, and game designers, have developed various technically sophisticated tools for crafting rich, visually-arresting experiences. However, to date there has been little scholarly attention given to what these two groups have to gain through collaboration.

Over the past two years, the beginnings of such collaborations have developed between students from very disparate disciplines who participate in the VR Working Group meetings. Along with research discussions, the group is also tackling the vastly different expectations of various scholarly disciplines and how to ensure that the VR Working Group student members can fully reap the benefits of interdisciplinary collaboration while satisfying the requirements of their specific programs and finding innovative ways of reporting on their activities that would fully project the benefits of such an integrated, multi- and inter-disciplinary scholarship.

Specifically, outcomes from the VR working group have contributed to publications that exemplify the benefits of bringing scholars together from disparate disciplines. For example, kinesiology researcher Dr. Séamas Weech and psychology researcher Dr. Sophie Kenny published a study with findings linking gaming experience with narrative immersion and reduced cybersickness. Furthermore, an English postdoctoral fellow, Dr. Judy Ehrentraut, is applying insights she gained from working with Systems Design Engineering graduate researcher Marco Moran-Ledesma in her current collaboration with industry partner, Stitch Media, about VR embodiment and player experience in the game Flow Weaver.

The Human-Computer Interaction (HCI) Touchlab
Led by Mark Hancock (MSCI) and based at the Games Institute, the Human-Computer Interaction (HCI) Touchlab is connected with the broader University of Waterloo Touchlab network housed at the Cheriton School of Computer Science. The researchers of the HCI Touchlab employ user research methods and systems design engineering thinking to study technological design and generate knowledge about using technology to improve facets of the human condition. The HCI Touchlab conducts the majority of their research at the Games Institute thanks to its collaborative lab infrastructure. Technologies of interest include VR, 3D printing, videogames, smart devices, large interactive displays, and motion capture.

Research produced by HCI Touchlab members has made significant contributions to the international field of HCI research and has generated knowledge about improving VR experiences by integrating 3D printed objects, addressing gender equity in VR hardware designs, designing videogames that address self-control, designing technology-enabled systems for vulnerable groups, and improving user understanding with data displays.
CFI lab infrastructure

A key part of the Games Institute’s interdisciplinary research ecosystem are co-located research labs. Students and faculty researchers benefit from ongoing collaboration, exchange of knowledge and ideas as they take advantage of the co-located labs and other research infrastructure. Access to all labs is centrally managed by Games Institute administrative staff with support from the Arts Computing Office and the Computer Science Computing Facility and is fully open to the entire membership of the Institute.

Currently, the list of CFI-funded labs fully integrated into the Games Institute premises includes:

**3D Printing Facility Lab, PI: Mark Hancock (MSCI)**
Dr. Mark Hancock’s 3D printing facility enables Games Institute researchers to investigate opportunities to elevate human computer interaction and immersion for a variety of applications, including integrating 3D printed objects to improve the realism of virtual reality experiences as well as creating material experiences to enhance cultural heritage preservation projects.

**Haptics Computing Lab (in construction), PI: Oliver Schneider (MSCI);**
The infrastructure of Dr. Oliver Schneider’s Haptics Computing Lab provides haptic researchers at the Games Institute and the Canada Haptics Network with opportunities to develop multisensory touch experiences for research through design projects dedicated to extending the applications of haptic technology to the realms of accessible design, science teaching, games user experiences, and user research, more broadly.

**HCI+ Health Lab, frm. Interactive Data Exploration and Analysis System, PI: Jim Wallace (SPHHS)**
Dr. Jim Wallace’s HCI and Health Lab is comprised of a large multi-touch display, a table-top smartboard, and design software that allows Games Institute members to work in the intersection of games and Public Health research through designing applications such as programs for shared decision making between doctors and patients, gameful systems for medical knowledge translation, and a game for mental health support.

**Storyboard Lab (in construction), PI: Neil Randall (English)**
The StoryBoard Lab infrastructure will allow Dr. Neil Randall and other Humanities and human-computer interaction researchers to explore best practices for storytelling on large interactive displays and developing research creation experiences that demonstrate how to design narratives for this technology for purposes such as Public Health, travel, performance, education, and training.

**Waterloo Games Analysis and Monitoring Environment (WatGame), CoPIs: Neil Randall (English), Chrysanne DiMarco (CS) and Stacey Scott (SYDE)**
As the original Canada Foundation for Innovation Lab connected with the Games Institute’s IMMERSe Social Sciences and Humanities Research Council (SSHRC) grant, WatGame Lab allowed Drs. Neil Randall, Chrysanne DiMarco, and Stacey Scott to create two dedicated lab spaces with a suite of design software and hardware, video game equipment, board games, and furniture, curated to advance research into the exploration of serious games, player immersion, games for health, game mechanics and narratives, and cultural interactions.

**WatVRStory Lab, coPIs: Neil Randall and Ashley Mehlenbacher (English)**
The WatVRStory Lab provides infrastructure for Humanities-driven research, or STEM research with integrated Humanities approaches, about virtual reality (VR), exploring storytelling best practices for enhancing immersion as well as research creation productions that demonstrate a breadth of innovative applications such as VR experiences about restorative justice, education, accessibility for senior adults, and workplace wellness.
Conferences

**CHI PLAY Conference**
CHI PLAY is the international and interdisciplinary conference (by ACM Special Interest Group for Computer-Human Interaction) for researchers and professionals across all areas of play, games and human-computer interaction (HCI), or “player-computer interaction.” The goal of CHI PLAY is to highlight and foster discussion of current high-quality research in games and HCI as foundation for the future of digital play. To this end, the conference features streams that blend academic research papers, masterclasses, interactive play demos, student game design competition, poster session and industry insights. CHI PLAY grew out of the increasing work around games and play emerging from the ACM annual conference on Human Factors in Computing Systems (CHI) as well as smaller conferences such as Fun and Games and Gamification. While CHI PLAY is not based out of the Games Institute, Dr. Lennart Nacke (Stratford School for Interactive Design and Business and Games Institute member), is considered one of the founders of the CHI PLAY conference series and has served as the chair of its steering committee since 2014. Numerous Games Institute faculty and student members regularly present their games research at CHI PLAY.

**International Conference on Games and Narrative**
The Games Institute is in the process of launching a new international conference series to start in 2021. The inaugural International Conference on Games and Narrative will provide an opportunity to examine the intersection between videogames and narrative through a variety of online formats: live lectures, speaker panels, video essays, workshops, and live streaming gameplay with commentary and discussion. Almost since their inception, videogames have used narrative. Sometimes the narrative element has been implicit, other times open, but games have exploited narrative techniques, employed narrative suspense, and relied on narrative characters with ever greater sophistication. There is, however, debate over the role narrative plays in videogames. Is gameplay fundamentally distinct from narrative? Does game narrative rely on the techniques of filmic and literary narrative? Does its creation of storyworlds make its narrative form distinctive and original? How do the narratives employed in videogames reflect and shape our sense of gender, race, sexuality and national identity?

The 2021 edition of the conference will be available online, in formats designed for maximum accessibility. The conference will be a forum for analysis and discussion, but also a place to meet others with an interest in games and narrative, to learn about how game creators think about narrative design, and to enjoy, in the company of peers, the narrative pleasures and perils of the games themselves. The conference will cover gaming from the mainstream to the avant-garde, from the commercial to the political, and talk about the various ways in which narrative experiences and daily lives intersect. Keynote speakers will include Clara Fernández-Vara - New York University, United States; Kishonna Gray - University of Illinois, United States; Elizabeth La Pensée - Michigan State University, United States; Souvik Mukherjee – University of Kolkata, India; Jan-Noël Thon - University of Nottingham, United Kingdom; Astrid Ensselin - University of Alberta, Canada.
Knowledge Dissemination Productions

Palgrave Games in Context Book Series
Games are pervasive in contemporary life, intersecting with leisure, work, health, culture, history, technology, politics, industry, and beyond. These contexts span topics, cross disciplines, and bridge professions. Palgrave Games in Context situates games and play within such interdisciplinary and interprofessional contexts, resulting in accessible, applicable, and practical scholarship for students, researchers, game designers, and industry professionals. What does it mean to study, critique, and create games in context? This series eschews conventional classifications—such as academic discipline or game genre—and instead looks to practical, real-world situations to shape analysis and ground discussion. A single text might bring together professionals working in the field, critics, scholars, researchers, and designers. The result is a broad range of voices from a variety of disciplinary and professional backgrounds contributing to an accessible, practical series on the various and varied roles of games and play. The series is co-edited by Games Institute Executive Director, Dr. Neil Randall (English) and Games Institute alum Dr. Steve Wilcox (Game Design and Development, Laurier University). Note: * denotes Games Institute scholars who co-edited books in the series.

Game History and the Local by Swalwell, M. (Ed) (2021, forthcoming)
Game history did not unfold uniformly and the particularities of space and place matter. Yet, many digital game and software histories are silent with respect to geography. The orthodoxy that the U.S. and Japan – and to a lesser extent the U.K. – constituted the ‘centres’ at the outset of the industry has enjoyed such legitimacy that many accounts do not even bother to mention the ‘where’ that their material or statistics pertain to. That many histories have been written by journalists and ‘insiders’ – comprising what Huhtamo calls the “chronicle era” of game history – largely accepting the game industry’s ‘global’ rhetoric has no doubt contributed to this situation. However, it means that locality has largely been left out of game history (with some notable exceptions), at least until recently. Given the great historic diversity of games and contexts for their play, an appreciation of socio-cultural and geographic specificity is important to develop, particularly if other histories are to be told, for instance, from the ‘periphery’ rather than the ‘centre’. There is a burgeoning interest in discussing locality with respect to game history. Whilst this degree of interest is welcome, the local needs to be critically-situated if it is not to simply become a new orthodoxy, celebrated for its own sake. This anthology is intended to bring together scholarship which addresses the critical potential of the local for game history, asking how this might encourage a maturation of historical work on and around games.

This book directs critical attention to one of the most ubiquitous and yet under-analyzed games, Minecraft. Drawing on three years of ethnographic fieldwork into mobile games in Australian homes, the authors seek to take Minecraft seriously as a cultural practice. The book examines how Minecraft players engage in a form of gameplay that is uniquely intergenerational, creative, and playful, and which moves ambivalently throughout everyday life. At the intersection of digital media, quotidian literacy, and ethnography, the book situates interdisciplinary debates around mundane play through the lens of Minecraft. Ultimately, Exploring Minecraft seeks to coalesce the discussion between formal and informal learning, fostering new forms of digital media creativity and ethnographic innovation around the analysis of games in everyday life.
This book provides an introduction to the Forge, an online discussion site for tabletop role-playing game (TRPG) design, play, and publication that was active during the first years of the twenty-first century and which served as an important locus for experimentation in game design and production during that time. Aimed at game studies scholars, for whom the ideas formulated at or popularized by the Forge are of key interest, the book also attempts to provide an accessible account of the growth and development of the Forge as a site of participatory culture. It situates the Forge within the broader context of TRPG discourse, and connects “Forge theory” to the academic investigation of role-playing.

In 1974, the release of Dungeons & Dragons forever changed the way that we experience imagined worlds. No longer limited to simply reading books or watching movies, gamers came together to collaboratively and interactively build and explore new realms. Based on four years of interviews and game recordings from locations spanning the United States, this book offers a journey that explores how role-playing games use a combination of free-form imagination and tightly constrained rules to experience those realms. By developing our understanding of the fantastic worlds of role-playing games, this book also offers insight into how humans come together and collaboratively imagine the world around us.

Queerness in Play examines the many ways queerness of all kinds—from queer as ‘LGBT’ to other, less well-covered aspects of the queer spectrum—intersects with games and the social contexts of play. The current unprecedented visibility of queer creators and content comes at a high tide of resistance to the inclusion of those outside a long-imagined cisgender, heterosexual, white male norm. By critically engaging the ways games—as a culture, an industry, and a medium—help reproduce limiting binary formations of gender and sexuality, Queerness in Play contributes to the growing body of scholarship promoting more inclusive understandings of identity, sexuality, and games.

This volume addresses the persistent and frequently toxic associations between masculinity and games. It explores many of the critical issues in contemporary studies of masculinity—including issues of fatherhood, homoeroticism, eSports, fan cultures, and militarism—and their intersections with digital games, the contexts of their play, and the social futures associated with sustained involvement in gaming cultures. Unlike much of the research and public discourse that put the onus of “fixing” games and gaming cultures on those at its margins—women, LGBTQ, and people of color—this volume turns attention to men and masculinities, offering vital and productive avenues for both practical and theoretical intervention.

Feminism in Play focuses on women as they are depicted in video games, as participants in games culture, and as contributors to the games industry. This volume showcases women’s resistance to the norms of games culture, as well as women’s play and creative practices both in and around the games industry. Contributors analyze the interconnections between games and the broader societal and structural issues impeding the successful inclusion of women in games and games culture. In
offering this framework, this volume provides a platform to the silenced and marginalized, offering counter-narratives to the post-racial and post-gendered fantasies that so often obscure the violent context of production and consumption of games culture.

First Person Scholar (FPS)
First Person Scholar (FPS) is a middle-state publication (semi-academic, semi-journalistic) that has become a major force in the field of game studies. Its sheer volume of material is itself impressive – FPS has published new material every Wednesday since its launch in 2013, amounting to approx. 50 articles per year – but its quality is undisputed. The FPS editorial team is composed entirely of Games Institute graduate students and their commitment to publishing rigorous, accessible, and inclusive research was recently recognized by the Ivy Plus Libraries Confederation. FPS is part of the Digital Gaming Communities Web Archive, which sees the work included in the library collections at Brown, the University of Chicago, Columbia, Cornell, Dartmouth, Duke, Harvard, Johns Hopkins, MIT, the University of Pennsylvania, Princeton, Stanford, and Yale. FPS also appears as recommended reading on numerous games course syllabi around the world. FPS commands a stable readership of roughly 5000 unique monthly visitors and growing, with large international followings outside of North America and Europe; specifically, in India, Brazil, China, countries in the Middle East, and more. FPS enjoys 1,000 active readers in 27 different countries, and readerships in the hundreds growing in more than 50 other countries.

FPS has proven to be an organization that provides mentorship to graduate students on multiple levels. First, students have access to an international community of scholars through FPS; the site is known the world over for its inclusive, quality, and accessible content that pushes and expands the boundaries of the field. Second, students who have the opportunity to serve as an editor gain professional-level experience in the digital publishing industry. But perhaps most importantly, many graduate students have written pieces for the publication, thus presenting Games Institute’s game studies research to scholars across the discipline. The chance for students to not only publish their work, but also gain experience and comfort with academic editorial practices and expectations is invaluable to students striving to mobilize their knowledge and skills. In addition, FPS assists graduate and undergraduate students with multiple professionalization practices, including networking within scholarly spaces, gaining editorial experience with scholars in many fields and disciplines, and making their first forays into academic publishing, which can otherwise be a perilous and exclusionary experience.

The publication was formed in response to large-scale problems in the study of games. Despite the increasing ubiquity of both video games and game players, games and their wider culture face serious problems of inclusion and representation. Mainstream journalists and publishers have remained largely silent in the face of bigotry, unwilling to alienate a perceived white-male player base. This status quo is unsustainable and harmful, as evidenced by 2014’s emergence of antifeminist, antiacademic hate group GamerGate, which explicitly targets women and their allies in game development, journalism, and academia for harassment. The misinformation GamerGate capitalizes upon is exacerbated by a lack of open access to game scholarship produced within academia.

FPS responds proactively to an ongoing lack of diverse representation in games culture generally and games academia in particular. Over the years, FPS has been involved in the organization and publication of several series of special issues bringing together the work of specific underrepresented communities, including collaborations with the Different Games Collective and disability scholars. A recent series of
three special issues, funded through a SSHRC Connections Grant (PI: Jennifer Whitson, Sociology and Legal Studies) as well as by the Games Institute, consists of an issue on queer game design published in Spring 2019, an issue on Indigenous survivance published in Fall 2020, and an issue bringing together queer and transgender authors of colour to be published in 2021.

**Games Institute Podcast**

The Games Institute Podcast is a unique research communications channel featuring interviews with Games Institute members that emphasize their individual approaches to research and research processes. Professional academic publications are driven by knowledge but are not concerned with the story of its pursuit. While traditional academic publishing venues capture the integrity of research, standard organizational and news communication channels articulate research stories, but often don’t do justice to the rigor of work. The Games Institute Podcast bridges this gap and provides an accessible mode of translating knowledge to the general public.

Since its launch in May 2019, along with First Person Scholar, the podcast has become a critical part of the Games Institute’s global outreach strategy. As one of the few university-based research institutes in North America using podcasts as a strategic form of research communications, the podcast has attracted a diverse listener-base of over 3,000 individuals across 4 continents and 26 countries with 27 episodes, representing 10 academic disciplines from four Waterloo Faculties (Engineering, Math, Applied Health Sciences, and Arts). The podcast has attracted listeners from China, Canada, USA, and Germany with a growing listenership in France, Belgium, Japan, Norway, Ecuador, and Slovakia, and a burgeoning presence in Brazil, Colombia, Russia, Estonia, Ukraine, Sweden, UK, Spain, Netherlands, UAE, India, Thailand, Indonesia, Japan, Hungary, Iran, and Argentina. Figure 9. Geographical reach of Games Institute Podcast shows the reach of the podcast as of November 2020.

The goals of the Games Institute Podcast are to provide a way for our researchers to gain knowledge translation experience and addresses the Games Institute’s public mission to mobilize, translate, and implement accessible knowledge dissemination. The podcast producers are Games Institute staff Marisa Benjamin, Research Communication Officer (MA alumna, English) and Games Institute student member Toben Racicot, PhD candidate (English). The podcast is a vital component of the Games Institute’s research communications and international growth strategy; it is also key to the continual enrichment of the ecosystem for our researchers.
The podcast has become critical to unlocking the insights into the lives of researchers and the research process itself with its fast turnaround, non-expert accessible language, and fidelity to the research process and research outcomes. The podcast not only strengthens the interdisciplinary nature of interactions within the Games Institute, but is also expected to generate new avenues for research that may not otherwise have been possible. Mastering the demands of rigorous representation of academic work while simultaneously demonstrating that academic outreach can be inclusive, diverse, and accessible is one of the Games Institute’s leading long-term goals: to tell stories about our researchers and their work to make the Games Institute the global hub of games research.

The podcast episodes are distributed via Liberated Syndication, which allows them to be available through main podcast streaming services such as Apple Podcasts and Spotify. Recently, video recordings of the interviews are also published on YouTube. The podcast allows the Games Institute to establish a presence in this very popular medium, while also providing an accessible alternative for our non-visual audiences. The podcast structure involves 70% research discussion and 30% autobiography to provide a balanced story, while maintaining conversations at a grade 10 level and avoiding expert vocabulary and scientific jargon to ensure accessibility for the general audience. Having said this, the diversity in topics covered by the podcast and its accessible form make it an interesting source of information for an academic audience across all disciplines whose research intersects games, interactive design, and technology.

The episodes are published in a purposefully prearranged order to ensure a wide variety of research being presented and a balanced gender ratio of the podcast guests (see Figure 10). The growing portfolio of guests from diverse disciplines allows the producers to share examples from previous episodes and make connections with other disciplines as well as different scientific and academic research methods. This results in not only a well-rounded experience for the podcast listeners, but also helps Games Institute researchers explore their work from a new perspective leading to new collaborations and better knowledge translation in their own writings.

Inspired by the Games Institute podcast’s approach to knowledge translation and following consultations with Games Institute Podcast producers, six other UW podcasts have or are in the process of launching as spin-offs. Topics will include human-computer interaction and games, intersectional feminist research design, digital humanities archival work, deconstructing white-cis-hetero-patriarchy through technology, explainable quantum physics, and student start-up stories.
Selected Projects

The work produced by the Games Institute extends beyond traditional academic norms. The following projects highlight the potential reach of research focused on games and immersive, interactive technologies, as well as use of the insights garnered as vehicles for innovative knowledge mobilization or translation even in the most sensitive of subject matter.

Above Water
Funded by Games Institute and NSERC; PI: Lennart Nacke (Stratford School of Interaction Design and Business), created by Rina Wehbe, PhD candidate (Computers Science)

Above Water, designed by a computer science PhD candidate, is a digital/physical hybrid game to educate non-institutionalized individuals on the available strategies to cope with two types of Anxiety Disorders - Generalized Anxiety Disorder and Panic Disorder; it also teaches players about existing treatments, intervention information and ways to support those with mental health disorders. Above Water focuses on using the physical world (physical space, physical and tangible cards) and the digital world (accessible by any phone or tablet with a modern web browser) as part of its gameplay and is designed to inspire players to share their experiences and develop their own personal narrative.

Potential players could have clinical diagnoses, be seeking information about a suspected problem, or playing a supportive role in another individual’s journey to health. Above Water is not designed to be a treatment itself, but instead provides information that may empower individuals to seek treatment by creating awareness about different options and encourage conversation between players. The game acknowledges that the effectiveness of treatments is personal to each individual and focuses on treatments as pieces of a treatment plan that contribute to better overall health and wellness.

Allergies and Allegories
Funded by Games Institute and Canadian Institutes of Health Research (CIHR); PI: Bruce Mazer (McGill University); Games Institute Faculty Members co-investigators: Susan Elliot (Geography and Environmental Management), Neil Randall (English), created by Steve Wilcox, PhD alum (English), supervised by Aimée Morrison (English)

Allergies & Allegories, created in collaboration with GET-FACTS (Genetics, Environment and Therapies: Food Allergy Clinical Tolerance Studies), is an online game with an goal of working towards lowering the social and cultural difficulty individuals living with severe food allergies face by engaging children, adults, students, and teachers with various representations of day-to-day life with food allergies. Allergies and Allegories is an example of how a game can serve as a knowledge translation tool, transforming the insights of academic publications from medical experts into an accessible vehicle aimed at increasing public awareness in this area. This game has players working with Mia, a child who has a severe peanut allergy and has recently moved to a new school. The objective of the game is to improve Mia's well-being, which is a composite of various factors identified in the research conducted by GET-FACTS medical experts on children with food allergies in schools across Ontario.

In addition to being a powerful knowledge mobilization medium, games afford players a degree of agency that enhances their capacity to represent experiences in a persuasive, personal, and practical manner, which fosters the retention and deployment of those experiences in everyday interactions. The author of the game, Games Institute alum Steve Wilcox (now professor of Game Design and Development, Laurier University), explored this notion not only in terms of its artistic implications, but in its potential application to scholarly publishing, or what can be referred to as playable publishing. This
concept represents a kind of interactive form of conveying scholarship that enhances the reader/player’s understanding of the material by affording a degree of play into the process.

Consequently, Dr. Wilcox, argued his PhD dissertation in part through the Allergies and Allegories game, a first at Waterloo.

**DOHR: The Digital Oral Histories for Reconciliation**

Funded by SSHRC Partnership Development Grant; PI: Kristina Llewellyn (Social Development Studies); Games Institute Faculty Member co-investigators: Jennifer Roberts-Smith (Communication Arts), Lennart Nacke (Stratford School of Interaction Design and Business), Gerald Voorhees (Communication Arts)

The Digital Oral Histories for Reconciliation (DOHR) is a restorative justice project, featuring a Virtual Reality (VR) experience that takes students into a digitally rendered representation of the Nova Scotia Home for Colored Children as a part of a grade 11 Canadian History unit. DOHR’s interdisciplinary, Waterloo-based VR design team worked with former residents of the home, Tony Smith, Gerry Morrison and Tracy Dorrington-Skinner, as well as with academic and community partners across Canada to ensure that the VR experience and the accompanying two-week history curriculum unit worked towards restorative justice for the former residents. Throughout the development of the project, victims of Institutional Child Exploitation Society, the Nova Scotia Home for Colored Children Restorative Inquiry, educators, historians, and legal experts worked collaboratively with the interdisciplinary team of researchers and students from Waterloo, Dalhousie, UBC, Alberta, McGill, Laurier, Ottawa, Toronto and UNB.

The digitally rendered representation of the home allows participants to hear stories in the voices of former residents Smith, Morrison, and Dorrington-Skinner, while standing in renderings of the spaces where the stories occurred. Through this process, students are immersed in learning to gain an understanding of the 80-year history of the home and the harms of institutional racism.

**Energize - Play for Reality: Conveying Sustainability Challenges Through Game Mechanics**

Funded by Mitacs and Waterloo Global Science Initiative; PI: Neil Randall (English), created by AC Atienza, MA alum (English)

Several Ontario regions have agreed to reduce their carbon emissions by 80% by 2050. However, many of these cities do not actually have a plan for how they will reach this noble but challenging goal. In response, the Waterloo Global Science Initiative (WGSI) in partnership with the Games Institute has created a board game called *Energize*. Based on the rich body of research on rhetoric, game studies, design, and hermeneutics, which considers how people interpret media and how they draw meaning from an object, *Energize* is designed as a co-operative game where every player has their own role (like managing money or projects) as well as their own talents (like being charismatic, efficient or resourceful). It was created as an educational tool for understanding how to plan and implement sustainable energy solutions and its goal is to draw attention to the challenges and the solutions of how a city can reduce carbon emissions. It represents the potential that games have for teaching people complex ideas, like environmental realities, by demonstrating the obstacles, considerations, and possibilities involved.
Incorporating Social Justice into Haptic VR Storytelling

Submitted for consideration to the Tri-Agency New Frontiers in Research Fund; PI: Oliver Schneider (Management Sciences); Games Institute member co-investigators: Michael Barnett-Cowan (Kinesiology), Kristina Llewellyn (Social Development Studies), Jennifer Roberts-Smith (Communication Arts)

Incorporating Social Justice into Haptic VR Storytelling proposal was developed by Games Institute researchers and their collaborators from Dalhousie University and a non-profit organization VOICES. The project focuses on Virtual Reality (VR) technology which offers profound opportunities to improve the creation, generation, and sharing of stories, a key component of human culture. In most cases, the development of VR environments and delivery systems has been driven by hardware development in the commercial gaming market. With VR headsets entering classrooms and living rooms, a need has arisen for content development outside of the commercial sphere.

This project will utilize a VR environment to bring the stories of marginalized communities to broad audiences. The aim is to design a new haptic, or touch sensitive, VR story driven by community partners to develop guidelines for incorporating social justice into haptic VR experiences, explore ways to deploy this experience in an accessible format (e.g., with commodity or low-cost devices), and produce tools by which marginalized communities can continue to tell and experience VR stories. The result will be a guiding example of how to design future VR experiences to be accessible for users with visual and hearing disabilities, marginalized creators and audiences, and initial infrastructure to enable other communities to tell their stories.

Merlynne

Funded by NSERC; PI: Jim Wallace (School of Public Health and Health Systems), created by Tina Chan, MSc alumna (School of Public Health and Health Systems)

Merlynne is a single player role-playing game that asks the player to advance the narrative by offering support, advice, and encouragement to non-player characters by using techniques from cognitive behavioural therapy (CBT). In the narrative, the player acts as a foreign advisor to the heroic knights, wizards, and kings of Khamelot, as a mysterious plague of negativity starts to hinder their daily lives. Merlynne is designed to explore how gamification with narratives and avatars can influence motivation in online peer to peer (P2P) support platforms. The goal is to identify innovative ways to increase engagement in P2P cognitive behavioural therapy platforms and explore whether presenting mental health tools with creative mediums can attract diverse individuals to the mental health conversation.

Orbit

Created by Karina Arrambide, PhD candidate (SYDE); Lisa Freiman Cormier, MA student (Stratford School of Interaction Design and Business); Rina R. Wehbe, PhD candidate (Computer Science), supervised by Lennart Nacke (Stratford School of Interaction Design and Business)

Children with Attention Deficit (Hyperactivity) Disorder or AD(H)D can require treatment for which they need to experience long-lasting neurofeedback sessions. Children might not adhere to at-home treatment activities because of the nature of these sessions; thus, not getting the benefits of the program. Orbit – a first multiplayer prototype that was evaluated in a pilot study with five neuropsychologists– tested the hypothesis that by playing a collaborative neurofeedback game, children will be more adherent to their treatment and therefore derive a stronger benefit. It was found that collaborative multiplayer games are suitable from a therapeutic standpoint and long-term use because of its higher social motivation and collaboration between children with AD(H)D; albeit there are some
drawbacks including unreliability of electroencephalography (EEG) input and the risk for the collaborative environment to be distracting for the player.

**Rebuild – Addressing Community Corrections: Applying Gameful Design and Simulation to Support Offender Reintegration**

Funded by Correctional Services Canada; PI: Neil Randall (English), created by post-doctoral fellow Kevin Barton (Psychology/English) and PhD candidates: Rebecca Anderson (English), Alexander Fleck (English), Sabrina Sgandurra (English)

Correctional Services Canada (CSC) initially approached the Games Institute in 2016 to investigate how games and interactive technologies could help facilitate reintegration into society for released offenders. The resulting multi-year project aimed to create a gamified app to help offenders successfully assimilate back into society after release and avoid recidivism. Providing $500,000 in funding, Correctional Services Canada is an example of a large public-sector organization that recognizes the Games Institute’s success in bringing the right people together to imagine new solutions to some of the nation’s most difficult challenges.

CSC officers and Games Institute researchers are jointly developing a game, *Rebuild*, that will be used after offenders have served their custodial sentences. The game is targeted at increasing players’ capacities for obtaining and keeping employment. This initiative is part of a five-year agreement with the CSC to research, design, and build games that will address each risk factor for reoffending (beginning with the risk of unemployment). The project is based on an extensive a literature review of recidivism in Canada, the impact of simulation games, world-building, and community resources. The project also includes applications of gameful design research and gamification mechanics to be incorporated to an app/website tool.

**Responding to Disclosure – VEGA: Violence Evidence Guidance Action**

Funded by Public Health Agency of Canada; PI: Harriet MacMillan (McMaster University); Games Institute members co-investigators: Neil Randall (English), Steve Wilcox, PhD alum (Game Design and Development, Laurier University)

The Violence Evidence Guidance Action (VEGA) project led by McMaster University created pan-Canadian, evidence-based guidance and education resources to assist healthcare and social service providers in recognizing and responding safely to family violence. The VEGA team, developed resources in collaboration with expert consultants and organizations, 22 national organizations and other stakeholders. The project, with funding from the Public Health Agency of Canada, focused on three main types of family violence, including child maltreatment, intimate partner violence, and children’s exposure to intimate partner violence. The online resources included evidence-based learning modules, care pathways, scripts and how-to videos, along with interactive educational scenarios and a handbook.

Games Institute researchers collaborated with VEGA’s experts to develop the *Responding to Disclosure* serious game which has since become the central part of the VEGA online curriculum base. The simulated interactions allow service providers to discover the signs of family violence for themselves and to explore various responses, the outcomes of which align with evidence and best practices. The game aims to improve the knowledge, skills, attitudes and behaviours of the thousands of providers involved in recognizing the signs of family violence and providing a safe and effective response to survivors.
Scotiabank Partnership
Funded by Scotiabank; PI: Neil Randall (English), Games Institute member co-investigators: Mark Hancock (MSCI), Lennart Nacke (Stratford School of Interactive Design and Business), Ben Feng (Statistics and Actuarial Science), with post-doctoral fellow Michael Hancock (English), PhD candidates: Alessandra Luz Ferreira (Computer Science), Marco Moran-Ledesma (Systems Design Engineering)

Scotiabank approached the Games Institute as a research partner for a project relating to how games and game technologies can be used for educational purposes and how to impact user behaviour through deeper understanding of the consequences of financial decisions. Scotiabank chose the Games Institute because of its interdisciplinary ecosystem and an ability to engage expertise from multiple disciplines. As is the case with most research projects sponsored by major industry partners, activities under the Games Institute-Scotiabank partnership agreement are governed by non-disclosure agreements.

Terrorarium
Funded by Mitacs and Stitch Media Inc.; PI: Neil Randall (English), created by Games Institute post-doctoral fellows: Adam Bradley (English), Michael Hancock (English), and Games Institute PhD candidate Judy Ehrentraut (English)

In collaboration with Stitch Media and co-funded by Mitacs, post-doctoral fellows from English and Systems Design Engineering participated in the development of Terrorarium, a personal computer (PC) game about “wanton destruction and adorable gore in playermade murder gardens”. The researchers used the design and development process of creating a commercial game as a case study to further research surrounding narratology, interactive narratives, cultural analysis of games, and innovative gameplay interactions. The development of Terrorarium helped the researchers understand how the rhetoric of video games and procedurally-generated visuals in multimodal environments influence young audiences. Using a variety literary, folkloric, and mythology theories, they established how specific actions allow players to engage with the game world, drawing on their real-life experiences with institutions and plants. They expanded the applicability of rhetoric to the study and game design of Terrorarium by examining how the game creates roles for its players. To help understand how environments influence players, the researchers also used Terrorarium to understand how to build dynamic, virtual worlds by writing interactive storylines and character backstories.

Terrorarium was selected for the IndieCade Festival at the Electronics Entertainment Expo (E3) 2019 – the largest trade event for the video game industry – and is currently under consideration as an acquisition by one of the top three largest game companies in the world. Games Institute researchers were credited as part of the development team for the game.

Campus Collaborations
As an active and collaborative member of the Waterloo Campus, the Games Institute actively pursues opportunities to contribute to and partner on cross campus initiatives.

Council for Responsible Innovation and Technology and Research Equity, Diversity, and Inclusion
To ensure an equitable future, Waterloo graduates will need to know how to pursue research and innovations that are beneficial to all, and the Games Institute aims to enhance this inclusive approach by collaborating with other units on campus whose mandate it is to consider matters of responsible, equitable, diverse and inclusive innovation. With that in mind, the Games Institute initiated ongoing
partnerships with the Research Equity, Diversity and Inclusion Council (REDI) and the Council for Responsible Innovation and Technology (CRIT), on which Dr. Neil Randall co-chairs, on projects and events related to racial equity and responsible innovation.

In November 2020 and in partnership with REDI and CRIT, the Games Institute launched a first-of-its-kind Racial Equity Boardgame Design Showcase, inviting the Waterloo community to design board games to contribute to anti-racism action on campus with a focus on addressing anti-Black racism in Canada. The event is hosted on the Games Institute’s Discord server, a communication platform that connects researchers in fields like games design and racial equity to exchange research expertise across a range of disciplines.

Building from the enthusiasm in the Waterloo community for the event, the Games Institute and REDI will run the games showcase in 2021 with a focus on anti-Indigenous racism and again seek to build an inclusive network of researchers and knowledge practitioners. The Games Institute will continue to strengthen sustainable and diverse communities at Waterloo by further collaborating with REDI on advancing Equity, Diversity, and Inclusion (EDI) initiatives, including the launch of an art showcase in 2021 that invites contributions from students, researchers, artists and designers across the community.

**Quantum Cats with the Institute for Quantum Computing**
PI: Dr. James Wallace, SPHHS with PhD student Victor Cheung, SYDE and IQC scientific team

Quantum Cats is a mobile game that allows players to learn and engage with concepts of quantum physics. A project in collaboration with the Institute for Quantum Computing (IQC), the game introduces the properties of quantum physics concepts through game play. Quantum Cats asks players to rescue kittens by sending cats to their rescue, but the catch is that the cats are affected by different properties from quantum physics: quantum mechanics, superposition, the uncertainty principle, and quantum tunnelling. Through observing and adapting to how the cats behave under different quantum principles, players gain an understanding of complex quantum principles.

The Games Institute and IQC developed the game as an educational tool to help people become familiar with the science behind quantum technologies. The game was featured as part of IQC’s Canada 150 Signature Initiative, “Quantum: The Exhibition” that toured across Canada and internationally. The game was publicly released on both Android and iOS platforms and has been downloaded more than 10,000 times and was presented at the ACM Conference of Interactive Surfaces and Spaces (ISS 2016).

**Alice and Schroedinger’s Excellent Adventure with the Institute for Quantum Computing**
PI: Dr. Neil Randall, English Language and Literature with PhD students Elise Vist and Lauren Burr, English and IQC scientific team

Alice and Schrödinger Excellent Adventure is a playful exploration of the Mike and Ophelia Lazaridis Quatum-Nano Centre prepared for an IQC Open House. Using a combination of near-field communication chips (which users access in specific locations,) and an engaging narrative, Alice and Schrödinger encourages visitors to wander around the building, seeking out snippets of conversation between Alice, an IQC graduate student, and Schrödinger, her curious and excitable cat.

Typically, tours, even self-guided ones, require visitors to follow a clear, linear path from one point to another, restricting the tour to the path or a pre-determined route. With Alice and Schrödinger, the
visitor can choose the information they are interested in as they are guided by the architecture of the building and their own curiosity draws them to different locations.

**Explaining Nanotechnology to the General Public with Waterloo Institute for Nanotechnology**  
**PI:** Dr. Lennart Nacke, Stratford School of Interaction Design and Business with Master’s student Ekaterina Durmanova, SYDE, undergraduate students: Alice (Yiyang) Peng, Ally Suarez, Arnold Dian Abistado and WIN scientific team

What is nanotechnology and how does it help us everyday? Answers to these questions can be described using augmented reality and digital visualization tools. The Waterloo Institute for Nanotechnology and the Games Institute are collaborating to create such a digital platform online. The first featured “story” will describe how nanotechnology can help fight Covid-19 based on the research on DNA vaccine delivery conducted by WIN members Roderick Slavcev and Emmanuel Ho from the School of Pharmacy and Marc Aucoin from Chemical Engineering. WIN and the Games Institute students participated in the joint development of this interactive, educational platform, and hope to continue with other educational interest pieces in the future.

**Illuminate with the Interdisciplinary Centre on Climate Change**  
**PI:** Dr. Neil Randall (English Language and Literature); Lillian Black, PhD student and Pamela Maria Schmidt, Master’s alumna (English) and IC3 scientific team

The Interdisciplinary Centre for Climate Change (IC3) and the Games Institute partnered for a knowledge mobilization and translation project originally designed as part of “Alarm” an exhibit at Kitchener’s THEMUSEUM. Focused on key climate change risk management concepts, adaptation and mitigation, the project created an interactive artefact that articulates the seriousness of climate change, without using alarmist rhetoric or jeopardizing the science, to create a hopeful, yet educational, experience for THEMUSEUM visitors. *Illuminate* was designed for touch-interfaces that could also be projected on a large screen so that those who did not actively participate in the artefact, could still engage with the story as it unfolds. The narrative of the artefact was also constructed as a choice and consequence simulation, that avoided a failure mechanic, so that participants could experiment with all adaptation and mitigation options and see which combination would be most effective to reach the Paris Climate Agreement’s goal of avoiding a global temperature rise of 2 degrees Celsius. Given the disruptions caused by the COVID-19 pandemic, *Illuminate* will be launched by IC3’s outreach partner, Protect Our Winters Canada (POW). POW helps to educate elementary and high school students on climate change, *Illuminate* will be a central tool in the new teachers’ portal supporting their class curricula.

**Knowledge Mobilization Consulting**  
In 2019, the Games Institute began providing Knowledge Mobilization (KM) and Knowledge Translation (KT) support and mentorship services to various Waterloo units. The most recent examples include: a Knowledge Translation workshop for graduate students participating in Velocity’s Graduate Student Startup Fund; and the Games Institute – along 5G Sportsnet and Rogers – provided mentorship for Concept by Velocity’s Hockeyhack competition. Similar mentorship was provided to the Stratford School of Interaction Design and Business students during the intensive educational event, StoryCamp.
Elsewhere, following the international success of the Games Institute Podcast, the Institute for Quantum Computing and the Faculty of Environment requested consultations with the podcast producers to discuss the potential for launching their own respective KM podcast initiatives.

**Student Experience**

The Games Institute is heavily invested in creating an exceptional student experience that provides our members with an interdisciplinary network and the skills necessary for future success. Specifically, the Institute fosters and emphasizes opportunities to explore different perspectives by providing an environment where knowledge from different fields is valued and links across disciplines are nurtured allowing for true interdisciplinary work. It is because of the nature of the Games Institute ecosystem that students from disparate disciplines are able to extend their respective spheres of knowledge to incorporate diverse perspectives. For example, students from engineering disciplines and the humanities often connect to discuss how specific concepts and methodologies work separately within their disciplines and, consequently, discover critical linkages. Having observed such interactions happen organically, the Games Institute now purposefully fosters these conversations through organized brown bag talks, panels and other events focused on sharing disciplinary knowledge to an interdisciplinary audience.

A key part of Games Institute’s student experience is the opportunity to participate in research projects conducted in collaboration with industry, non-profit and government partners, as well as with other research centres on campus and externally. Games Institute faculty members have led several such collaborations for students in various programs and disciplines, which allows each student to extend their mentorship network.

Although the Games Institute does not have entrepreneurship in its mandate, the Institute is proud of two start-ups established by former Games Institute student members. John Harris (PhD, Computer Science) won a Velocity start-up award for work conducted at the Games Institute; the award allowed him to launch *Playful Pixel*, a company looking to deliver on innovative large-scale in-person social play experiences that combine mechanics of board games, video games and face-to-face role-playing games. AC Atienza (MA, English) co-founded *Cloudfall Studios*, a game development studio, whose first game has seen a successful Kickstarter campaign exceeding its funding goal by $10,000. Both start-ups benefited from Games Institute facilities and community for playtesting and launch events.

**Games Institute Jams**

Most of the Games Institute’s student population is composed of graduate students. However, the Institute hosts the Waterloo Undergrad Game Dev Club. Meeting twice a week, the Proto/Play Nights are an opportunity for undergraduate students to interact with each other, the Games Institute community, and local game developers in a casual atmosphere. Students work on their projects, give and receive valuable play-testing feedback, learn new tools and techniques, discuss the state of the industry, and network with potential collaborators.

The meet-ups also serve as an excellent way to introduce students to Game Jam events: thrice-annual (one per semester), multi-day events hosted by the Games Institute on campus. Games Institute Jams participants gather to create original games over a weekend and include game-making hobbyists, Waterloo students and faculty, professionals from different a variety of fields (programming, art, music, design, writing, etc.), and the general public. These events are attended by 50-100 participants and...
produce 10-30 games at each event. The events usually follow a LEARN-MAKE model where the first two
days offers tutorials on a variety of game design and development topics, and the next two days are
spent on the design process itself.

Games Institute Jams are organized by student members who take this opportunity to grow their skills in
project and event management, community organization, fundraising and public speaking. They also
serve as mentors for the Jam participants, and – often – find collaborators for their own research
projects. On the other hand, students who participate in the Jams, can build their professional portfolios
and network with representatives of game development companies who attend as sponsors and
mentors.

Due to the COVID-19 pandemic, the S20 Games Institute Jam was the first to be run fully online.
Spanning four days, 95 registered participants ranging in age from 10 to 50, and attending from around
the world, created 25 new games. The event was run via online infrastructure built on the Games
Institute’s Discord server allowing participants to form teams and interact using the built-in audio, video
and streaming functions. The S20 Jam brought together a more diverse audience of people who
normally would not be able to attend due to reasons related to health, finances, distance, or
unwillingness to participate in an in-person event.

**Games Institute Janes**
The Games Institute Janes (Games Institute Janes) is a community devoted to supporting people who
identify as women, queer or non-binary, as well as their allies, who are interested in talking about,
playing, and making games. Through social gaming nights, as well as workshops and discussion groups,
this initiative was designed to raise the profile of women in gaming and to create a space that women
feel a sense of ownership over and feel comfortable when playing and talking about games.

**Selected Student Projects**

**Beam Me ‘Round, Scotty!**
Created by John Harris, PhD alum (Computer Science), supervised by Mark Hancock (MSCI) and Stacey Scott (SYDE)

To better study asymmetric co-operative play, PhD student John Harris developed a research prototype
game called “Beam Me ‘Round, Scotty!” that was awarded both the People’s Choice and Judges’ Choice
awards at the CHI PLAY 2015 Student Game Design Competition. In the game, one player uses a dual-
joystick gamepad to play the action-oriented role of the courageous space captain, Joanna T. Kirk, who
must battle dangerous creatures while attempting to escape a hostile alien world. Simultaneously, a
second player assumes the role of plucky engineer, Scotty, using a mouse and keyboard to play a more
planning-focused strategy role. Still safe in orbit, Scotty players must use the ship’s various special
abilities such as heal beams, force fields, torpedoes, and teleportation to help Kirk reach safety. By
designing specific challenges that deliberately tilt the direction and degree of interdependence between
Kirk and Scotty players, the custom-built prototype game was used as a fine-grained, experimental tool
to better understand how asymmetry and interdependence brings players together. A subsequent paper
regarding studies performed on this game received an honourable mention (Top 5%) award at CHI 2019.

**CHI PLAYGUE**
Created by Gustavo F. Tondello, PhD alum (Computer Science) and Rina R. Wehbe, PhD candidate (Computer
Sciences), supervised by Lennart Nacke (Stratford School of Interaction Design and Business)
Modern professional networking relies on social media. *CHI PLAYGUE*, a conference game, was designed to facilitate interaction among strangers and encourage social networking to create a community on social media platforms. The game integrates digital technology (mobile devices and large displays) within the space of a conference venue, combined with a mixed-reality narrative and people’s social interactions to facilitate the emergence of social dynamics. By providing a platform for large-scale, playful interaction, the game creates an experience that fosters the development of mutually beneficial, personal, and professional relationships among players.

**Gendered or neutral? Considering the language of HCI**

Created by Cayley MacArthur, PhD candidate (MSCI), supervised by Mark Hancock (MSCI)

A lack of diversity in STEM fields has been a challenge in terms of recruitment, engagement, opportunity and equality spanning decades. It is not well understood how new technologies created by the human-computer interaction (HCI) community affect aspects such as empowerment, diversity, identity and equity in minority groups. Feminist theory suggests that the abstract, gender-neutral language used to talk about people in HCI would elicit imagery perceived to be male. Research suggests that the “people” words in HCI publications (user, participant, person, designer, researcher) all have a tendency to be perceived as male among a male audience, but females have a more balanced perception of "designer," "person," and "participant." Greater awareness and sensitivity are needed regarding potential bias implied by these terms that are not representative of the diverse community within and outside of HCI.

**Hustle and Flow**

Created by Steve Wilcox, PhD alum (English), Alexander Fleck, PhD candidate (English), supervised by Neil Randall (English)

*Hustle and Flow* is a multi-game project that models the simulation and negotiation of transboundary water governance of the St. Lawrence River Basin. The game is a simulation of the elements at play in the Basin aimed at policy development. The players take on the perspective of a stakeholder group and work together or against others to negotiate what policy decisions are best for the St. Lawrence Basin as a whole, while also balancing those wider needs against their (individual) stakeholder needs. *Hustle and Flow* was presented at the Institute of Public Administration of Canada (IPAC) conference in Toronto in June 2016 and was invited to the European Conference on Games-Based Learning in Paisley, Scotland in October 2016.

**Kitchen Table**

Created by Ryan Clement, PhD alum (English), supervised by Neil Randall (English)

*Kitchen Table* was designed as part of a larger allergy-related project to find new and innovative ways to increase overall empathy towards people with food allergies. A co-operative game built around family meal planning and dietary restrictions, the game challenges its players to work together to ensure there is enough food on the table for everyone to eat, while dealing with issues like cross-contamination and hidden allergens. With an estimated 2.5% of adults affected by food allergies—and 6-8% of children under the age of 31—there exists a substantial generational disconnect over the issue of food allergies and anaphylaxis. *Kitchen Table* aims to bring diverse groups of people together from within families, workplaces, schools, and other organizations—so that everyone can gain a better understanding of what life is like for a person with anaphylactic food allergies.
Places, Please!: Hamlet Edition
Created by Shawn DeSouza-Coehlo, Games Institute MA alum (English) and Jonathan Rodriguez, Games Institute PhD alum (Computer Science), supervised by Neil Randall (English)

Places, Please!: Hamlet Edition is a 4-player cooperative, mobile game designed to simulate the acts of putting a theatrical production at the Stratford Festival of Canada. This game finds its foundations in the 2015 production of William Shakespeare’s Hamlet, presented at the Stratford Festival. Within the framework of this production, four players take on the roles of the four production departments (Acting, Crew, Stage Management, and Tech). All departments must work together to perform simulated versions of the real life, individual, and collaborative duties required of them to ensure the smooth running of the show. The game is unique in that the focus is not on these tasks, but on the complex modes of interaction required between departments in their completion. The game was aimed at increasing existing and potential audience engagement for the Stratford Festival through a game that teaches specific elements of theatre literacy. The game was presented at the 2015 Waterloo Innovation Summit.

Pirate Bri’s Grocery Adventure
Funded by NSERC; PI: Jim Wallace (School of Public Health and Health Systems), created by Marcela Bonfim, PhD candidate (School of Public Health and Health Systems)

Pirate Bri’s Grocery Adventure (PBGA) is a gameful mobile app designed to improve student’s Food Literacy through a situated learning approach to grocery shopping. It combines in-game experiences with the real-life activities of planning at home and selecting foods at the grocery store. PBGA is grounded in Self-Determination Theory (SDT), supporting the psychological needs of competence, autonomy, and relatedness to motivate self-efficacy for long-term healthy behaviour change. Brigitte, the pirate nutritionist, encourages players to fill their shopping cart with foods that bring balance, variety, and moderation. She provides meaningful information about foods to support informed decision-making. Unlike many apps, PBGA accounts for important nutrients as well as food group proportions (instead of a simple calorie-based count), based on each player’s health needs.

Reading Garden
Created by Diane Watson, PhD candidate (Computer Science), supervised by Mark Hancock (MSCI)

Reading Garden is a causal game designed to motivate university students through the long-term motivational problem of reading a course textbook over a semester. In Reading Garden, players grow gardens to level up. Advanced gameplay mechanics are unlocked with a special in-game currency. Players earn this currency by answering a short comprehension quiz based on the assigned readings from the textbook. Results from two semester-long studies show that participating in simple cooperative social play in the games motivated players to personally read more of the textbook, while competing using the leaderboards did not. Hence, cooperation may be more motivating than competition when applied to long-term motivational problems.

Rival Books of Aster
Created by Adam Bradley, postdoctoral fellow (English); Jonathan Rodriguez, PhD alum (Computer Science), Kent Aardse, PhD alum (English), supervised by Chrysanthe DiMarco (Computer Science) and Neil Randall (English)

Rival Books of Aster is a one or two-player mobile collectible-card strategy game that draws on theories of story and myth creation, as well as artificial intelligence research. Players collect cards to create hexes while contributing to the ongoing unveiling of the mythology in the game. There are over 140 hand...
illustrated spells that players can use to build custom decks and go head to head against other players. Each spell is also a page in a living story book that translates itself and reveals its secrets as the game is played. Story arcs and plot points are decided by player actions in-game. In essence, players of the game are dynamically being written into the mythology of the game as they play. The game was commercially developed by Stitch Media Inc. and was released on the iOS App Store and online gaming platform Steam.

**The Pantheon of Dream**
Created by Amber O’Brien, MA alumna (English), supervised by Neil Randall (English)

*The Pantheon of Dream* is a digital/physical hybrid role-playing board game that encourages 2-4 players to work collaboratively to craft their own heroic stories each time they play the game. It consists of both a 3D printed game board that the players build as they play the game as well as a digital component that influences how they construct it. The goal of the game is to complete one of many quests by laying paths to certain locations. As they carry out these quests, players cross paths with creatures, delve into dungeons, and pick up items that will affect their journeys. *The Pantheon of Dream* was developed to explore the relationship between two types of narrative: embedded narrative and emergent narrative, in order to explore if doing so increases player immersion.

**The PoeTree**
Created by Shawn DeSouza-Coehlo, MA alum (English), supervised by Neil Randall (English)

*The PoeTree* is built on the principle that community is the answer. First planted in Trinity Bellwoods Park in Toronto in 2017, *The PoeTree* is the first step in a multi-year plan to foster community engagement. The interactive installation consists of a large plastic and metallic tree possessing 130 branches made of steel wire. At the end of each branch is an alligator clip, and within the jaws of each clip is a single slip of paper containing a poem. Passers-by are able to take a poem from the tree at any time they wish; a nearby sign invites community members to interact with the tree and leave their own poems for others to take. This simple exchange between strangers, anonymous if they wish to be, is a way to know and understand one another through written word.
Future Directions

Looking forward to the next five years for the Games Institute, this section outlines the ways in which the Games Institute evaluates the work of its members throughout the research process—valuing quite equally all stages of the research process from idea generation through the workings of the research group through the writing of grant applications through research outputs both academic and non-academic. This is how research that spans disciplines needs to be conducted, especially disciplines with very different systems of recognition and reward. No part of this process denies traditional academic outputs; instead, it places these outputs in the context of all other process stages.

The Network for the Virtual Future

The Network for the Virtual Future is a major expansion of the Games Institute set to begin officially in early 2021. COVID-19 has demanded a rethinking of how we live and work now and in the future. Virtual and remote technologies are central to a wide range of new modes of engagement. We are already experiencing the first of these numerous engagements, from virtual meetings and virtual offices to remote classes and virtual consultations with medical professionals. These are merely starting points, and they have already demonstrated both the strengths and the limitations of current technologies and how we use them. It is very clear that current technologies need to improve and that new technologies need to come into play, and that these must be designed and implemented according to the needs of the human activities that they will support. Virtual experiences can succeed, but only if they are first and foremost human experiences.

This new network gathers expertise from across the University of Waterloo, Canada, and around the globe to understand, conceptualize, and create the virtual and remote technologies and experiences that will permeate our lives from this year forward. The Network for the Virtual Future exists to initiate the extensive conversations surrounding existing and anticipated virtual experiences and the technological innovations and advancements necessary to render these experiences successful.

The Network for the Virtual Future requires ongoing and sustained input from all fields of research that impact the design, use, and effects of virtual technologies on human experience. Indeed, the central concept is that all related technologies must be understood culturally, psychologically, sociologically, and philosophically, in addition to the scientific and technological understanding needed for them to exist. The Network will launch as part of the Games Institute because of the focus of researchers within the Games Institute on virtual technologies, media, and experiences, across the disciplines and encompassing numerous activities.

Network for the Virtual Future Mandate and Partnership Requirements

The Network for the Virtual Future is a research and innovation ecosystem: numerous fields of focus combining in a collaborative, transdisciplinary environment to solve problems and initiate ideas. It draws together academic, industry, government, and community leaders to engage with the issues at hand and provide the multiple perspectives necessary to achieve effective and positive societal impact. To this end, the ecosystem is committed to critical thinking and assessment, as well as responsible innovation and design.
The overarching mission of the Network for the Virtual Future is to explore, assess, anticipate, and create the virtual technologies and experiences that we will experience over the next decades. Its initial mandate is to:

- Gain a full understanding of current and emerging technologies/experiences;
- Envision and articulate what the virtual future will entail and how it will affect us;
- Establish the structures under which research, design, implementation, and assessment of emerging and new virtual technologies can most usefully occur.

This mandate requires the establishment of the following key components:

- Partnerships with industry, non-profit, government, and community organizations
- Research across multiple focus areas
- Research across multiple technologies
- Courses and programs for university and lifelong learning purposes
- Entrepreneurial and innovation system to implement and expand the work of the ecosystem
- Funding system consisting of multiple sources and mechanisms for financial sustainability

### Network for the Virtual Future Focus Areas

The Network for the Virtual Future must be constantly open to welcoming new ideas and new fields of expertise. Research into the remotely experienced virtual world has been ongoing for years, but the COVID-19 situation has brought into focus the need for a vision for this world and how it will and can impact numerous sectors. The Network for the Virtual Future will cover the following focus areas:

- Virtual health
- Virtual work
- Virtual learning
- Virtual business/commerce
- Virtual travel/tourism
- Virtual politics
- Virtual entertainment
- Virtual assemblies

Within each of these areas lies a large array of associated topics for which research and innovation are needed. For example, virtual health ranges from remote and virtual consultations with doctors and mental health professionals through virtual reality training for surgeons, rehabilitation programs, and personally directed behaviour for health improvement. Virtual education includes both formal education and self-directed exploration of complex topics in all fields.

### Games Institute Research Clusters in the Next Five Years

#### Game and Interactive Media Studies

This cluster looks to examine an increasing range of issues surrounding art, culture, and human behaviour. Game studies has developed a strong and continuing interest in the design and study of games according to the changing perspectives about gender identity, racial equity, indigenous cultures, and more such issues: the field will see an increase in these concerns, as well as the methods of studying them and designing them. Game studies has also developed rich connections with narrative, rhetoric, philosophy, and history, as well as, especially in the study of human behaviour, psychology and sociology. These interests are also permeating other fields of interactive immersive media, as the artifacts and experiences are increasingly studied in conjunction with other forms of artistic and cultural artifacts.
The next five years will see an increase in these kinds of studies, particularly as the design of games and experiences, especially as the game and VR/AR industries, where games takes years to make, catches up to the sociocultural issues now under the game studies microscope. Masters and PhD theses are already fully engaged with these ideas, usually in the form of (often harsh) critique, and as games and media appear that embrace or reject the issues under discussion, the field will grow to accommodate. It’s also anticipated that a strong increase in interest from the fields of sociology and psychology: sociology as it studies the constantly growing fields of online communities and psychology as it explores the impact of game issues on human behaviour and the cognitive processes of experiencing simulations, etc.

**Game and Interaction Science**

The HCI group at the Games Institute has undertaken a wide variety of research projects with the Games Institute's interdisciplinary orientation and the opportunities afforded for collaboration. The group has published in top HCI venues including CHI, CHIPLAY, and CSCW. This year, because of the lower cost of attendance due to its remote format, the Games Institute was able to offer sponsored registrations to the CHIPLAY conference for students outside of HCI to encourage further exposure and cross-pollination.

The arrival of new students and faculty brings new perspectives and ideas, paired with ongoing active participation in the wider research community—the combination of these things informs the vision for upcoming research directions. HCI researchers in the Games Institute are working on topics such as:

- **Accessibility, in all its forms. For example...** In order to make games more accessible for everyone, games user researchers need to be able to playtest with disabled players. However, coming into a game studio to playtest is in itself not an accessible experience. To address this, we need to understand how to conduct remote playtests that balance the rigour and depth of an in-person experience, the ecological validity of someone playing where they are most comfortable (in their home), and that both are respectful and ethical in making sure that each player gets to meaningfully contribute from their own unique standpoint.

- **Supporting the future of work and play. For example...** Increasing numbers of people are adopting a nomadic lifestyle as a choice rather than as a result of hardship. Searching for #vanlife on YouTube returns thousands of results of people across the world sharing a sneak peek inside their converted vans and trailers. A shift in attitudes towards remote work has allowed this movement to take off, and it is accelerating. Still, the technologies built today are heavily biased towards traditional ideas of what a "home" is, even though that very definition is evolving. In particular, while laptops are more portable than ever and wifi is pervasive, this only supports one part of a vanlifer's lifestyle: work. Fieldwork done by Games Institute researchers across North America has shown that such a focus on productivity has come at the expense of the other technologies that we take for granted in our daily lives which support social, and playful, experiences. This disadvantages these remote workers by denying them the same opportunities for making connections in their own communities that are available to people in traditional static housing situations. Researchers on this project are exploring play experiences as well as pushing the boundaries of hardware with their investigation of what it would look like to, for example, take your shelf full of board games on the road using only one modular device.

- **Weeding out the bias built into new gaming technologies. For example...** Modern virtual reality (VR) technology is built using data that is not representative of the people who will use it. This data has become baked into design standards, such as the assumptions we make about interpupillary distance (based on army data), the dimensions of someone's head (many Black women cannot wear the "adjustable" headsets because they do not accommodate their hair), or what we think we know...
about cybersickness, the pervasive affliction causing nausea and disorientation disproportionately among women, and even moreso among women of colour (the instrument we use to measure cybersickness was developed on an entirely male, mostly white population). Games Institute researchers found during a systematic review that these "standards" are often used without question in VR projects, some studies even recruiting all white male participants *because* they knew that not all people would be affected in the same way. By exposing this pattern of systematic exclusion, many concepts at the foundation of what we think we know about VR are shown to not actually be generalizable. Games Institute researchers are working towards raising awareness within the HCI community about this issue to ensure that the continued erasure of diverse experiences comes to an end and that VR technologies can be built for everyone.

**Interactive Media for Understanding**

The central question underlying this research cluster is: Do games teach? And, if they do, do they teach well? Anecdotal responses to this question affirm that teaching does indeed occur, and often, according to the people responding, very well. But actual evidence suggests significant uncertainty about the issue, and the next years of work in this cluster will focus more directly on determining the value of games from this perspective. The same holds for interactive immersive media of other kinds. While we know that non-interactive media such as art and film can teach, if designed to so, it is unclear what the interactive elements of VR and AR, for example, bring to the table.

Research at the Games Institute, drawing in experts from the fields of learning, will explore this topic. But the research cluster itself as a design cluster will most definitely increase in activity because emerging technologies offer increasing opportunities for innovations in helping people understand. As the topics we encounter in our daily lives, from politics to science to health, become increasingly complex, people need multiple ways of engaging with the issues under examination. Furthermore, as the generations of screen users continues to become dominant, using the screens for purposes beyond entertainment will become a desire of parents, teachers, and policymakers. This research cluster exists to tackle such issues.

**Interactive Media for Health**

This new cluster has begun forming and is already part of all of the other three clusters. However, a focus on games and interactive immersive media for the purposes of understanding and ameliorating issues of physical and mental health will become, in the next five years, a significant focus for the Games Institute. This is especially true for the Games Institute as its collaborations with researchers in the Faculty of Health.

**Interdisciplinarity and Transdisciplinarity**

The Games Institute’s focus on strong interdisciplinarity will intensify over the next five years. The principle is that games and interactive immersive media and technologies not only benefit from, but also requires active and sustained input from researchers across disciplines, faculties, funding bodies, and even economic sectors. The richness of an experience in a game or a virtual reality interaction comes from the interplay between the technology, the medium, and the artform, and understanding that interaction demands contributions from disciplines as varied as engineering, the humanities, computer science, the social sciences, and more. These technologies and experiences succeed through strong user engagement, and this engagement is only now becoming understood in the academy and in industry. The Games Institute aims to help guide this future.
The Games Institute’s interdisciplinarity mandate operates from the following points:

- **Interdisciplinarity** lies at the heart of Waterloo’s Strategic Plan and the Games Institute’s concentration on interdisciplinarity acknowledges and supports this goal;
- **Tri-Agency** funding has moved substantially in the direction of interdisciplinary and inter-agency support. Games Institute faculty members have proposed multiple NFRF and Waterloo Trailblazer grants, and a proposal for a Transformation grant is expected in 2021 or 2022. In addition, Games Institute faculty members look to NSERC Alliance and SSHRC Partnership grants as a way to fund strong interdisciplinarity;
- The Games Institute was founded by an interdisciplinary, interfaculty team and set as its initial mandate the fostering and rewarding of interdisciplinary and interfaculty research from faculty, students and partners (academic, industry, government, non-profit). The Games Institute acquired space on campus primarily to achieve this stated goal, with students working together in the space on the basis of “day-to-day interdisciplinarity.”
- The post-COVID world demands solutions to broad societal questions and these can only happen through interdisciplinary and intersectoral research. The Network for the Virtual Future recognizes this need and exists to foster it in order to find such solutions. So, too, does research and design within all aspects of interactive immersive technologies and media within the Games Institute.
- As a University Research Institute, the Games Institute is already committed to interdisciplinarity, and as the centres and institutes increase their levels of collaboration, the Games Institute will commit even further.

The Games Institute membership understands the importance of disciplinary excellence and the weight departments and Faculties give to traditional means of measuring academic success. But, given the importance of the contributions of multiple traditional disciplines to the research fields of interactive immersive media, many of members see transdisciplinarity as a major goal for the future of games-related research and for the training of students. It’s recognized that increasing numbers of students will not set as their goal the acquisition of a career as a professor, either because of the lack of academic jobs or, in most cases, because more interesting and fulfilling opportunities exist outside academe. Transdisciplinary training will suit these HQP well, and the Games Institute seeks to provide such training. Furthermore, the future of interactive immersive media, lies in convergence, in technical, academic, and professional ways, and convergence relies on transdisciplinary thinking and collaborations to create innovation and invention.

**Assessing Research Excellence in an Interdisciplinary Ecosystem**

The interdisciplinary nature of the Games Institute research ecosystem presents numerous opportunities for innovative and unique activities. However, it also creates challenges pertaining to the presentation of a significant portion of Games Institute’s activities in a way that gives them justice given the vastly different expectations of various scholarly disciplines.

First, humanities-driven research does not rely on bibliometrics. Hence, any citation-based system of academic distinction is not relevant to half of what the Games Institute does. We have a number of researchers who have received awards of recognition in their respective fields or are, indeed, leaders in their fields. However, there is not a catch-all term that can capture what Games Institute’s interdisciplinary research ecosystem does; ‘game studies’ is a very specific field in the humanities, ‘game science’ does not exist as a recognized academic discipline, and games and interactive media are often seen as tools rather than the subject of study. Hence, citing any official rankings that are focused on
narrowly-defined domain-specific distinctions to show Games Institute’s successes is less than ideal. That is, as anyone who has ever engaged in interdisciplinary research realizes, a significant challenge to how our work may be viewed and evaluated. Standard numerical/ranking systems cannot be directly applied to a majority of Games Institute’s activities.

Second, authorship of publications differs significantly between disciplines: in the humanities, single-authorship is preferred, supervisors are not credited for their mentorship with their name being added to publications, and graduate students are often discouraged from publishing during their programs to ensure only original research is included in their dissertations. On the other hand, in engineering or health sciences, publications always denote multiple co-authors, supervisors are always listed on publications, and graduate students usually publish their research over the course of their programs and their dissertations often include previously-published research as chapters or parts thereof. Moreover, conference proceedings count as refereed publications in engineering or computer science whereas only journals and book chapters are counted as peer-reviewed publications for scholars in the humanities and conference presentations bear little consequence.

Research creation is another case in point about the challenges of rewarding interdisciplinary work. Research creation specifically allows for the creation of works of art to be counted as valid academic research output. What this means in practice is that researchers heavily engaged in participatory research creation, may be less involved in areas conducive to traditional bibliometric assessment. Misinterpretation of what is and isn’t valid research output led to instances where Games Institute humanities scholars were removed from project teams because their work expressed via research creation artefacts did not satisfy the assumed value of a formal refereed publication.

Elsewhere, research and collaboration with external partners is quite common in disciplines where industry-sponsored research is actively sought by faculty members. In contrast, most research in the humanities is either un-funded or relies on funding from government programs and students may not ever have an opportunity to work with partners from outside of the academy which limits the opportunities for training and professional networking.

Vast differences also exist in how different disciplinary environments understand supervision of students, funding of students, publication credits, etc. For example, Arts students are normally funded by their departments from Provincial funding whereas supervisors of students in STEM-driven disciplines are obligated to secure the majority of their students’ funding. (Not to mention that standard Arts funding for graduate students is prorated to 14 weeks per semester as compared to students in STEM disciplines whose funding is based on 16 weeks.) This, consequently, creates differences in how students are supervised and how they interact with their colleagues. STEM disciplines favour lab-like structures where students working with the same supervisor form close-knit groups working very closely together, often participating in weekly meetings to report on their progress. In Arts, supervisors oversee the work of their students on a more individual basis, lab-like structures are not very common, and students usually conduct their work much more independently than their colleagues in technical disciplines with much less frequent collaboration with their peers.

Exchange of knowledge between disparate fields is also problematic due to misunderstandings of research methods or lack of appreciation of non-applied research. For example, the Games Institute has seen conversations where humanities students were made to defend their research methods because those did not follow the scientific method in STEM fields. Indeed, creating a truly interdisciplinary
research environment requires a tremendous amount of work to create a commonality of language to bring together researchers whose experience with working outside their immediate domain is limited. As is common in interdisciplinary settings, joint work on projects running across disciplines also requires very deliberate planning to ensure that research team members contribute to their fullest capacity and are not relegated to low-level support tasks, such as editing of documents for English students or website programming for computer scientists. Similarly, members of interdisciplinary teams must often find a balance between short-term efficiencies and long-term collaboration, such as, carving out specific tasks to individuals based on their immediate expertise vs. creating an environment where everyone involved is continually expanding their field of expertise based on contributions from others.

In some cases, the subject matter of the project itself requires a more deliberately interdisciplinary project design. A case in point here is the Digital Oral Histories for Reconciliation (DOHR) Project. Funded by SSHRC and supported by the Games Institute, DOHR is a restorative justice project led by Principal Investigator Dr. Kristina Llewellyn (Social Development Studies) featuring a Virtual Reality (VR) experience that takes students into a digitally rendered representation of the Nova Scotia Home for Colored Children as a part of a grade 11 Canadian History unit as they learn the history of the Nova Scotia Home for Colored Children, including the harms of institutional racism for the Home’s former residents over its 80s years of operations. Considering the supremely important and sensitive subject matter undertaken by this project, DOHR’s multidisciplinary, UW-based VR design team worked with former residents of the home, Tony Smith, Gerry Morrison and Tracy Dorrington-Skinner, as well as with community partners and other academics across Canada to ensure that the VR experience and accompanying 2-week history curriculum unit worked towards restorative justice for the former residents. Victims of Institutional Child Exploitation Society, the Nova Scotia Home for Colored Children Restorative Inquiry, educators, software developers, theater experts, HCI scholars, historians, and legal experts worked collaboratively throughout the development of DOHR. In this case, it would have been highly inappropriate to situate DOHR’s project work in the research context based on the methodologies and assumptions of the dominant, white culture which created the environment of oppression the former residents of the home had to endure. Instead, the team needed to find a different approach bridging the disparate disciplines and thus allowing for a far richer experience for everyone involved and a successful pilot product which garnered the attention of national and international media. The DOHR team is currently working on the next phase of the project and are in the process of drafting a book on interdisciplinary collaboration.

The aforementioned examples of differences in approaches and systems of academic rewards across disciplines show how much complexity and flexibility is required in an interdisciplinary research ecosystem. It is often exceedingly difficult to ensure that members of interdisciplinary research groups or projects can fully reap the benefits of collaboration across disciplinary boundaries while satisfying the requirements of their specific programs/disciplines.

From its very inception, the Games Institute’s goal was to offer a different value in scholarship where academic knowledge is intertwined with life experiences and wisdom. In contrast but – importantly – not in opposition to the more traditional metric-based approach present in disciplinary scholarship, the Games Institute exists to foster researchers and research processes and to enhance researchers’ lived experiences. The Institute provides an environment where people want to be and where they are constantly encouraged to expand their understanding of research and engage in collaborations beyond traditional areas of academic specialization. Therefore, finding innovative ways of reporting on their
activities that would fully project the benefits of such an integrated, multi- and interdisciplinary scholarship is key and must go beyond traditional KPIs based on bibliometrics.

In consultation with Office of Research, and drawing from the principles and practices of various organizations, the Games Institute is developing a holistic approach to its research. For this purpose, “holistic” refers to the entire research process, from the earliest discovery of the idea(s) through various forms of making the research known, having it applied, and understanding its professional, social, and/or cultural impact. This approach values the different stages of the research process, with each stage carrying a process and outcome of its own. For example, the Games Institute places high value in idea collaboration, especially but not exclusively for interdisciplinary projects, in which the researchers’ efforts to incorporate each other’s methods and comprehensions – and in fact their often different intended modes of dissemination – become intertwined to create new combined knowledge.

In this way, the Games Institute can encourage its members to not only to bring multiple academic perspectives to bear on a project or research question – the usual goal of multidisciplinary research – and not only to connect those multiple perspectives in what is known as interdisciplinary research – but, where appropriate for the idea in question, to strive for transdisciplinary understanding, in which the disparate research perspectives – including extra-academic perspectives – are blended into new knowledge.

The challenge for a research institute in fostering transdisciplinary research processes is to ensure that the results are rewarded. This cannot be done by the institute alone; it requires collaboration and negotiation with the university faculties and departments, and with the established disciplines that are being combined. The potential for this holistic approach exists in the current research funding climate, particularly with the New Frontiers in Research Fund but also, to a degree, within the individual Tri-Agency programs and with funding bodies such as Mitacs.

None of this, it must be stated, is to diminish the value of single-disciplinary research, at which many Games Institute researchers thrive. But the Games Institute has carefully and consistently developed as a place for thinking outside the box for the sake of understanding, developing, and designing technologies and media that are by their very nature transdisciplinary, and over the next five years we will work to ensure that these disruptive and innovative perspectives are rewarded at all stages.

Over the next five years, the Games Institute aims to achieve the following:

1. Accurately capture the interdisciplinary and transdisciplinary processes of Games Institute collaborations, experimentations, and innovations. Capturing this data means determining milestones of the research, collecting research reflections on the stages, outlining the student experiences throughout the process, highlighting the funding inputs, and chronicling the various research outputs, from conference talks and journal articles through news stories, interviews, writings in middle-stage publications, and more.

2. Demonstrate how the Games Institute advances co-production of knowledges that are interdisciplinary, transdisciplinary, and multi-institutional in nature, and which create impact in the academy and beyond. Demonstrating this means understanding the various forms that impact takes and articulating this information so that it can be tied to the specific research projects and programs. It also means working with academic and extra-university collaborators and partners to understand how the Games Institute’s research has changed the understanding of the topic(s) under discussion.
3. Establish and support research networks, small and large, which the Games Institute initiates or in which the Gi participates, with the goal of having these networks foster inter- and transdisciplinary research and become sources of knowledge-making and research funding, and which will become sources of academic and extra-academic employment for our students.

**Equity, Diversity, and Inclusion**

Since acquiring its physical space in 2014, the Games Institute has focused the attention of its students, staff, and faculty on issues surrounding equity, diversity, and inclusion. The goal from the beginning was to create a safe, diverse and inclusive space for all, especially the disenfranchised, treating with respect and support the cultures and life experiences the members of the Games Institute community represented.

From 2014-17, much of this support was initiated in order to combat the toxic masculinity and blatant misogyny of the games-specific phenomenon known as GamerGate, and during this time policies, procedures, and practices were developed to help keep our members safe and to educate those who needed context and awareness. In practice, this included designated women/non-binary-only events at the Games Institute, onboarding of new members with a particular focus on an inter-disciplinary nature of the Games Institute and how inclusivity and diversity bring new value to our activities, providing feminine care products in washrooms, mandatory training for all administrative Games Institute staff within the realm of EDI matters (OHD’s Principles of Inclusivity Series, HREI’s courses on unconscious biases, Equity Office’s Making Spaces program, etc.), as well as education related to excellence in service and support (responding to sexual violence disclosures, suicide prevention, mental health resources and awareness, accessibility in communications, etc.).

Since that time, an even stronger focus on issues surrounding EDI, de-colonization, and racial equity, encouraging research, events, and other forms of participation has developed in these highly important areas. This includes: additional support for research activities in these areas (First Person Scholar Special Issues), additional staff training regarding decolonization and reconciliation processes, active cross-promotion of events/activities focused on these matters from elsewhere on campus, amplification of resources, experiences and knowledge coming from marginalized communities. The Games Institute’s public events, research communications, and other activities are always considered from the point of view of representation and have been honoured to be able to welcome speakers and experts with very diverse backgrounds.

In 2020, a new committee was formed in the Games Institute, called the Anti-Racism, Decolonization, Equity, Diversity, and Inclusion Working Group whose mandate is to establish policies, practices, and education for Games Institute members, associates, partners, and colleagues. It has become immediately apparent that – as far as these matters are concerned – a deeper engagement and more meaningful, nuanced approach is needed and that the Games Institute is not immune to the constraints caused by the recognized poor performance of the University as a whole.

The Working Group is currently in discussions on how to address these constraints going forward. For example, while Games Institute’s student representatives in the Working Group are a diverse group encompassing individuals with different racial and cultural backgrounds, gender identities, etc., there is a severe over-representation of white, cis-gendered and male perspectives at the faculty level. Naturally, those with academic seniority and access to important University administrative structures
bring unquestionable value to the work of the Group, however, the Working Group intends to have its voting process be structured so that no majority vote can be carried without the support of a majority of racialized members to prioritize the knowledge, experiences, and needs of the marginalized voices. Similarly, Games Institute administrative leadership (two white, cis-gendered, men and one white, cis-gendered woman, all from Settler communities) participates in the Working Group only as non-voting, ex-officio members. The Working Group is also currently considering the development of a meaningful action plan with short-, medium-, and long-term actions along with an assessment rubric of their impacts in terms of representation, resource distribution, and Games Institute culture. The expectation is that that the Games Institute community as a whole will participate in the implementation and assessment of any future actions.

The Working Group is Games Institute’s major initiative in the areas of EDI, anti-racism and decolonization; however, the Games Institute administration has also committed to making changes to our space in East Campus 1 to make it ever more welcoming. The Games Institute facility has been designed to be a friendly, collaborative and engaging space allowing for free interactions between members. However, we recognize that individuals from racialized and Indigenous communities have additional needs where physical work and collaboration environment is considered. In particular, the Games Institute is planning to undergo a space audit to enable Indigenous smudging ceremonies to take place in our facility as well as to further augment the Games Institute space to more wholesomely support the well-being of our members and guests who have children, who live with disabilities, or whose needs our current facility design does not take into account.

Financials

Games Institute Income and Expenses 2015/16 to 2019/20

Established in 2010 as an Arts-based institute, the Games Institute became a University-level institute in 2017. The designation change included an initial two-year financial commitment from the Provost of $250,000/year in operating budget (fiscal years 2017-18 and 2018-19). That budget allocation was then increased in the 2019-2020 fiscal year to $350,000/year to bring the Games Institute into alignment with other University Research Centres’ funding.

The Games Institute takes a conservative approach to its financial standing as significant growth was projected post securing University Research Centre status. As such, the Games Institute is currently carrying a carry-forward totalling $251,690 at the end of April 2020. It is expected that the carry-forward will be fully expended in the next three years with projected faculty membership growth and other initiatives.

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**Carry-forward**

$ - $ - $ 161,988 $ 215,812*

*actual carry forward figures provided by Finance.
The Games Institute expenditures fall under three main categories: staff salaries; office expenses; and program expenses (including travel).

- **Staff salaries** include the Associate Director, Strategic Planning and Administration (1 FTE, acting as Managing Director), staff contract positions (such as the Research Communications Officer and Research Projects Facilitator), part-time or casual employees, and co-op placements. Neither the Executive nor the Associate Director receive research stipends, however, the Games Institute funds one course buyout per year for the Executive Director ($10,000) from its operating budget.

In response to the growth of the Institute and the increased need for administrative support, the Games Institute team has steadily grown to now include: Research Project Facilitator/Project Coordinator and Research Communications Officer. Other staff roles include IT and lab support funded via a shared services model and charged to a combination of research grants held by Games Institute faculty members. Additionally, the Games Institute has employed at least three co-op students per year since 2015 in positions ranging from operations, events and communications assistance to additional research support for joint interdisciplinary activities.

- **Office expenses** include a diverse range of charges that are directly related to Games Institute operations, including supplies, telephone, printing, promotion and advertising, subscriptions to online services and office equipment purchases. Included in this category is the continual improvement of the Games Institute space in East Campus 1. Effective and collaborative space is critical in the ongoing support of our interdisciplinary ecosystem, including fulfilling any space needs related to matters of equity, diversity, and inclusion. With COVID-19 health and safety regulations brought forth by the pandemic, further changes to the space were necessary to ensure any hinderance of the cooperative nature of the Games Institute environment is as limited as possible.

- **Program expenses** include editorial and administrative support for First Person Scholar (FPS), contributor honouraria and travel and hospitality costs for meetings, guest lecturers and members.

### Five-Year Financial Forecast

Over the next five years, the Games Institute plans to see significant growth in membership, research endeavours and impact. The five-year financial forecast is outlined below with consistent base funding over the next five years.

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<th>Category</th>
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<th>2022-23</th>
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<td>$1,129</td>
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*Figure 10: Games Institute Funding Projections FY2020-2021 to FY2020-2025*
As detailed earlier, the carry-forward that has been accumulated over the last three years will be expended into our program funding. Specifically, the Games Institutes plans to start a seed-funding program for interdisciplinary projects led by current (and potential) Games Institute members. This seed-funding program will run in 2020-21 and 2021-22 fiscals at $70,000 and $35,000, respectively. A seed-funding program is a worthwhile investment to support recruitment of new Games Institute faculty members, provide additional training of HQP, increase the number of publications and other research outputs, encourage more leveraging of funding and assist Games Institute researchers in exploring innovative research directions prior to putting forward grant proposal to external funding institutions and their established funding programs. Importantly, the seed program will also provide an opportunity to support and strengthen Games Institute-led initiatives related to matters surrounding equity, diversity and inclusion on research processes and academia more generally.

With increases in membership and partnership activity, it is projected that staff salaries will increase by 26% in 2021-22 fiscal with the addition of a Managing Director position and additional course buy-outs for the Executive Director. Following that, salary growth is projected at 3% to accommodate staff salary increases year-over-year and any additional casual labour.

The Games Institute does not receive a correction to its base funding pertaining to the accumulative value of annual staff increases. Hence, assuming that other expenses remain at a comparable level to those in 2019-20 – which will, necessarily, limit the growth of services provided to our membership – the rest of the carry-forward will cover an anticipated structural deficit caused by increase in staff salaries.

Additionally, the Games Institute’s supplementary funding has thus far remained limited due to a relatively low number of industry-sponsored research contracts received and the fact that most members’ grants are held under individual PI’s names their home departments instead of, centrally, under a Games Institute org unit. Hence, the corresponding overhead is kept in the respective Faculties. Given the growing interdisciplinary research activities supported by the Games Institute, as well as sponsored projects currently underway or in negotiation, it is expected that the Institute will be able to secure supplementary income from member grants/contracts to cover a portion of the administrative support costs.

Games Institute leadership is also reassessing its current system of service provision with the goal of offsetting a portion of staff salary cost via a shared services model. This will include funding salaries of Games Institute administrative staff through research projects led by Games Institute faculty members. This could not only partially support the salaries of both our existing Research Project Facilitator and Research Communications Officer, but it would also enable the Games Institute to hire a knowledge mobilization specialist to respond to the ever-more important knowledge mobilization component now routinely required in most project proposals. The Games Institute has also seen a high demand for additional project coordination and management services; supplementary staff hired and overseen by the Games Institute would help alleviate a significant administrative burden our faculty members often shoulder when engaged in interdisciplinary projects with complex funding and reporting structures.
In 2019-20 fiscal, the Games Institute was able to engage, on a temporary, part-time basis, a research engineer who provided much needed mentorship and training to Games Institute student members whose work requires designing and building of game and interactive media prototypes. The preliminary results of having such support available on the Games Institute premises were very promising and pointed to shorter development times for research prototypes and, hence, faster progress of associated research projects. We have also noticed an increased interest in students considering the pursuit of entrepreneurial goals.

The growing appetite for more centralized support and further expansion of support services is an indication of how much value Games Institute’s interdisciplinary ecosystem provides to our membership.
## APPENDICES

### Appendix 1. Membership

#### Faculty Members

<table>
<thead>
<tr>
<th>Last Name</th>
<th>Name</th>
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<th>Membership</th>
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<th>Faculty</th>
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<td>Systems Design</td>
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Appendix 2. Games Institute Events

11/16/2020  Guest Lecture: Research Through Design with Dr. William Odom
Dr. William Odom joined us virtually on November 16th to discuss research through design, present projects exploring slow technologies, and answer questions about what this methodology entails.

10/21/2020  Racial Equity Board Game Panel
Three University of Waterloo groups - the Research, Equity, Diversity and Inclusion (REDI) Council, the Games Institute, and the Council for Responsible Innovation and Technology (CRIT) - have partnered to launch UW’s first ever Racial Equity Board Game Showcase, under the guidance of University of Waterloo’s Office of Research and with consultation from the Equity Office.
To inspire game submissions and begin this very important conversation, REDI Council, the Games Institute, and CRIT hosted a panel event on October 21, 2020 with games and race studies researchers including Drs. Kishonna Gray, Lai-Tze Fan, and Aynur Kadir.
The panel raised awareness for the showcase and allow interested participants to learn about the possibilities, expectations, and issues surrounding the design of anti-racist board games. Submissions for the showcase will open this upcoming winter and will be evaluated based on criteria set by a group of game studies and anti-racism scholars.

06/25/2020 - 06/28/2020  GI Game Jam
The GI Game Jam, is a thrice-annual, multi-day event hosted by The Games Institute (GI) at the University of Waterloo where playful people gather to create original games together over a weekend.

05/26/2020  GI Playbook Lecture: Publishing in the Humanities with Shana MacDonald
We hosted our first virtual lecture on Microsoft Teams by GI Faculty Member, Dr. Shana MacDonald: “GI Playbook: Publishing for the Humanities”. Dr. MacDonald is a professor in Communication Arts and qConvenor from the qCollaborative lab. For this talk, she shared advice and insights into publishing for the humanities, suitable for an interdisciplinary audience. Watch for tips and tricks, what to expect from the timeline, a typical structure for humanities papers, and much, much more.

03/06/2020  Captain's Gambit Kickstarter Launch Party: Talk and Tournament
We're hosting a Captain's Gambit launch party, followed by a research/industry talk by the game's UX designer, AC Atienza. Play the game and then learn firsthand about the game development process: AC will discuss the process behind the research, international collaborative efforts, and iterative playtesting at the Games Institute.

02/27/2020  Brownbag Talk: Creative Research Desin for the Resistance w/ Bri Wiens and Shana MacDonald

01/28/2020  Guest Lecture: Classical Studies and Video Games with Prof. Craig Hardiman
Veni, Vidi, Vici... Domino Pugnam: Classical Studies and Video Games

01/16/2020  Brown Bag Talk: Jennifer Rickert discusses Cheating and Modding
Cheating & Modding in Video Games: A Place of Social Liminality Please join us in the Collaboration Space for a talk on Cheating and Modding by English PhD student Jennifer Rickert! Read below for more details... see you there!

12/18/2019  Weekly Writing Circle

12/17/2019  Feminists Do Media Tuesday Tea
Join qcollaborative, an Intersectional Feminist Design Research Lab, in the Collaboration Space every Tuesday from 12-1 for a drop-in event to talk feminism and media from multi-disciplinary perspectives. Bring your own mugs, tea, and lunch. All disciplines are welcome!

12/12/2019  Intellectual Property Series: Trademarks
Speakers: Eric Luvisotto, Michael Crinson (Aitken Klee LLP). Did you know that the top five most valuable brands in the world in 2018 are all technology companies?

12/11/2019  Weekly Writing Circle

12/10/2019  Feminists Do Media Tuesday Tea
<table>
<thead>
<tr>
<th>Date</th>
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<tr>
<td>12/04/2019</td>
<td>Weekly Writing Circle</td>
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<td>12/03/2019</td>
<td>Feminists Do Media Tuesday Tea</td>
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<td>12/02/2019</td>
<td>Digital Arts Communication (DAC) 302 Film Festival</td>
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<td>The Games Institute and Dr. Aynur Kadir invite you to the Digital Storytelling Film</td>
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<td>Festival for DAC 302 on December 2nd, from 2:30 PM – 4:00 PM</td>
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<td>11/28/2019</td>
<td>Brown Bag: Nicholas Hobin on Animals in Videogames</td>
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<td>Please join us for this Brown Bag Talk with Nicholas Hobin, English Language</td>
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<td>Literature PhD candidate at the University of Waterloo. The talk will take place</td>
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<td>in the Great Hall at the SLC.</td>
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<td>11/27/2019</td>
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<td>11/21/2019</td>
<td>Intellectual Property Series: Copyright and Software</td>
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<td>Speakers: Eric Luvisotto (WatCo), Michael Crinson (Aitken Klee LLP), Lauren</td>
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<td>Byl (Library). Did you know that software code is protected by Copyright?</td>
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<td>Have you paid someone to write code for you? If so did you ask them to waive</td>
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<td>their Moral rights to the code?</td>
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<td>11/15/2019</td>
<td>Guest Lecture: &quot;Things we could design: in more-than human-centred worlds&quot;</td>
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<td>This talk engages the idea of posthumanist design. I investigate the potential</td>
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<td>to see design from the perspective of posthuman subjectivity. By posthuman, I</td>
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<td>mean thinking about the world as if humans share center stage with non-humans,</td>
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<td>and that we are all bound together materially, ethically, and existentially. I'm</td>
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<td>motivated by wanting alternative approaches to the vexing challenges of how we</td>
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<td>better co-inhabit our world with species and matter that are not human. And how</td>
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<td>we design technologies that we neither fully understand nor control.</td>
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<td>10/31/2019</td>
<td>All Hallow's Afternoon at the GI feat. A Multidisciplinary Panel on 5 Nights</td>
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<td>What makes horror games so frightening? Why is it harder to play a scary game</td>
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<td>than it is to watch a scary movie? Join us on October 31st to hear multidisciplinary</td>
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<td>game scholars discuss and dissect the critically acclaimed horror game series,</td>
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<td>10/23/2019</td>
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<td>10/22/2019</td>
<td>Transformational Interdisciplinary Research - a Research Talk by Dr. Stan Ruecker</td>
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<td>10/22/2019</td>
<td>Feminists Do Media Tuesday Tea</td>
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<td>10/21/2019</td>
<td>What we can learn from the intersection of feminism and HCI - a Research talk by</td>
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<td>Dr. Milena Radzikowska</td>
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<td>Product and technology designers—often white, cis-gendered, male, and of a higher</td>
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<td>socioeconomic status—design objects based on implicit or explicit assumptions</td>
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<td>about what is needed and how it will be used. This singular and filtered</td>
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<td>perspective has resulted in much design innovation, but it does not address,</td>
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<td>reflect, or affect society as a whole, nor the majority of its members</td>
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An average menstruating individual endures some 456 total periods over 38 years. That’s roughly 2,280 days with their period, or 6.25 years of their life. They are likely to use over 16,800 tampons and pads over the course of their lifetime (Weiss-Wolf, 2015). In Canada, menstrual hygiene products are among the top-three material costs of being a menstruating person under the age of 65 (Plan International Canada, 2018). There is growing awareness of, and demand for solutions to, the financial burden of menstruation—in 2014, the United Nations declared menstrual hygiene a public-health, gender-equality, and human rights issue (UN, Office of the High Commissioner, 2014). Beyond affordability and accessibility, periods and their management are linked to shame and dangerous misinformation, leading to serious human rights concerns (United Nations Population Fund, 2018). Through this micro-make, we will encourage our participants to think about the space created by menstruation, design, and technology through a critical, provo-making lens—an ask, we feel, that would be familiar to our siblings working at the Berlin Bauhaus.
03/19/2019 **Multidisciplinary Panel with Dr. Lennart Nacke and Dr. Gerald Voorhees: Insomniac's Spider-Man (2018)**
For the first time in Games Institute history, we’re bringing together two professors with different research backgrounds to have a collaborative discussion about a game: Insomniac’s Spider-Man (2018). Dr. Lennart Nacke is an Associate Professor of Human-Computer Interaction (HCI) and Dr. Gerald Voorhees is an Assistant Professor of Communication Arts. Both professors have research interests in the study of games, yet they very in their focus and methodological approach. Dr. Nacke is a Games User Research scientist and teaches User Experience, Human-Computer Interaction, and Game Design; Dr. Voorhees is a scholar of Communication and Critical-Cultural studies and teaches about Race, Gender, and Identity in mediated public communication.

03/14/2019 **Multidisciplinary Panel: Co-operative Games**
Join us on Thursday, March 14th at 4:00 PM for our Winter term multidisciplinary panel discussion. This time, the theme is Co-operative Games. Our speakers will bring in their unique perspectives and expertise to discuss the co-operative games Spirit Island (2017; board game) and Overcooked 2 (2018; video game).

02/14/2019 **Uwaterloo Intellectual Property Workshop Series: IP 101 and Commercialization**

01/23/2019 **Faculty Research Networking Event: VR & Augmented Reality**
The Centre for Bioengineering and Biotechnology (CBB) is hosting several researcher networking events throughout 2019 and beyond, open to all faculty and post docs.

01/10/2019 **Uwaterloo Intellectual Proterty Workshop Series: IP Case Study**

12/04/2018 **Brownbag Talk: John Munoz**
The Games Institute is coordinating with the Centre for Bioengineering and Biotechnology at the University of Waterloo to host a guest lecture by John Muñoz from the Madeira Interactive Technologies Institute in Portugal on Tuesday, December 4th 2018.

12/03/2018 **Human-Computer Interaction (HCI) Industry Panel**
Speakers: Kimberly Tee is a Senior User Experience (UX) Researcher at Shopify. Sandra Loop is a Senior Product Manager and UX Designer at SAP.

11/29/2018 **Brownbag Talk: Eugenie Roudaia - Design and evaluation of CityQuest, a video game aimed at older adults with fear of falling**
Please join us for this Brown Bag Talk with Eugenie Roudaia, a Scientific Associate at the Rotman Research Institute at Baycrest. The talk will take place at the Games Institute in the Collaboration Space.

11/21/2018 **Brown Bag Talk: Jason Hawreliak**
Jason Hawreliak joined us at the Games Institute on November 13th to give a talk on multimodal analysis and rhetoric in video games. He also talked about his experiences teaching in a dedicated Game Studies program at Brock University.

10/16/2018 **Brown Bag Talk: Ali Mazalek**
Dr. Ali Mazalek joined us October 9 from Ryerson University to give a Brown Bag talk on human cognition and computational media.

9/25/2018 **Brown Bag Talk: Jonathan Rodriguez**
Games Institute alumnus Jonathan Rodriguez joins us to give a Brown Bag talk on working in the VR film industry. Rodriguez has been working at Felix and Paul studios, a VR filmmaking start-up in Montreal, since 2017. In this talk, Jonathan discusses his role as a software developer in a creative industry. What does VR film making entail? What does he do on a daily basis? And what are the unexpected challenges he’s had to overcome?
12/05/2017 Eluding Experiences — The Broken Promises of Player Experience Questionnaires, Talk by Katta Spiel
A Brown Bag seminar presented by Katta Spiel, a guest from TU Wien's Institute of Design and Assessment of Technology in Vienna.
Abstract: The quantification of players’ experiences during gameplay has been a consistent interest culminating in several publications within Games Research in the last ten years. I will provide an overview of the dominant questionnaires in the field and discuss their conceptualisations of player experiences. While researchers using them are usually aware of their limitations and report them, they are often neglected when it comes to citations and knowledge creations within the field. Hence, I will further show how we applied the Game Experience Questionnaire on a Games Research project involving Tetris and where it limited our research. I argue that through critically analysing our tools, we can understand them better, use them more sophisticatedly in the future and move our focus to less researched experiences.

11/24/2017 Brown Bag Seminar Presented by Kevin Stanley
A Brown Bag seminar presented by Kevin Stanley, Associate Professor at the University of Saskatchewan and SWaGUR contributor.
Abstract: How people move through, interact with, and consume physical space is a useful measure of modern life. Characterizing those motions is of intense interest to retailers, service providers and governments, as movement has been shown to correlate with personality, intent and activity. Leveraging movement requires the ability to describe it, beyond the ubiquitous heat map. Feature engineering of mobility patterns is an active research area, which attempts to leverage mathematical abstractions of human motion to create simple, human readable synopses of important motion parameters. But what happens when the motion is not real? Games are characterized by different goals, physical dimension and even physics from the real world. To what extent can virtual games be characterized using the tools of geographic analysis, and how do the results differ from the real world? In this talk, I will introduce some fundamental concepts of motion metrics from my research and the literature and examine how they might generalize into game analytics tools.

04/19/2017 Title: Full-Arm Input for Smart Environments, Mixed Realities, and Video Game Systems, a Talk by Dr. Adrian Reetz
In many scenarios, people want to interact with digital systems without touching or holding any additional input devices. Picture, for example, a surgeon who is expected to interact with digital imagery displayed on a large screen within the operating theatre; or imagine a gamer who wants to adjust the volume on her television set during an intense virtual fire fight. The predominant solution today is using mid-air gestures as input technique. There are, however, several problems with the way of how we design these gestures, which result in people having difficulties memorizing and remembering them. As a result, we might not use gestural input to its full potential when interacting with digital systems, most notably smart environments and video games.
In my presentation, I will discuss a novel implementation of gestural input for smart and UbiComp environments, mixed realities, and video game systems. While most current systems rely on emblem-type gestures, my implementation is built upon deictic illustrators instead. In a comparative study I demonstrated that this change of underlying gesture type allows people to perform selections faster and more accurately.
03/02/2017 Tales from the Front Lines: The Co-Evolution of Digital Play and Networked Storytelling, a Talk by Pierson Browne
According to Richard Bartle’s (1996) player typology, player sociality is conceptually separate from the act of play itself: people can 'use' games for socializing as well as 'play,' but if you're doing one you're necessarily not doing the other. In defiance of Bartle’s taxonomy, however, contemporary game developers are increasingly positioning sociality at the core of their games and designing around it. As the constraints and affordances of social media platforms continue to exert influence on the context of play, it is becoming abundantly clear that sociality is intrinsic to play. Borrowing from Deci and Ryan’s (2000) Self-Determination Theory, as well as Carter, Gibbs and Harrop’s (2012) typology of 'metagaming,' this lecture will explore how players act as interfaces between 'game' and 'metagame,' and what this can tell us about the communicative practices around which game communities cohere.

11/17/2016 Sounds cool, but will it make money? Success Factors in Free-to-Play Games, a Talk by Andrew Kope
Abstract: From AAA studios to Indie devs, the free-to-play (F2P) model has become a big player in the gaming market. In this talk, I will discuss how relationships between user engagement vs. user monetization and paid user acquisition vs. organic/viral growth work together to impact the financial performance of F2P games. In particular, I will present a simplified model for predicting the commercial success of a F2P game based on its genre, creative content, game mechanics, and advertising strategy.

10/31/2016 Media Literacy Panel at The Games Institute
This panel of experts discuss the social, political, cultural, and pedagogical role of games and play in the 21st century. Other topics include studying, creating, and critiquing games and the importance of play in developing critical thinking and digital literacy skills.

06/29/2016 Adventures in Animalia - Exploring the Roles of Animals in Video Games, a Talk by Nicholas Hobin
Abstract: This presentation looks at the representation of animals in action-adventure video games, first broadly, and then in the specific case of Red Dead Redemption. Video games make claims about the world through procedural rhetoric: particular rules suggest particular functions for particular systems. RDR and games like it do not often make explicit assertions about the nature of animals. However, by allowing or encouraging certain kinds of interaction, they encourage the player to conceive of animals and their nature in particular and sometimes contradictory ways: as living things, as mechanistic processes, or – in RDR – as both.

05/26/2016 Brown Bag: Jonathan Semple
05/05/2016 Serious Games for Medical Education and Training, a Talk by Bill Kapralos
Simulations, both physical and virtual, offer a viable alternative to practice with real patients, offering medical trainees the opportunity to train until they reach a specific competency level. One of the prevailing arguments for using simulation in the learning process of medical trainees is their ability to engage the trainee in the active accumulation of knowledge by doing. The rising popularity of video games has seen a recent push towards the application of serious games, that is, video game-based technologies to teaching and learning, to medical education and training. Serious games provide a high level of interactivity not easily captured in traditional teaching/learning environments. In contrast to traditional teaching environments where the teacher controls the learning (e.g., teacher-centered), serious games and virtual simulations present a learner-centered approach to education, so that the player controls the learning through interactivity. Game-based technologies have also been used for many years as training simulators for vehicle control (e.g., flight simulators) and are growing in popularity in the medical education. Serious games provide an opportunity to acquire and develop both technical and cognitive skills outside in an interactive, engaging, and safe manner, thereby optimizing exposure with live patients. In this presentation, serious games will be introduced followed by a discussion of the application of serious games for medical and surgical education and training. An overview of several existing serious games for a number of medical-based education training will also be provided. The presentation will end with a discussion regarding a number of issues and open

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problems and future work, including questions regarding fidelity, realism, and multi-modal interactions, perceptual-based rendering and the implications they may have on learning and computational requirements

04/25/2016 Deciphering Reality in a Virtual World, Brown bag by Melanie Bust
12/03/2015 Brown Bag: Ashely Kelly
11/12/2015 Brown Bag: Alvaro Uribe
10/29/2015 Brown Bag: Ben Thompson
09/24/2015 Brown Bag: Umair Rehman
07/30/2015 Brown Bag: Emma Vossen
06/25/2015 Brown Bag: Jennifer Whitson

Appendix 3. Member Biographies of Games Institute Advisory Board

University of Waterloo Leadership
Charmaine Dean*, Vice-President, Research and International

Charmaine Dean is Vice-President, Research and Professor in the Department of Statistics and Actuarial Science at the University of Waterloo. Her research interest lies in the development of methodology for disease mapping, longitudinal studies, the design of clinical trials, and spatio-temporal analyses. Much of this work has been motivated by direct applications to important practical problems in biostatistics and ecology. Her current main research applications are in survival after coronary artery bypass surgery, mapping disease and mortality rates, forest ecology, fire management, smoke exposure estimation from satellite imagery, and modeling of temporary and intermittent stream flow for flood analysis and predictions. Dr. Dean received her Ph.D. degree from the University of Waterloo in 1988. She was 2007 President of the Statistical Society of Canada, 2002 President of the International Biometrics Society, Western North American Region, and has served as President of the Biostatistics Section of the Statistical Society of Canada. She has given eleven years of service to the Natural Sciences and Engineering Research Council of Canada, including two as Chair of the Statistical Sciences Grant Selection Committee and one as Chair of the Discovery Accelerator Supplement Committee for the Mathematical and Physical Sciences. She has served as Chair of the NIH Biostatistics Grant Review Panel; on the Michael Smith Foundation for Health Research Advisory Council and on selection panels for that foundation; on the Board of Directors of the Pacific Institute for the Mathematical Sciences; on the Scientific Advisory Board of the Banff International Research Station; and as a member of the College of Reviewers of the UK Engineering and Physical Sciences Research Council. She is a member of the Mitacs College of Reviewers and of College of Reviews of the Canada Research Chairs Program. She is Associate Editor of Biometrics, of Environmetrics, and of Statistics in Biosciences, and Senior Editor of Spatial and Spatio-temporal Epidemiology.

From 2011 to 2017, Charmaine Dean served as Dean of Science at Western University. In her role as Dean, she provided leadership and oversight for all faculty, staff, students and operations for the Faculty of Science as well as in University matters and key relationships outside the University. Prior to her service at Western, she played a major role in establishing the Faculty of Health Sciences at Simon Fraser University in her capacity of Associate Dean of that Faculty. Previously, she was the founding Chair of the Department of Statistics and Actuarial Science at Simon Fraser University. In 2003, Dr. Dean was awarded the CRM-SSC prize; in 2007 she was named Fellow of the American Statistical Association; in 2007 awarded the University of Waterloo Alumni Achievement Medal; in 2010 named Fellow of the
American Association for the Advancement of Science; and in 2012 awarded the Trinidad & Tobago Canadian High Commission Award.

Sheila Ager*, Dean of Arts

A faculty member at Waterloo since 1987, Professor Ager is a full professor in the Department of Classical Studies and currently serves as interim chair for the Department of Fine Arts. She completed her BA and MA degrees at Queen’s University, and earned her doctorate from the University of British Columbia. At the University of Waterloo, Professor Ager has served her department, Faculty and the University in a variety of roles for more than 30 years. Professor Ager is a scholar of Greek history, specializing in the Hellenistic age – the years between the death of Alexander the Great in 323 BC and the suicide of Cleopatra in 30 BC. Often engaging interdisciplinary approaches, much of her research has centered on interstate relations in this period, including peaceful dispute resolution. Dr. Ager has a special interest in interstate relations in this period, and much of her research, including her 1996 monograph, *Interstate Arbitrations in the Greek World, 337-90 BC*, centers on the issue of peaceful dispute resolution. She is also interested in the history of the Ptolemaic dynasty, and its last representative, Cleopatra VII, and is the author of numerous publications on Hellenistic queens.

Dr. Ager is currently working on a monograph of Ptolemy I Soter and a collection of essays entitled *A Cultural History of Peace in Antiquity*. Dr. Ager’s graduate supervision is chiefly focused on the Hellenistic period. She has supervised graduate theses and MRPs on the following subjects: the prosopography of Rhodes; property-law and women in the Ptolemaic kingdom; queen-regency in the Seleukid empire; and most recently, a reassessment of the ruler Seleukos IV. Dr. Ager welcomes new graduate students. Dr. Ager served as Chair of the Classical Studies Department from 2009 through 2017; in 2000-2001, she was Chair of the combined Anthropology and Classical Studies Department. She has also served as the Undergraduate Associate Chair for Classical Studies, and from 2001 to 2007, Dr. Ager was the Associate Dean of Arts (Undergraduate). She has served on numerous University committees and task forces.

Lili Liu*, Dean of Applied Health Sciences

Lili Liu is a professor in the School of Public Health and Health Systems, and dean of the Faculty of Applied Health Sciences at the University of Waterloo. She maintains an externally funded research program that focuses on acceptance and adoption of technologies by older adults, their care partners, and health care professionals. As an occupational therapist, Liu engages with community organizations, as well as policy and decision makers. Alzheimer Societies, police services, search and rescue, dementia advocacy and caregiver associations, nationally and internationally, are partners in her research program. As an AGE-WELL network investigator, Liu’s current research program examines the applications of technologies and other innovations to mitigate risks of going missing among persons living with dementia. Her team focuses on approaches to inform and implement policies that create safe environments where older adults can reside as long as possible.

Mary Wells*, Dean of Engineering

Mary Wells, PhD, PEng is currently Dean of the Faculty of Engineering at the University of Waterloo and is the ninth dean since the Faculty was founded in 1957. She was previously Dean of the College of Engineering and Physical Sciences at the University of Guelph (2017 to 2020). Prior to her time in Guelph, Wells was a professor of mechanical and mechatronics engineering at Waterloo for 10 years.
She received awards for graduate supervision from both the Faculty and the University in 2017. An accomplished materials engineer, Wells also served as the Associate Dean of Outreach for Waterloo Engineering between 2008 and 2017, and chaired its Women in Engineering committee for many years. She chaired the Ontario Network of Women in Engineering from 2013 to 2018. Wells began her academic career as a professor in materials engineering at the University of British Columbia from 1996 to 2007, and has worked in the steel industry in Canada and internationally. The co-author of two books including one on Canadian women innovators and the second on Canadian women in materials, her research focuses on the relationship between processing, structure and properties for advanced metallic alloys used in the transportation sector.

Games Institute

Neil Randall* (English Language and Literature), Executive Director

I am a long-time faculty member in the English department at the University of Waterloo, Canada, and Executive Director of the Games Institute (uwaterloo.ca/games-institute), one of eight university-level research centres at Waterloo. I am also the Chair of the Council for Responsible Innovation and Technology (CRIT), created by the Office of Research to address ethics in current, emerging, and future technologies and related practices.

The Games Institute was created in 2010 to study game, game-driven interactions and technologies, and, in a broader scope, any form of rich, compelling engagement with digital technologies. Its researchers – drawn from the humanities, social sciences, health sciences, computer science, and engineering – study games for entertainment, serious games, virtual reality, augmented reality, in fact any form of interactive immersive media and technology. The Games Institute is based in a large space in East Campus 1, where its faculty members and graduate students collaborate on ideas and projects under the principles of true interdisciplinarity and of equity, diversity, and inclusivity.

The Games Institute has been the focus of my research and administration since its inception. In 2012, a group of 30+ faculty members across Canada and the United States won a SSHRC Partnership Grant to create a games research network called IMMERSe (The Interactive and Multi-Modal Research Syndicate) under my directorship as principal investigator. Its $2.55M award, with cash and in-kind contributions from academic and industry partners increasing the total award to $5.8M, established a collaboration of seven universities and six industry partners to conduct research into games interpretation, player experience, and player behavior. Multi-disciplinary and multi-institutional from its inception, the network included researchers from the humanities, the social sciences, engineering, and computer science.

Through the Games Institute, I have initiated numerous projects outside the SSHRC Partnership Grant, including five-year research partnerships with Scotiabank on game-driven digital experiences and Correctional Service Canada on dialogue-driven help for offenders seeking to rebuild their lives after incarceration. I have been fortunate to work with industry and community partners through the Mitacs funding body, for projects ranging from research into the design of two commercial games to research towards games that teach, through player interaction and participation, issues surrounding climate change, quantum physics, and energy conservation, among other topics.

My years at the University of Waterloo have been spent helping to build the Rhetoric and Professional Writing program (now Rhetoric, Media, and Professional Communication) at the undergraduate level.
and the Rhetoric and Communication Design and Experimental Digital Media programs at the graduate level, while establishing a profile in the practice of professional communication and documentation. To those ends, I have published numerous how-to computer books and many feature articles, columns, and reviews in computer magazines such as PC Magazine, Smart Computing, PC Computing, PC Gamer, etc. In addition, I have consulted with a variety of technology companies on topics such as digital media creation, methods of effective interactive communication, proposal writing, copyright and patent issues, and public relations. As a games enthusiast, I have designed, developed, and produced board games of the complex simulation kind. All of this activity has found its way into my classes and my research, as has my long-time fascination with the writings of J. R. R. Tolkien. My games studies work includes the relationship of boardgames to videogames, the construction of narrative and dialogue in videogames, the function and interpretation of simulation in games, and the adaption of Tolkien’s works from book and film into games.

Mark Hancock* (Management Sciences), Associate Director

I am an associate professor in the Department of Management Sciences in the Faculty of Engineering, where I direct the Touchlab, and the Associate Director of the Games Institute at the University of Waterloo. I am also cross-appointed in the Department of Systems Design Engineering and the David R. Cheriton School of Computer Science.

My research goal is to design, develop and evaluate technology that can support new ways of interacting with computers and information. A central part of this goal is my interest in providing the ability for richer and faster interaction through the use of one’s body, hands, and fingers. The demand for effective interaction is increasing in response to the recent surge in commercial and research hardware that supports the sensing of more and more information about human movement in and around the surfaces ubiquitous in our everyday environment. While this technology has made it possible to interact in interesting and new ways, and even to carry this technology with us everywhere that we go, we have only begun to scratch the surface of what is possible and tend to rely on simple interaction, such as buttons and menus to interact with these new devices. My primary motivation is to harness some of the richness of interaction that is possible with our hands and bodies in how we interact with computers. In my research, I consider the fundamental nature of human movement and perception to help inform the design of interaction for new media.

Michael Barnett-Cowan (Kinesiology)

As a boy I grew up in northern Canada (Shefferville, Québec and The Pas, Manitoba) and briefly in Cambridge, England. My secondary schooling was in Toronto, Canada and I studied Neuropsychology with Michael Peters at the University of Guelph, where I began my work on the integration of visual and haptic information. I received my PhD in Experimental Psychology at York University in Toronto, Canada with Laurence R Harris at the Centre for Vision Research. Here I began my research programs on gravity perception as well as the perceived timing of multisensory events which involved directly stimulating the human vestibular system. I then took up a postdoctoral fellowship at the Max Planck Institute for Biological Cybernetics in Tübingen, Germany with Heinrich H Bülthoff where I used advanced motion simulators to model self-motion perception, three-dimensional navigation, perceived object stability, and gravitational effects on object recognition. Here I led the Cybernetics Approach to Perception and Action (CAPA) research group and was project leader for the Simulation of Upset Recovery in Aviation (SUPRA), funded by a Seventh Framework Programme Research Grant.
My work on gravity perception led me to work with Jody Culham at The Brain and Mind Institute at Western University in London, Canada to investigate the neural correlates of gravity perception and multisensory integration. Here my research was very generously supported by Banting Postdoctoral Fellowship and a Ministry of Economic Development and Innovation Fellowship. While there, I also became an Adjunct Research Professor in Western’s Department of Psychology. During my tenure at Western my research program grew to incorporate functional Magnetic Resonance Imaging (fMRI), Transcranial Magnetic Stimulation (TMS) and transcranial Direct Current Stimulation (tDCS) to determine the network properties that underlie gravity perception in the human brain. I am now an Assistant Professor of Neuroscience in the Department of Kinesiology at the University of Waterloo in Waterloo, Canada. For a list of colleagues and collaborators, see past mentors, supervised students, and collaborators.

Aynur Kadir (Communication Arts)

Dr. Aynur Kadir earned her Ph.D. in 2018 from Making Culture Lab, School of Interactive Arts and Technology at Simon Fraser University. Dr. Aynur Kadir’s research focuses on practices and theories of design and the study of interactive multimedia in the humanities, ethnographic practice and museum curation. She works with local communities in northwest China, in the Pacific Northwest and in the Six Nation Territories to develop digital media that document, manage, safeguard, and represent Indigenous cultural heritage. She is exploring how different new media such as interactive documentaries, virtual museums, digital archive databases, interactive museum guides, video games and artificial intelligence systems can be designed using collaborative participatory methodologies in order to preserve and revitalize cultural heritage and heal collective trauma. She is currently the principal investigator for Robert Harding and Lois Claxton Humanities and Social Sciences Endowment awarded project “Alternative Narratives: Dialogue with the History of Waterloo County Murals” in collaboration with the Ken Seiling Waterloo Region Museum.

Dr. Kadir’s research interests and applied and pedagogical practice center around larger academic objectives: producing greater multimedia for social justice and decolonizing digital technologies. In her interdisciplinary research program teaching and creative work, she highlights community-based methodologies in curatorial and interactive design practice and the use of technology. She is an advocate for challenging the knowledge hierarchy and facilitate the accessibility of traditional or academic knowledge to the wider public. The ultimate goal of her research is to conceptualize the poetics and politics of interactive media in the representation of traditional knowledge, memory and cultural heritage, and contribute to the ethical use of new media through collaboration with originating communities. Dr. Kadir previous collaborative research includes The Contest of the Fruits, Landscapes of Injustice, Sq’ewlets: A Stó:lo-Coast Salish community in the Fraser River Valley project, AI-generated Anonymity project, Ethnographic Terminalia multimedia and multi-sited exhibitions, and The Intellectual Property Issues in Cultural Heritage Project.

Kristina Llewellyn (Social Development Studies, Renison University College)

Dr. Llewellyn has broken new ground internationally in the study of oral history, history education, citizenship education, and the history of education. In 2012, she authored Democracy’s Angels: The Work of Women Teachers. The Canadian Oral History Reader, which she co-edited and published in 2015, is the first primer on oral history scholarship ever produced in Canada. Oral History and Education: Theories Dilemmas and Practices, published in 2017, is the first comprehensive assessment of oral
history education within 21st century schooling. She is the author of dozens of award-winning journal articles and book chapters; an impressive volume for an early-career scholar in history and education. Now an Associate Professor of Social Development Studies, she has spoken at more than 20 national and international conferences, including several invited keynotes. She recently served as President of the Canadian History of Education Association and an advisor for the national traveling museum exhibit Trailblazing Women in Canada. Dr. Llewellyn is the Principal Investigator of the SSHRC project Citizens of the World: Youth, Global Citizenship, and the Model United Nations. She is also the Director of the SSHRC project Digital Oral Histories for Reconciliation. This project creates virtual reality oral histories with former residents of the Nova Scotia Home for Colored Children to assess how virtual storytelling may redress historical harms with youth in schools.

**Lennart Nacke (Stratford School of Interaction Design and Business)**

Professor Nacke teaches User Experience, Human-Computer Interaction, and Game Design at the University of Waterloo. As part of the Stratford School of Interaction Design and Business, the Department of Communication Arts, and the Games Institute, he is researching player experience in video games, immersive VR environments, and gameful applications. As a truly interdisciplinary researcher, he is cross-appointed and supervises graduate students in the Department of Systems Design Engineering, the Department of English Language and Literature, and the Cheriton School of Computer Science. Together with co-researchers, he published the PXI — player experience inventory, gamification user types hexad scale, guidelines for biofeedback and sound design in games, and a book on games user research. Professor Nacke has served on the steering committee of the International Game Developers Association Games Research & User Experience Special Interest Group in the past, was the chair of the CHI PLAY conference steering committee from 2014–2018. His publications have won Best Paper Awards at the CHI, CSCW, and CHI PLAY conferences. He has published more than 100 scientific papers, which have been cited more than 10,000 times. He strongly believes in understanding users first to build more engaging games and compelling player experiences.

**Jennifer Roberts-Smith (Communication Arts)**

Dr. Jennifer Roberts-Smith (PhD, Toronto) is an award-winning artist-researcher, whose transdisciplinary, design-based work explores performance, digital media, history, education, and social justice. She has been instrumental in securing the place of performance-informed scholarship in the digital humanities, including through the design of virtual historical reconstructions, pedagogical games, and justice-oriented digital pedagogical environments. JRS is currently a co-director of the qCollaborative (the critical feminist design research lab housed in the University of Waterloo’s Games Institute), and leads the SSHRC-funded Theatre for Relationality and Design for Peace projects. She is also creative director and virtual reality development cluster lead for the Digital Oral Histories for Reconciliation (DOHR) project. Her recent publications have focused on methods for design research that deepen interdisciplinarity understanding and take a relational approach to design. In current creative work, JRS is exploring the integration of accessibility and aesthetics, and the relationship between virtual reality and the performative realities that were generated in the medieval and early modern theatre. Jennifer joined the University of Waterloo in 2007, after working as an actor and director in small and large scale Canadian theatres, and teaching at the universities of Ottawa, Toronto, and Windsor. Her work has been supported by SSHRC, MITACS, the Canada Council for the Arts, the Stratford Shakespeare Festival, Oculus, and an Ontario Early Researcher Award.
Oliver Schneider (Management Sciences)

Dr. Oliver Schneider is an Assistant Professor of Human-Computer Interaction in the Department of Management Sciences. His research interests include human-computer interaction, haptics, and creativity-support systems. Oliver is the recipient of the Post-doctoral Fellowship, Alexander Graham Bell Canada Graduate Scholarship and Canada Graduate Scholarship - Master’s. He typically attends/publishes at CHI, UIST, and haptics conferences such as Haptics Symposium, World Haptics and EuroHaptics.

"I research Human-Computer Interaction, specifically, what I call Haptic Computing. Haptic technology engages the sense of touch by providing physical feedback to users. I argue that the limiting factor for haptic technology is the lack of computing tools – systems that enable the large-scale creation, deployment, and study of haptic feedback. Without these tools, haptic technology will be limited to small, in-lab studies and slow deployment into commercial applications. My long-term goal is a suite of haptic computing tools to assist the creation, deployment, and study of haptic technology."

External
Kishonna Gray, Assistant Professor, University of Illinois

Kishonna Gray is currently an Assistant Professor in Communication, Gender and Women's Studies, and affiliate in Black Studies at the University of Illinois at Chicago. She previously served as an MLK Scholar and Visiting Assistant Professor at MIT in Comparative Media Studies and the Women & Gender Studies Program. Learn more about this appointment HERE. She has also served as a Faculty Visitor at the Social Media Collective at Microsoft Research (Cambridge).

Kishonna is currently affiliated with the following research centers: The Berkman-Klein Center for Internet & Society, The Center for Critical Race and Digital Studies, The Center on Digital Culture and Society. Her scholarship is influenced by her interdisciplinary training and grounded in critical race theory and feminist approaches to knowledge production. Kishonna interrogates the impact that technology has on culture and how Black users, in particular, influence the creation of technological products and the dissemination of digital artifacts. While her extensive publication record explores how technology disparately impacts women and people of color, her current research interrogates the possibilities and potentials of what that technology can afford Black communities who are traditionally excluded from public spaces, including digital ones.

Evan Jones, President/CEO, Stitch Media Inc.

A two-time Emmy Award winner, Evan’s work combines web, mobile and games with TV, film, radio, and the real world. He has been recognized as a 'Top 10 New Media Groundbreaker' by the Bell Fund and chosen as one of the 'most innovative and influential minds in McMaster history' by his alma mater. His interactive documentary work has won ‘Best in Electronic Culture’ at the UNESCO World Summit and his experience with branded entertainment has won ‘Best in Digital Marketing’ by the Digi Awards. Evan has guest lectured on the art & business of interactive story internationally at the Canadian Film Centre, the Australian Film, Television & Radio School and the University of Southern California. He has consulted for the Smithsonian, Greenpeace, Microsoft, Disney, NBCUniversal, Nickelodeon, and 20th Century Fox on the future of entertainment.
**Andrea Kerswill, Director of Innovation, Scotiabank**

Andrea Kerswill directs the strategic growth and delivery of Scotiabank’s innovation footprint in Waterloo, Ontario. Andrea graduated from the University of Waterloo and started working at Scotiabank three years ago in Strategic Communications. However, she quickly found her love in technology, and now she leads a powerful team in Scotiabank’s New Innovation Hub, FactoryU, in Waterloo. She spent the majority of her career in Banking — from Equity Capital Markets, to Private Banking, to Retail Banking, and now in Innovation.

**Stacey Scott, Associate Professor, University of Guelph, frm. Games Institute Associate Director (2010-2015)**

Stacey’s research and teaching interests are human-computer interaction and computer-supported collaboration. She specializes in digital tabletop computer technology and advocates for digital tabletop technology to support collaboration. She co-founded the Natural Sciences and Engineering Research Council of Canada (NSERC) SurfNet, a network focused on tabletops and interactive surfaces, and LEIF: A Multicultural Exploration into Research and Education for Surface Computing, an exchange program between Canadian and European universities for students to work on digital surface research projects.

**Bart Simon, Director, Milieux Institute, Concordia University**

Bart Simon is the Associate Professor, Dept. of Sociology and Anthropology, Concordia University. Simon’s research is focused on the areas of science and technology studies, critical post-humanism and everyday technocultures with specific interests in digital culture, games and virtual worlds, and simulation, surveillance and social control. In 2004, Simon launched the Montreal GameCODE project, a Concordia-based research initiative to examine the cultural impact of digital games. In 2009 he became the director of a new broader cross-faculty research initiative in Technoculture, Art and Games (TAG). His recent publications include ‘**Geek Chic: Machine Aesthetics, Digital Gaming, and the Cultural Politics of the Case Mod**’, ‘**Never Playing Alone: The Social Contextures of Digital Gaming**’ and ‘**Beyond Cyberspatial Flaneurie: On the Analytic Potential of Living with Digital Games**’.
# Appendix 4. Games Institute Communications Products and Channels

<table>
<thead>
<tr>
<th>Product/Channel</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Website</strong></td>
<td>The website is the central channel for our research communications activities as it hosts the majority of our content including news, the Research Spotlights blog, our mission and research, virtual tour, partnerships, projects, and member profiles.</td>
</tr>
<tr>
<td></td>
<td><em>Launched in 2012</em></td>
</tr>
<tr>
<td><strong>Podcast</strong></td>
<td>Two episodes published monthly on Libsyn, Apply Podcasts, and Spotify, featuring research dissemination content highlighting methodologies and outcomes.</td>
</tr>
<tr>
<td></td>
<td><em>Launched December 2018; 27 episodes to date; &gt;3000 unique listeners; presence in 26 countries across 4 continents</em></td>
</tr>
<tr>
<td><strong>Posters</strong></td>
<td>Knowledge translation of research projects showcasing the breadth of interdisciplinary research and collaboration.</td>
</tr>
<tr>
<td></td>
<td><em>40 posters; Printed on 24x36” sintra boards; Selection featured at The MUSEUM in Kitchener</em></td>
</tr>
<tr>
<td><strong>Instant Replay Magazine (Digital and Print)</strong></td>
<td>Produced at the end of academic terms and distributed to our members and partners. Each issue summarizes the activity from the previous four months and to express our intentions for the next season.</td>
</tr>
<tr>
<td></td>
<td><em>Distributed in digital and print form; 3 issues to date</em></td>
</tr>
<tr>
<td>Product/Channel</td>
<td>Description</td>
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| **News Stream** | Our news stream provides research updates for our audiences and promotes collaboration with/on Games Institute activities and events.  
*Launched in 2012; >200 posts to date.* |
| **Research Spotlights** | Research Spotlights articles share in-depth information about research, targeted to Games Institute members, industry and campus partners, and games and interactive technologies researchers worldwide.  
*Launched in 2017; 40 articles to date.* |
| **Press Releases** | Working with the media relations and integrated communications team at the University of Waterloo, we publish press releases for local media for further amplification.  
*Select articles have tracked millions of readers worldwide* |
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<tr>
<th>Product/Channel</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>YouTube Channel</strong></td>
<td>Our YouTube channel elevates the accessibility of our online presence more accessible and shares research events with our international network. Launched in 2016; 50 videos to date; Videos have tracked 300 unique views; 59 regular subscribers.</td>
</tr>
<tr>
<td><strong>Guest Lectures</strong></td>
<td>Guest lectures allow us to add research value to our community, while also expanding and solidifying network connections. 4-7 Guest Lectures per academic term; 20 Guest Lectures per academic year.</td>
</tr>
<tr>
<td><strong>Workshops</strong></td>
<td>Our workshops allow Games Institute researchers to showcase and disseminate their knowledge to community members. They are idea/research incubators, dissemination events, and research products. 4 Research Workshops per academic year.</td>
</tr>
<tr>
<td><strong>Panels</strong></td>
<td>Interdisciplinary research panels invite two or more Games Institute researchers to share ideas with community audiences and demonstrate how interdisciplinary thinking operates in the field of games research. Launched 2018; 9 panels to date; 1 interdisciplinary panel per academic term.</td>
</tr>
<tr>
<td>Product/Channel</td>
<td>Description</td>
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<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Social Media Presence (Twitter, Instagram, Facebook, and LinkedIn)</td>
<td>We leverage Twitter, Instagram, Facebook, and LinkedIn to reach our community partners, current and aspiring Games Institute members, our international network of researchers, and industry partners.</td>
</tr>
<tr>
<td></td>
<td>Our primary channel is Twitter with &gt;1500 connections; Secondary channel is Facebook with &gt;700 connections.</td>
</tr>
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## Appendix 5. Member Statements

### Students

<table>
<thead>
<tr>
<th>Name</th>
<th>Program</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atienza, AC</td>
<td>English, Alumni</td>
<td>The Games Institute was an integral part of my Master’s experience at University of Waterloo. Firstly, the Games Institute ensured my positive well-being and a genuinely fun journey through grad studies - a rare occurrence in academia. Perhaps more saliently, though, the Games Institute provided me the foundation of my Master’s research project, arranged a formative Mitacs scholarship with me, and gave me a host of interdisciplinary networking opportunities that led to my current career. The most enjoyable elements of the Games Institute space may have been a mix of the generous and comfortable office arrangements, the interesting and varied events, the countless research opportunities, the excellent cross-disciplinary collaborations, the highly-anticipated connections with important institutions, or the excellent lab equipment. It may also have simply been the very particular culture of the Games Institute that made graduate studies a fond time in my life, especially given the current cultural climate.</td>
</tr>
<tr>
<td>Baltrusaitis, Jonathan</td>
<td>PhD Student - English, XDM (Experimental Digital Media)</td>
<td>The Games Institute was my home on campus while I was pursuing my Masters in Experimental Digital Media (MA English XDM) and continues to be through my PhD. The crosspollination of ideas in the GI community has been extraordinary, pushing my research in directions it might not have gone had I stuck to the English Department’s offices. The breadth of equipment available and the knowledge of the staff was invaluable to my thesis project. 3D modelling and printing enabled me to make the physical component for a prototype augmented reality civic monument. The community at GI is characterized by a spirit of sharing - of passion and of expertise - that makes it a truly fertile research environment. I’m looking forward to spending more time there again in the new year, and to kick my PhD research into high gear with the GI’s help. My work with Virtual Reality and Augmented Reality will be well enabled with lab and equipment access.</td>
</tr>
<tr>
<td>Barton, Kevin</td>
<td>Psychology/English, Postdoctoral Fellow</td>
<td>Over the years that I have been a member of the Games Institute (GI), it has provided ample opportunities for collaboration and interdisciplinary interaction and has been invaluable to my research career. Through involvement with the GI, not only have I learned more about how other disciplines function – broadening my knowledge translation experience – but I have also been provided with a number of fruitful research opportunities that I likely never would have considered nor pursued had I not been present at the GI ... These projects not only had impact in their respective industries but also only came to be due to interactions at the GI and through the profile of the GI itself. Interdisciplinary research has always been encouraged at the GI and each of the projects that I have worked on have featured multi-disciplinary teams. As a psychologist this is something we typically rarely do due to practical or logistical concerns and/or due to the insular nature of most faculties. However, each team that I worked on was a great opportunity to learn about research in other fields.</td>
</tr>
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3 All individuals listed below consented to their statements being included in this document.
<table>
<thead>
<tr>
<th>Name</th>
<th>Program</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benjamin, Marisa</td>
<td>MA English Language and Literature, Rhetoric and Communication Design</td>
<td>I was a student at the Games Institute while I was completing my Master of Arts in Rhetoric and Communication Design during the 2017-2018 academic year, and my membership ultimately led to me securing a position as the Research Communications Officer for the GI, which I have been doing since graduating. The central focus of my research was on the rhetoric of social change and corresponding knowledge mobilization strategies. I joined the Games Institute to advance my research on one project in particular that involved creating a board game to teach players about pipeline politics in Canada. Prior to joining, I did not have a desk provided by the English department and I had very little in terms of community support and resources. In order to design the knowledge mobilization board game, I needed space, materials, and mentors, all of which were provided at no cost by the Games Institute. Joining the GI enabled me to finish the game and deliver the research outcomes at the Tri-University Conference. Working in the Games Institute space exposed me to interdisciplinary research which inspired me to think about broader possibilities for knowledge mobilization. I took advantage of opportunities provided by the GI including attending research talks by scholars outside my discipline, such as a health sciences presentation about designing virtual reality exergames for older adults. Beyond connecting with other members socially, I joined meetings between GI faculty members and industry partners looking to launch user experience and game design research projects, and I participated in reading groups, writing circles, and playtests with GI members from other faculties. Becoming immersed in the GI community led to my discovery of the importance of interdisciplinary research dissemination, for both academic and public audiences. It was this fact that empowered me to shift my career focus toward interdisciplinary knowledge mobilization. I interviewed for the Research Communications Coordinator position and then, one year later, was promoted to Research Communications Officer.</td>
</tr>
<tr>
<td>Black, Lillian A.</td>
<td>Department of English Language and Literature, PhD</td>
<td>I originally came to the Games Institute (GI) as an Undergraduate Research Assistant to a Faculty Member as a co-op placement. My position was a joint placement split between the faculty member and the Games Institute, and as such I was provided space to complete my work. The physical space allowed me the opportunity not only to focus on the work, but to feel integrated into the research and educational body of faculty members and fellow students. 3 years and 2 degrees later, I continue to value and use the space the GI has made available to me. Throughout my MA, and as I’ve begun working through my PhD, having the opportunity to ask other students in similar fields for the perspectives, or their expertise so easily, as a result of proximity, has been valuable beyond even my own expectations.</td>
</tr>
</tbody>
</table>
While my research doesn’t particularly require use of the GI labs, the GI staff with connections and expertise relevant to my field have been immensely helpful. Whether I’m looking for information about the space, about the people, about potential publication opportunities, or even if I’m feeling unsure about my place at the GI, or UWaterloo, the GI staff have always been able to provide assistance tailored to my needs in a way a generalized administration would never be able.

In terms of research, the Games Institute has had a significant impact on my professional growth. As an Undergraduate Research Assistant, I had the opportunity to become involved in the Virtual Reality Storytelling Lab, and work together with Masters, PhD and Postdoctoral members to develop and conduct a research project. In my Master’s program, the Games Institute allowed me the opportunity to connect with the middle-state publication First Person Scholar, and to get one of my first pieces published. This connection continues, and I am now one of the managing editors. Additionally, the GI provided the opportunity for myself and other GI student members to work on a cross-institute project called Illuminate. While there was a lot of complication within the project, it allowed me the opportunity to grow and develop as a researcher and a student, and to continue working on my professionalization.

Moving forward, my research will become more interwoven with the Games Institute space as I begin working on my dissertation research project. As I’ll be conducting interviews and potential corpus data analysis, the GI labs will be of immense value in facilitating this work. Additionally, I am currently in the process of preparing a MITACS proposal with another GI student member that would not have been possible without the GI connections beyond the university. As a student with an interest in pursuing either an academic or industry position, the Games Institute has allowed me personal and professional development opportunities suited to either trajectory.

The GI’s interdisciplinary focus has contributed to the paths that I chose during my PhD research. Being able to interact and have conversations with other residents, such as other undergrad and grad students, and professors from diverse areas gave me insights on exciting topics that I could explore in my research. For instance, I learned new game theories in psychology that I applied in my first study. Doing my research in a place where I can easily talk to other students and professors from different departments positively contributes to my experience as a grad student since I started my PhD. Everyone is very approaching, friendly, and excited to talk about their research and interests and learn from each other’s research. I’ve always learned a lot through the multidisciplinary panels, talks and events hosted by the GI and the other GI residents. The weekly meetings with the HCI group, hosted in the GI, is invaluable to my growth as a grad student. I cannot imagine learning so much from other students and professors if it wasn’t for these meetings.

I was the co-captain of two Game Jams (Winter 2018 and Spring 2018) organized by the Games Institute and had a great experience running the events. The staff and other volunteers were great to work together. I also participated in the “Multidisciplinary Panel: Co-operative Games” (Winter 2019) as a panellist, which was a great experience.
Browne, Pierson

PhD Candidate, Faculty of Arts, Department of Sociology and Legal Studies

For the duration of my time working on my games-related dissertation project, the Games Institute was a near-constant wellspring of resources, ideas, and support. The GI provided a welcoming interdisciplinary environment where conceptual, theoretical, and practical concerns could be workshopped using combined expertise from many of the University of Waterloo’s graduate programs. The GI also played a direct role in enabling my dissertation research to proceed: my research uses both qualitative and quantitative methodologies to examine how strategic ideas flow through networks of play. The design of the dissertation was such that I required large amounts of longitudinal data from a real-world commercial online game. This data is exceedingly hard to acquire; nevertheless, the Games Institute played host to a network of connections that eventually resulted in my acquisition of insider access to telemetry data from a major Canadian games developer and publisher. These kinds of contributions would not have been available in the context of the Sociology department I am formally affiliated with; they emerged as a product of the GI’s cross-disciplinary focus and the GI faculty and staff’s tirelessly compassionate efforts.

Though the research benefits I gained via my involvement with the GI were numerous and critical, the institute arguably had a larger impact on my daily lived reality. In many respects, the Games Institute was a home; I’d often spend most of my working week at the GI, and I frequently stayed late into the evening to participate in the activities and social events frequently held there.

In the past, I have both visited and belonged to multiple interdisciplinary academic games research laboratories, clusters, and co-working spaces. In each of these institutions, space was so limited that the facilities could only be used for one purpose at a time. Social events, for example, often rendered the other games research labs whose banner I have studied under unusable for any other purpose for the duration. These organizations were also unable to provide students with permanent personalized working spaces. By way of contrast, The Games Institute’s ample and varied space has enabled it to achieve what others cannot. Not only is it capable of simultaneously facilitating multiple forms of use (social events and group play can proceed without interrupting nearby research activities), it also provides students a space that they can call home. Aside from the stability and comfort afforded by this reified belonging, individual desk assignments are - in my view - the fulcrum which allows graduate students to leverage the GI as their primary locus for research and academic writing.

The years I have spent studying at the University of Waterloo have been fruitful and enjoyable; as a whole, I can confidently claim that the Games Institute was the single largest factor in making them so.
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| Cheung, Victor | Alum, PhD - Systems Design Engineering | enriched my PhD experience and provided essential support for my research. Being co-located with other students from various disciplines constantly inspired me with new ideas, and I was able to get feedback on my research from widely different perspectives. The physical space and equipment were fantastic resources for my research. I especially appreciate all the social events that allowed me to network and more importantly, become comrades with other students. GI also continues to contribute to my network and employment now. The slack group allows me to stay in touch and make new connections with other GI students and faculties. The newsletter has also been helpful for me to stay current with gaming research. Through GI, I also get to connect with industry companies looking to hire. I have been impressed by the wide diversity of research work conducted at GI over the past 5 years. The research seminars have provided me with new ideas and insights to the field. I’m especially excited and proud of the initiatives on overcoming systemic racism. I am looking forward to even more fantastic work that addresses societal issues through games.   
| Currently, I am a lecturer at Simon Fraser University. 
I was a member at GI between 2014 and 2016. I had some of my best graduate school memories during my stay there. I believe there were a few unique qualities of GI that contributed to my experience. 
Availability of space for personal and collaborative work  
Each of us had access to our personal desk where we can focus on our own work (I developed my experiments and wrote most of my thesis there). The desks were also close to each other enough so that I could exchange ideas with my colleagues and get suggestions if needed. We also had access to a collaborative space where we could interact and discuss as a group. 
Frequent informal and formal events  
The collaborative space also allowed frequent events including coffee & toast social gatherings, brown bag seminars, and game society gatherings to be held. These events were a good mix of informal ones, where members of the GI could share their views on games, life, and even play a few games together (I have made a few good friends there whom I am still in touch with); and formal ones where speakers were invited to present their work and research on various topics. 
Multidisciplinary  
A key characteristic of GI is the diversity in departments. Very early on we had students and faculties from English, Computer Science, Applied Health Sciences, and Systems Design Engineering joined as members. Such diversity has provided multiple perspectives on game design and has lasting effect on how I approach game design and development. 
As for myself, the collaboration fostered from GI has led to an exciting project (Quantum Cats) and a conference publication (Cheung, V. & Wallace, J.R. (2016). Felines, Foragers, and Physicists: Supporting Scientific Outreach with Multi-Surface and Multi-Space Games. In Proc. of ISS 2016: ACM Conference on Interactive Surfaces and Spaces, November 6-9, Niagara Falls, Canada. p297-306). Additionally, the game-related knowledge I gained helped me to develop a game design course that I taught as an instructor when I was a postdoc at Carleton University (IMD4006 Advanced Computer Gaming). I plan to keep evolving the materials and propose it to my current university. |
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<td>Clement, Ryan</td>
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<td>Last but not least, I would like to thank Agata Antkiewicz and Neil Randell for directing the GI. They have done a tremendous job in creating such an amazing and unique space that I have not found anywhere.</td>
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<td>It’s been a few years since I’ve been involved with the Game Institute, as I have been teaching with the Departments of Rhetoric, Writing, and Communication and English at University of Winnipeg since 2017. During my time with the GI, I organized events like Make a Game or DIY Trying and Game Tasting. I also continued working on tabletop games, such as the Kitchen Table game for the CIHR/GET-FACTS Knowledge Translation project, and performed the “Use of Persuasive Games to Promote Empathy for Persons with Food Allergies” in partnership between the GI and Dr. Susan Elliott of the Department of Geography and Environmental Management. The study was conducted on-site at the GI, using GI equipment such as tablets. The results of the study were included as part of my completed dissertation &quot;Playing the Story: The Emergence of Narrative through the Interaction between Players, Game Mechanics, and Participatory Fan Communities,&quot; and are currently the focus of a peer-reviewed article I am working on with the Journal of Gaming and Virtual Worlds. I presented “The Emergence of Narrative through the Interaction between Players, Game Mechanics, and Participatory Fan Communities.” from my dissertation at the Canadian Game Studies Association through the Congress of the Humanities and Social Sciences in Regina in 2018, and also published &quot;Game Mechanics as Emergent Narrative” in In Media Res. I also graduated that year. After my time at U of Waterloo, I have continued doing game design work through the Manitoba Game Designers, and often incorporated games as part of my teaching and my summer work with the International Space University. I briefly worked as a games consultant for the Winnipeg Improv Festival. I also wrote the peer-reviewed chapter “Playing Canadian: A Brief History of Tabletop Games in Canada.” for The Spaces and Places of Canadian Popular Culture, edited by Victoria Kannen and Neil Shyminsky and published in 2019.</td>
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<tr>
<td>Femia, Giuseppe</td>
<td>MA, English</td>
<td>The GI’s resources and interdisciplinary focus have made the intersection of game studies and queer studies accessible to me for my work on identity in role-playing games. The progressive and leading-edge academic scholarship that takes part there has been a staple in me choosing to apply to Waterloo for my PhD, and I do not think I am alone on that front. Being able to work with peers of a likeminded academic background has benefited my understanding of my research material greatly. The events held at the GI have exposed me to all kinds of new research, game design, and academic practices that have become useful throughout the course of my MA Thesis Project. The community is friendly and inviting with an emphasis on inclusivity that puts an ease on my time here as an MA student. Truly, I have found nowhere else on campus quite like it. I would like to see an increase in Game Studies scholarship at UW as right now gaming is not getting the attention it deserves, given the impact it has had on our culture in the past decade.</td>
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<td>Fleck, Alex</td>
<td>PhD, English</td>
<td>The Game Institute’s (GI’s) ongoing support and community, since 2015, when I returned to UW for my master’s degree, has been essential to my academic development. Without the GI’s community and support through research collaboration and partnerships it is likely I would not have returned to UW to continue my studies in a PhD. Here are a few examples that highlight the GI’s contributions to my academic experience at UW.</td>
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During my Masters degree (2015-2017), the GI offered weekly social events to meet across disciplinary bounds with other researchers, a Game Jam every term where small groups would design a game over a weekend, as well as numerous professional opportunities for research. I was fortunate to work as a game designer, academic researcher, and virtual reality (VR) technician throughout that time period (with some overlap into my PhD).

The Game Jam which runs every term (I helped organize in 2016, 2017, and 2019) presents the opportunity to reach out across campus and to the KW community more broadly. As a team lead or as part of the organizing team, we brought together researchers and those interested in creating games, across various disciplines to share and discuss game design principles and practices, to showcase UW’s creativity in game creation, as well as share academic ideas and concepts in an open forum.

As part of an inter-university and interdisciplinray research team funded through the GI through an MA coop position and partnership, I helped design and present a transboundary water governance card game, Hustle and Flow, at a policy conference in 2016 in Toronto. The GI also provided an opportunity to attend an international Games and Education conference in Scotland later the next year. In summer 2018 I also returned to the Hustle and Flow project at the GI to archive its materials and iterate on its design.

Without the GI as a hub of games research at UW this would not have been possible. The research outputs and collaborations and seeing the game’s audience change from stakeholders/civil servants, to game design experts, to undergraduate and graduate classes, and back, were indispensable in developing and iterating on Hustle and Flow.

More recently (since 2017), in addition to the interuniversity collaboration and knowledge mobilization of presenting and prototyping game designs for various audiences, I also had the opportunity to work on a project with Correctional Service Canada. This community-focused project, with its goals of aiding federal offenders in their reintegration into larger society upon release, provided an opportunity to deeply consider the social implications of applied game design.

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| Fung, Kin Pong (Kenny) | Masters, Computer Science - Alumni, currently working at Deloitte as a full stack software developer | 1. Speaking with others that worked with qualitative data helped enrich my research as I usually work with technology and quantitative data. Cross disciplinary lab mates helped contribute to how I approached my research.  
2. Having a physical space to collaborate with lab mates and work elevated my experience during my Masters. In addition to having useable research space the events that were hosted also contributed to the social aspect of creating a community during my academic career  
3. I developed skills in technology while I was at the GI with various opportunities to apply them. Although there was no direct assistance by the GI to get me my current job, I believe the skills I learned at the GI helped me.  
4. I would like to see more technology being integrated with the GI. Unity development would be particularly useful for researchers as they could independently create game research platforms. |
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<td>Gauthier, Robert P.</td>
<td>PhD, Public Health and Health Systems</td>
<td>My research is focused on applying machine learning and human computer interaction techniques to public health research exploring online communities around topics that include gaming disorder. Both HCI and public health are interdisciplinary fields and involve multiple stakeholder groups from many different disciplines. The GI provides a place to get valuable interdisciplinary feedback on my work so that it is applicable to multiple stakeholder groups. I have connected to other faculty where I could learn from scholars who use techniques I have not previously encountered. I have been able to connect with scholars from Arts, some of whom are using rhetorical analysis to understand online discussions and others are performing sociological research of online community behaviors in online games, and scholars from Engineering, some of whom are exploring how to use qualitative methods to understand community and user needs and others who are integrating machine learning as part of daily tasks. Learning from other faculties helps me to come up a mix of techniques in the research methods being used in public health. Additionally, the GI provides a space for weekly meetings among multiple research labs. During these meetings I get valuable feedback on my own approaches in return for providing feedback to other students and researchers from across campus. These meetings also provide connections to other students, postdocs, and professors who provide a variety of perspectives on my work during GI enabled writing review circles. The GI has provided me a place to be collocated and interact with other graduate students daily. Being collocated allows spontaneous interactions to occur easily. The interactions lead to both a feeling of community with the broader university of waterloo community, rather than just with my own faculty. Additionally, the GI has provided the opportunity to attend talks given by a wide variety of researchers and professionals from, waterloo, outside universities, and a variety of businesses. Talks from different source motivate me to continue innovating and exploring different applications of my research and helped keep me engaged in societal issues rather then feeling isolated from the non-academic world. Finally, The GI has provided opportunities to give back to both the university community, through public events like the GI Expo and GI Game Jams, and to the broader academic community, through connections that have requested me to perform conference and journal reviews for venues that I had not considered in the past. In the future I would like to see that GI continue its ongoing efforts to combat systematic racism and biases, within both games research and broader academia. Also, I greatly enjoy the talks by speakers brought in by that various groups who have members collocated at the GI, such as the series on feminist design and research through design and I want to see similar talks continue to occur the future.</td>
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<td>Halifax, Stuart</td>
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<td>My short time (physically) at the GI has provided me with ample opportunities to talk about my work to a larger array of people that I would not normally be exposed to. For example, I was invited to share my work on the GI podcast. Furthermore, the interdisciplinary environment on the GI allowed me to interact and work with many varied researchers, outside of my “home” research topic (computer science). This gave me ample opportunities to explain, and confront my research ideas with people and researchers outside of my field. Although I first reached out to Lennart via email after meeting him during a conference, the summer I spent in the physical GI space was highly beneficial to me (both in opening my research horizons,</td>
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<td>Hancock, Michael</td>
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<td>My name is Michael Hancock; I am a post-doctoral researcher working under Neil Randall and the English department, conducting research for the Games Institute. The Games Institute has contributed significantly to my experience as a researcher. Its interdisciplinary structure has kept me connected to wider opportunities as a researcher that would not have been available otherwise. The physical space means that a fresh perspective is generally just a cubicle away, and the staff has been invaluable for coordinating interdisciplinary efforts and procuring equipment. The intradisciplinary connection is also important. Game studies is still a niche field in the humanities, and the Games Institute acts as a hub for those interested in the subject; being able to connect locally with others has given me countless opportunities to discuss my subject matter and research with like-minded colleagues. The Games Institute has affected my career in a number of positive ways. I would be remiss if I didn't mention how it has improved my teaching. Being able to communicate with other game studies instructors has directly given me new ideas and practices for my own game studies courses, and interdisciplinary experience with Health Sciences and HCI colleagues have greatly improved my ability to connect with my students in Science Communication courses. Of course, my research has been positively affected to an even higher degree. In the past five years, my research work has focused on the intersection of games and narrative media, and the Games Institute has supported three major projects coming out of that focus. First, through a MITACS grant, I investigated how Kenneth Burke's dramatistic pentad could be applied to translate scientific concepts (specifically, the biological subjects of megaflora and hivemind) into gamic action. The result is my contribution to Stitch Media's <em>Terrorarium</em> game, in which the player directs hivemind creatures to subdue giant plant-based enemies. The Games Institute was instrumental in this process, in both the more overt act of putting me in touch with Stitch Media and setting up the grant, but also through maintaining an interdisciplinary structure where such research would be possible. Second, I co-host a podcast on comic books and scholarship <em>Three Panel Contrast</em>; while the connection may not be readily apparent, my research on hybrid narrative forms within the Institute allowed for our recent episode on comic-based gamebooks. We've also relied on the Institute for the loan of recording space and equipment, and we've received promotion through interviews from the Games Institute's podcast series. Finally, on the subject of large support, the GI has funded and allowed for my work on the current interdisciplinary project with ScotiaBank. Through this project, I have become more knowledgeable on the subject of gamification and utilized its principles to work with researchers...</td>
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| Harris, John | Faculty of Mathematics, Computer Science, PhD — Alumni | My day-to-day PhD work placed heavy emphasis on the development, implementation, and testing of medium-fidelity prototype games. As such, the most immediately fruitful interactions I had with other members of the Games Institute (GI) community tended to involve researchers from engineering and mathematics. Having direct contact with such a large group of peers in a fun and open space greatly aided in the free flow and evolution of ideas and solutions. The interdisciplinary nature of the wider GI community and the many opportunities that climate presented to discuss and debate games research from different perspectives (e.g. English, Psychology) undoubtedly improved the overall quality of my research; particularly in my writing, presentations, and argumentation.

The two most beneficial aspects of my involvement with the Games Institute were 1) the physical space itself and 2) the support of the GI admin/members in launching new community initiatives. Shortly after my arrival in 2013, with support from GI administrators, I convinced the executives of the undergraduate Game Development Club (GDC) to hold their regular meetings/activities within the GI space itself. This helped centralize an important core of game development knowledge/expertise within the Games Institute and the club’s tutorials and workshops greatly accelerated my development skills and overall PhD progress.

Synergistically, the access to first-class meeting space, hardware resources, and campus-wide clout of the GI aided the club’s activities in turn. All the while, the serendipitous discussions and friendships that development between members of the GI and the GDC gave rise to numerous new collaborations and projects over time. It became apparent early in my PhD that in order to better understand games it can be important to actually make games (rather than only studying them from the outside). As a result, and again with help from the GI admin, I founded the “GI Game Jam” event in early 2014. Since then, this 48-hour “hackathon” style event has run every semester, attracting jammers from across the GTA, given rise to innumerable new prototype games, brought an even wider swath of the greater Waterloo community into the GI’s orbit, and served as a focal point for game development activity on campus. Many a GI Jammer has gone on to have successful game development co-ops and industry jobs upon graduating.

As the GI Jam has grown, an increasing number of companies from industry have begun to sponsor the event and present their own talks/tutorials at the GI Game Jam. I cannot overstate how important the clout and support of the Games Institute has been in the founding and continued growth of the GI Game Jam and its related industry-outreach activities.

In the later years of my PhD program, I was able to transition into a “Maker Support Staff” role at the GI. By this time, having spent its early years establishing itself within the mental awareness of the larger UW community, the GI was now attracting members of the UW community who were looking for ways to adapt lessons and techniques from games user research into their own non-games-centric research and practice. I held numerous consultations with faculty and students conducting wide ranging research (e.g. psychology, agricultural management, political science, autonomous vehicles) and helped them design and develop their
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<td>Homaeian, Leila</td>
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<td>My PhD research and career has remarkably benefited from the interdisciplinary environment of the GI. My research area is Human Computer Interaction (HCI), which is multidisciplinary spanning areas such as Engineering, Computer Science, and Psychology. At the GI, I have regular interaction with faculty and students from diverse backgrounds. Therefore, I am consistently exposed to research in the broader field of HCI and relevant areas, through formal meetings and casual gatherings at the GI. The GI staff are very helpful and knowledgeable in supporting students and faculty members access resources for doing research. I appreciate the organized and friendly environment that they have provided for the GI members. Last December, when I needed a camera and connection cables to run a user study on a short notice, the GI staff went out of their way to make sure I could use all the equipment I needed. Social events run at the GI are a great opportunity to connect with others and have a sense of community. This term, I am organizing a virtual invited talk for the GI members. The GI staff have supported me by promoting the event and finding the technical resources for running the event. I was part of the organizing committee of the GI Game Jam for two terms in 2018. That experience allowed me to exercise and enhance my leadership skills. In conclusion, I am proud to be part of the GI. The environment that it provides is vital for conducting world-class interdisciplinary research, which is the focus of students and faculty members, including myself. The GI is own research prototypes. Without the Games Institute to act as a lightning rod, I do not see how such cross-disciplinary collaborations would ever have come about. The largest and longest-running such collaboration was with the Engineering IDEAs Clinic where I applied the lessons from my PhD thesis studying “asymmetry and interdependence in co-operative game design” to help develop and deploy a large-scale, multi-day learning activity that every incoming Software Engineering class has participated in since 2018. Following the completion of my PhD, I have continued to work with the IDEAs Clinic to develop and adapt new activities using game-centric technologies to other topics, most notably in teaching feedback control theory. During my PhD, I also participated in the Waterloo Velocity workshops and competitions, winning two $5000 awards to further develop and commercialize a large-scale, face-to-face “megagame” concept that was a direct spin-off of my PhD research at the GI. While the global COVID-19 pandemic has essentially ended large-scale face-to-face activities, I believe my ability to conduct early public play tests of the prototype through the GI’s numerous public outreach events and the enhanced credibility my GI-supported research lent the concept during the pitch competitions was instrumental in my proposals winning. I look forward to a time in the coming years when I can safely revisit the concept and I would love to have the Games Institute play a role in that endeavour. In future, I would like to see the Games Institute continue to support the development of concrete game development skills and to expand its capabilities to support collaborations between its researchers and industry partners. Game development is an extremely challenging field and while I do not think the Games Institute necessarily needs to compete directly with other universities that have dedicated undergraduate game development programs, I think the Games Institute can better leverage Waterloo’s engineering culture to fill a unique niche by place more emphasis on developing innovative new forms of playful interaction.</td>
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Mehrabi, Samira  
**Ph.D. Candidate, Kinesiology - Aging, Health, and Well-being**  
Being part of the GI research family, I have had the opportunity of meeting people from various disciplines and with diverse research interests. Given that one of my main research interests is using technology, in particular, exergaming to improve older adults' health and well-being, the interdisciplinary focus of the GI has fostered meaningful connections and facilitated fruitful collaboration with other researchers in the field, in particular game designers and HCI specialists.  
GI is one of my favorite places on the UW campus. The positive and thriving atmosphere of GI gives me a sense of belonging and trust. In addition to its smart and welcoming residents, GI has great staff who are responsive, friendly, and supportive. The lively and beautiful environment of the GI and its ongoing academic/social events have helped me to build positive relationships with others. My social and mental well-being has also been positively affected as GI is a perfect place to get together with friends after work and share a good laugh while playing games.  
The gained experience and developed skillset by being part of the GI research family would definitely be an asset to my future employment.  
It would be great if GI could facilitate networking sessions with potential industry partners. Conducting specialized workshops and offering ways to hands-on experience would also be very beneficial to many graduate students.

Metaxas, Christian  
**English, Alumni**  
The GI was a significantly important facility during my time at Waterloo. While completing my post-graduate work I was afforded space, funding, and social opportunities because of my membership and affiliation with the office. Having a corner on campus to call my own was a blessing. It was a stomping ground to explore ideas and butt heads with others who had similar interests. The interdisciplinary ethos was a present undercurrent, always nurtured, always at the center of the idea that diversity can breed better action. Sometimes that meant a different space to interact with upperclassmen from my own disciple; other times it meant conversing and engaging topics with colleagues from other schools of thought and walks of life. You’re going to make friends with people you see eye to eye with, and you’re going to disagree with people you don’t—because they’re going to question you and challenge you and push you. The GI is a unique campus space where I learned as much scholastically as I did socially: how to approach certain problems, how to navigate solutions, when to press things and when to cut bait.

Moran-Ledesma, Marco  
The Games Institute was a critical factor when deciding on which institution I would study my PhD at. The GI has a lot of resources that move research forward, such as an Immersion room, a Storytelling lab, a high-quality 3D printer, and soon a Maker Space for prototyping. Since my work is about leveraging Virtual/Augmented Reality and 3D printed objects for storytelling, learning, and education purposes, it was a coherent decision to choose the University of Waterloo and the Games Institute as the headquarters of my PhD.  
Most importantly, the Games Institute is a source of mental health. This is, without a doubt, directly linked to my success as researcher. Poor mental health will unquestionably lead to poor research.
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<td>Pafla, Marvin</td>
<td>Math, Cheriton School of Computer Science, PhD</td>
<td>Exposure to different ideas and fields has let me to consider my own work not just from a technical perspective (e.g., can it be done?), but also ask myself what the societal implications of the technology (e.g., AI) are when deployed in different scenarios (e.g., should it be done?) Receiued much feedback to my UI design to make it more accessible Feedback to my research ideas that guided me towards the thing I wanted to study (I was going in all kinds of directions until the Mitacs internship framed much of my research) Interdisciplinary environment: • Exposure to different forms of thinking and questioning from other research fields. I think every field has their way of thinking about problems that can sometimes be restricting if it is the only lens looked through. • Probably grown professionally as I not only need to defend my ideas in front of CS people but the social sciences as well • Learned a lot about game development, art, music, etc. GI physical space • Good for mental health • Feels like home with all the art, very welcoming GI labs • Learned new skills like animation, game engines, music, art • Participated in game dev club GI staff • Super helpful, especially when I applied for Mitacs (that’s probably something to highlight – as this experience was significant for my professional experience) Other (EDI efforts, community and social aspects, etc.) • Certainly became more radical since I joined the GI. I love this progressive aspect about the GI Exposure to FTT and other initiatives made me question my own upbringing (especially as a white dude) Has being part of the GI contributed to your employment, or do you see it doing so over the next few years? • Definitively helped with the Mitacs application • I know there are lots of job postings for the game industry, lately I’ve becoming more interested in academia, I am really excited to stay for four more years • Games user research course was amazing • Would like to become a more active member and help build the student council • I also want to build a polished game at some point What would you like to see the GI do and be engaged with in the future – research, outreach, community, training, programs, otherwise) I think it would be nice to organize larger and bigger projects that we find Master and PhD students for from different fields. So rather than hoping interdisciplinarity happens organically, maybe it could be organized</td>
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<td>Pinheiro, Dakota</td>
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<td>Although the story of my association with the Games Institute is quite short, I accepted the offer to become affiliated with the Institute due to my interest in digital games, as well as public discourses that often make these games an important object of discussion. During my time as a graduate student in Dr. Randall’s Game Studies course in the Summer of 2020, I developed an educational COVID-19 game in its entirety and submitted it as a final assignment, even though the assignment required only a prototype or an outline. The skills that while learning from Dr. Randall were also applied in another graduate English seminar. Because of the success of this other game, it has since been integrated into one of Dr. Randy Harris’ online upper year undergraduate courses, where it received a highly positive reception as an interactive introduction to the study of rhetorical figures. As of November 2020, I am also associated with The Game Institute’s own middle-state publication First Person Scholar (FPS) in the capacity of Assistant Editor. Though my tenure in this position, like my affiliation with the Games Institute more generally, remains quite brief, I have already expanded my knowledge and professional network through my interactions with FPS staff and contributors. Additionally, FPS presents a venue to publish shorter form academic works about video games and digital media, an opportunity I intend to take up as I continue to pursue my interests in American literature and culture. As a 2nd Year PhD student with the Department of English Language and Literature whose primary research focus is not digital games, the Games Institute continues to offer me new ways to connect with fellow academics and serves as an important facilitator for academic discussions about digital media, both at the University of Waterloo and around the world.</td>
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<td>Racicot, Toben</td>
<td>English, Faculty of Art, PhD student.</td>
<td>The Games Institute contributed to my experiences as a student by providing a space to interact with other students researching similar topics, but all with similar interests. Working there is great to discuss concepts and theories with other students. The faculty GI members are knowledgeable and very encouraging towards students working there. Additionally, the resources available in terms of gaming consoles, board games, PCs, and other tech, makes undertaking a project more realistic because much of the expensive or unobtainable elements are already on site. Being involved with the GI has benefitted my employment opportunities within the University of Waterloo and will provide me with the skills and training to succeed in future careers. As a GI member I’ve collaborated with Professor Randall in his courses as a TA and guest lecturer; I’ve developed course content, created gaming modules, and encouraged other students to pursue their interests as games researchers. As the producer and co-host of the Games Institute Podcast I’ve helped other researchers share their work, helped further the GI community’s goals, and created an outlet for listeners outside of Waterloo to familiarize themselves with the GI.</td>
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<td>Rogers, Katja</td>
<td>Postdoctoral Fellow</td>
<td>I am currently a postdoctoral researcher affiliated with Prof. Lennart Nacke and the HCI Games Group. I have experienced the Games Institute (GI) from multiple perspective: as a visiting PhD researcher from Ulm University, Germany; and now as a postdoctoral researcher since Spring 2020.</td>
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<td>Samithamby, Pelisha</td>
<td>MASc, Managements Sciences currently working under Dr. Oliver Schneider</td>
<td>The GI was immeasurably valuable to me during my first 5-month visit in 2017. It provided infrastructure necessary for my research in human computer interaction: this consisted of both a lab with virtual reality equipment with which I ran two user studies, and highly competent staff members, who were incredibly helpful in my forays within what was then a foreign university system. Further, the GI is home to so many different backgrounds and disciplines that it is an active sharing space of ideas and valuable feedback. Even before I ran my empirical work, it thus contributed to my review of the literature and the study design that preceded; afterwards, it similarly surrounded me with students and researchers to discuss the study results from a multitude of perspectives. This all contributed directly to my professional and academic development and led to my first publications at my field’s top-tier HCI conference. Now as a postdoc, I have returned to the University of Waterloo (albeit remotely for now), and the GI was certainly part of the reason why I chose this as my next step after the PhD. I have applied to several research grants and look forward to running studies at the GI if those grants come through and when Covid-19 measures allow safe user studies again. I would also be interested in supporting the GI’s Brown Bag event series, by seeking out interesting speakers from a wide breadth of different backgrounds and skill sets. I would also be interested in running bootcamps to teach skills like R or python to those interested within the GI space.</td>
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<td>Sanagavarapu, Apoorva</td>
<td>Department of English Language and Literature, Faculty of Arts, MA- Experimental Digital Media CO-OP</td>
<td>The GI’s interdisciplinary focus has contributed to my research by helping me to develop a deeper understanding of topics, including, but not limited to: fan studies, digital/social media cultures, feminist and gender theory, critical media infrastructures, critical race theory, the Anthropocene and environmental sustainability, as well as LGBTQ+ representation in the media, canon, and/or “fanon,” through research.</td>
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<td>Sathiyamurthy, Suji</td>
<td>MASc in Management Sciences</td>
<td>I have been working with the GI since Jan 2020 and have enjoyed great community support and resources ever since. The GI’s interdisciplinary focus has helped me present my research ideas and gain meaningful and diverse feedback. The diverse expertise also provides me with a rich source of information that was very useful for my user studies. The willingness and interest the GI members show on participating in user studies is wonderful. The data collected from these studies have given a great direction to my research work. During the pre-covid times, the GI lab was a great place to run my group discussion and interview based studies with equipment like the Nintendo switch. As we all transitioned to online and remote work, the level of support and guidance I received from this group has been very vital. I always have a channel to post challenges and get instant help. Having highly qualified faculty members and research students to clarify doubts and debate on best practices has enriched my research experience. I cannot emphasize enough on how important the community has been in helping me throughout my research activities. I also wish to continue my engagement with the GI post graduation and keep learning and growing with the awesome community.</td>
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<td>Schmidt, Pamela Maria</td>
<td>MA English – Experimental Digital Media, Alumni (graduated 2020)</td>
<td>The GI’s interdisciplinary focus helped create an environment that supported non-conventional “English Language and Literature” research that I was conducting. It encouraged me to broaden my understanding of “textual object” and “narrative” and apply my critical thinking skills to these alternative media as another way to analyze modern day culture and really immerse myself in the digital humanities. It also gave me the opportunity to discuss my research methodologies and projects with researchers from other disciplines that helped broaden my understanding of narrative from different academic perspectives. For instance, when talking to my colleague Marco, who is in Systems Design Engineering, we discovered that we both use the concept of “defamiliarization”—taking an object out of its original context to view it from a different perspective and make new meaning from it—in our respective disciplines. How did the GI contribute to my experience as a student?</td>
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The GI has contributed to my experience as a Graduate student by proving me with a physical (and now virtual) space where I can interact with other graduate students in a variety of departments, faculties, and programs including, but not limited to: English, Engineering, Math, and helping create a deeper sense of community that I would not have had the chance to experience to the same extent, otherwise, during my time as a graduate student. Being a part of the GI’s interdisciplinary community has given me the chance to explore and gain a better and deeper understanding of among other topics: games, game creation, gaming culture, AR, and VR. These experiences have also helped inspire a few of the projects I created during my graduate career thus far, at UWaterloo. One of which I was inspired to submit as a conference paper at the 2020 meeting of the Canadian Games Studies Association (CGSA) congress 2020, due to the encouragement and support I received from the staff at the GI. I am extremely grateful for a chance to give back to the GI community by being a part of the GI’s Working Group for Anti-racism, Decolonization, Equity, Diversity, and Inclusion for at the next year, if not longer, as I hope to re-engage with the GI community once again, as a PhD student next fall!
**Name** | **Program** | **Statement**
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|  |  | a. Interdisciplinary environment – see (2)
|  |  | b. GI physical space/labs – the GI space gave me access to a pod space which sported high-tech gaming equipment that greatly assisted me in my assignments – especially when writing my Master’s Research Project. This equipment allowed me to host and play games while taking screenshots and writing observations, which my personal devices could not power. Furthermore, since the interdisciplinary environment meant that I was surrounded with like-minded researchers from other disciplines, I often had people chat with me when they’d notice what I’m doing which lead to really interesting conversations that I don’t think I’d have otherwise. Their similar, but uniquely different perspectives, really challenged me to approach my research and writing in a hybrid without compromising core English methodologies.
|  |  | c. GI staff – GI staff are excellent guides through the university puzzle network and great resources when it comes to recommended who to work with, what equipment items would work, procuring anything needed for research, and overall creating a safe and diverse space. It’s rare to hear a GI staff to say “no” and I have never felt anything from them beyond overwhelming kindness and a need to support in whatever way they can.
|  |  | d. Other (EDI) – The GI is one of the first places on campus where I felt safe to fully express who I was and all my intersecting identities without judgement. It was he first place where I felt I could actually support and uplift other members and that the environment took EDI very seriously as opposed to other places on campus where even classrooms, at times, wouldn’t feel welcoming. The GI also gave me opportunities to be part of interdisciplinary feminist groups that broadened my perspective of issues regarding AR/DC/and EDI and never made me feel unwelcome or shunned for not knowing everything and asking for resources. I think I wouldn’t be the ally I am today if it weren’t for these incredible opportunities.
|  |  | e. Events/Activities – The GI offers a lot of amazing events that offer a different perspective on games, technology, and design from numerous disciplines that honestly, apply to almost everyone. They’re enriching and never have I gone to an event and left thinking “wow I did not learn anything new. None of this applies to me.” All of it resonates within the confines of approaching digital spaces and using technology to enrich our interactions with the world. Even if some talks don’t directly apply to my specific research, they broaden my perspective on where I could take my research from a humanities perspective and to see disciplinary overlap.

Sgandurra, Sabrina | PhD, 2nd year, English | The Games Institute’s interdisciplinary environment has given me access to resources and expert knowledge that would have posed as a barrier to complete my research. Since the nature of my research, which focuses on storytelling methods in games, is highly interdisciplinary, the connectivity with other Games Scholars from a variety of disciplines is foundational to developing my understanding of how games tell stories, even when a
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<td>Soroush, Milad</td>
<td>Ph.D. Candidate, Department of Management Sciences</td>
<td>The Games Institute provides us with a unique environment that allows faculty and students from all different disciplines to collaborate in a way that was not to this day possible or feasible in the university. GI space and equipment have significantly helped us with our collaborative efforts. For example, I have been able to use GI space and equipment to collaborate with other researchers and developers to design and conduct my research regarding the benefits of interactive and gameful technologies in improving self-regulation of behaviour and cognitive control. GI directors have been extremely supportive in providing students with facilities and equipment to further our research collaborations and conducting our experiments, and notably creating a constructive and inclusive environment that allows such activities to take place.</td>
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<td>Tu, Joseph</td>
<td>Master, Engineering, Systems Design Engineering (SYDE)</td>
<td>GI’s interdisciplinary has allowed me to connect my project ideas with students across different disciplines which spawns discussions that are vital to my research. The GI’s physical space creates a friendly environment, allowing collaborations to be possible. The lab equipment in which GI offers, contributes heavily to my research; the immersion room allows me to conduct and run studies. These studies are vital when it comes to HCI research. The brown bag talks (and other events) are interesting and sparks my creativity for new projects. In addition, the pod at GI, gives me the space towards my research and thesis. The lab space at GI also provides a leisure area in which I can relax during off-hours; such as playing games with my peers and etc. The culture of the staff is friendly and helpful when it comes to organizing events such as the Game Jam. With the help of the...</td>
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<td>Tondello, Gustavo F.</td>
<td>Instructor/Coordinator at the Cheriton School of Computer Science, Faculty of Mathematics Co-Founder and Gamification Consultant at MotiviUX, Inc. (company founded with Dr. Lennart Nacke, as a result of our work at the HCI Games Group and the Games Institute)</td>
<td>How has the GI’s interdisciplinary focus contributed to your research? Working at the GI allowed me to work together with many other researchers from other areas that complemented my work. My background is from Computer Science, but at the GI I was able to work with, or just exchange ideas with people from many other areas such as Psychology, Literature, Education, Health, etc. My work focused on methods for personalized gameful design. Having input from people from areas such as Psychology and Literature was very interesting to improve the methods I was proposing. Working with people from Education, Health, and Employee engagement allowed me to apply gameful design methods to a series of different problems. How the GI has contributed to your experience as a student or postdoc while at the GI? The only publications that I wrote alone were those that are a direct result of my Ph.D. thesis, i.e., were papers spawned from the experiments I did for my thesis. All the other publications were collaborative works that I did with other GI members in topics such as Player Traits, games/gamification for education, games/gamification for health and wellbeing, and gamification for employee engagement. This was possible due to the collaborative space available at the GI and the fact that we had several different research teams, with a variety of Professors and students, working on the same physical and virtual spaces (e.g., Slack). Has being part of the GI contributed to your employment, or do you see it doing so over the next few years? My research work on gamification, which was fully supported by the GI, allowed me to be recognized by the community of gamification professionals. This has opened the space for me to present in places such as GamiCon 2018 and Gamification Europe 2020 (professional gamification conferences). As a direct result of our collaborative work at the HCI Games Group and the Games Institute, Dr. Lennart Nacke and I funded MotiviUX, Inc. a company from which we do gamification and user experience consulting and development services for our clients.</td>
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<td>Wehbe, Rina</td>
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<td>In my humble opinion, the Games Institute (GI), alongside Computer Science and Engineering, are the main highlights of University of Waterloo. I believe that it is one of the main reasons people in my field join UW in all five faculties as students, staff, or faculty. I encourage the University to Treasure the GI the way we treasure the Quantum computing program and perimeter institute. I feel that the GI the most amazing interdisciplinary space I have had the privilege of seeing in my entire academic journey. I do not feel that this statement is at all an exaggeration because the GI has contributed to my research, health, and student experience.</td>
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<td>Wilcox, Steve</td>
<td>Alumni</td>
<td>My name’s Dr. Steve Wilcox and I’m an assistant professor in Wilfrid Laurier University’s Game Design and Development program. I completed my dissertation as a member of the Games Institute (G) and was a post-doctoral researcher there leading up to my hiring at Laurier in 2016. The GI was and is immensely beneficial to me as a research and collaborator. The interdisciplinary space put me in contact with a range of researchers, theories, and methodologies that rounded out my discipline-specific outlook on games, art, society, and technology. During my time as student in the GI I worked on various projects, such as the middle-state public First Person Scholar (FPS), a site for informed discussion on games, society, and culture, as well as designing games, such as Hustle and Flow, a policy planning game that we presented at the Public Policy Forum. Work on FPS provided connections with the larger game studies community, offered numerous opportunities for talks, collaborations, and networking. Through the GI I also found a researcher partner for my dissertation, which was the first of its kind on our campus as it was argued in part through a public health game. Through the support of the GI I also established and maintain Game Studies 101, an online archive of games, criticism, and scholarship meant to make the study and analysis of games for accessible. GS101 is often the first-place professors send prospective game studies students and one scholar referred to it as an ‘essential resource’ in the field. Indeed, the GI has informed my career as a researcher, designer, and critic of games and health. Through the GI I was connected with the VEGA Project, a research and education initiative about addressing family violence in Canada funded by the Public Health Agency of Canada. For three years I worked with stakeholders in healthcare, including frontline care providers, researchers, and policy experts. I developed two training modules with VEGA for teaching healthcare providers how to respond safely to disclosures of family violence in clinical settings. Through that connection I then worked on projects with SickKids hospital and the Canadian Public Health Association (CPHA). The latter involved a funded project, a public game jam on sexual health and a subsequent training game for CPHA on responding to biases in public healthcare. The GI facilitated, supported, and sustained these connections, which simply would not have been possible without the institution’s assistance and the dedicated work of those who work there. Looking ahead, the GI provides multiple avenues for collaborative projects that explore games, society, technology, and the arts. The GI acts as an ideal destination for students graduating from our Game Design program.</td>
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| Uribe Quevedo, Alvaro|                  | My name is Alvaro Joffre Uribe Quevedo, and I am an Assistant Professor at Ontario Tech University in Oshawa, Ontario. I became a collaborator of the GI in 2015 when I spent a year as a Postdoctoral fellow under the Interactive and Multi-Modal Experience Research Syndicate (IMMERSe) funded by SSHRC, conducting research in serious games and medical training in partnership with Ontario Tech University (formerly the University of Ontario Institute of Technology). During this time, becoming a member of the GI allowed me to strengthen my research and meet fellow colleagues in diverse areas including the Humanities, Natural Sciences and Engineering, and Health Sciences. During my Postdoctoral fellowship I was able to engage in collaborations with researchers from the University of Toronto, York University, McMaster University, and Shizuoka University amongst others. Please see published works in journals and conferences papers highlighted in yellow in the attached CV. Furthermore, I was able to co-supervise both undergraduate and graduate students, also highlighted in my CV. After finishing my Postdoctoral I continued working in establishing continuing collaborations with the GI and my former employer Universidad Militar Nueva Granada in Bogotá, Colombia. During this time I continued collaborating with Dr. Bill Kapralos from Ontario Tech University and active member of both the GI and IMMERSe. In 2017, I moved to Canada and became an Assistant Professor at Ontario Tech University, and since then I have been collaborating with Dr Randall on a grant associated with virtual storytelling telling equipment. Additionally, through connection with the GI I was successful in establishing an industrial partnership with Origin 360, a recruiting company located in Thunder Bay, developing a 360 video authoring system. Moreover, by collaborating with the GI and having access to their state of the art equipment and diverse expertise. In particular, I have had access to a Microsoft HoloLens that has supported my research into developing custom-made user experiences for medical training in eye examination and tool operations. This has allowed me to supervise graduate and undergraduate students for interactive mixed reality development and wearable sensors for mapping upper-limb movements. Since 2017 I have been establishing my research and while working on interacting more with the GI, 2020 has put a hold due to the strain COVID-19 has placed on my research. However, I am currently working on pivoting my research to respond to COVID-19, in particular due to the limitations of virtual reality with equipment sterilization and availability of participants due to physical distancing. My plan for 2021 is to start collaborating with the GI virtually as I have been appointed Director of Experimental Teaching at Ontario Tech University, and have been exploring consumer level virtual reality solutions to...
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<td>Wong, Caroline</td>
<td>Management Sciences, Engineering, MASc, Alumni</td>
<td>connect and conduct research remotely. The GI will play a crucial role to integrate other areas of research such as storytelling with Dr. Randall into my research associated with customized user experience through physiological measures for virtual simulation in training environments. Additionally, as I have matured as a researcher in Canada, I am now in better capacity to expand my collaborations with the GI into current research initiatives with CNIB, Ontario Shores, OCAD University, and the University of Toronto. For the following five years, I will actively leverage my GI collaboration by facilitating access to my research equipment and invite GI members to co-supervise undergraduate and graduate students. Moreover, I will work on inviting and participating in grants that can help boost our joint research. The GI scope fits my research interests and that is why I would like to continue being an active member and continue building together research. The breadth of subjects the GI support also ties with my own as the main core is interactive media, where simulations, immersive technologies and games come together to explore solution in diverse training scenarios. In the past couple of years I have been able to translate my expertise into virtual reality training scenarios for working at heights, nuclear radiation training, and most recently, dementia care. Finally, as for what the GI can do, I’d say the GI has done a great job and I am happy to be part of it. I think this statement is a call to action as the pandemic has changed the way many things are done and I am happy to share my experience and bring it to the table. The GI has greatly contributed to my experience as a student. The GI as a physical space has been used for many experimental studies, I’ve ran for my degree requirements. For example, the GI has provided me with ample equipment needed in these experiments such as cameras, monitors, and computers with the capacity to run simulations and statistical analyses. My own desk space within the GI also offered me a great environment to concentrate and to complete my work. Being around others with the same academic mindset also helped in keeping a balance between work and social interactions. Additionally, the staff at the GI have always ensured that every GI member receives the assistance they need to pursue research activities like ordering essential equipment and supplies, connecting us with other researchers, and so on. The GI also has organized invited talks and professionals from around the country have visited and presented their research to the community. One of the biggest GI events is the GI game jam which is organized by members and gives students (university and high school) the opportunity to learn how to make their own games. Before becoming a graduate student at the GI, I was employed at the GI as a co-op student. The skills I’ve learned from doing research in a games-related field has helped me contribute to other projects like creating design-thinking workshops for information visualizations.</td>
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<td>Yoon, John</td>
<td>PhD - English</td>
<td>The Games Institute’s interdisciplinary focus has been an invaluable addition to my research and experience as a student of the university. Through the GI, I was able to connect with Dr. Lennart Nacke and successfully applied for and received as Mitacs internship. Through this experience, I was able to gain first-hand knowledge working with industry partners in the areas of gamification and human-computer interaction, something I would have not been exposed to without the GI.</td>
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The GI has always been eager to facilitate my research dissemination through providing assistance for attending conferences, a crucial aspect of professionalization for any graduate student. With the GI’s help, I was able to attend the inaugural Esports Conference in UC Irvine and present two papers at Congress, the biggest interdisciplinary humanities conference in Canada. In addition, with the GI’s support I was able to organize and present a panel for the gaming community at EGLX, Canada’s largest gaming expo.

**Faculty Member Statements**

**Boger, Jennifer**

It is with pleasure that I write to express my strong support for the renewal of the Games Institute at the University of Waterloo. As detailed below, the Games Institute has been a vital resource for myself, my research team, my colleagues, and industry in providing invaluable networking, knowledge dissemination, and (both physical and personnel) resources that have accelerated research and development to the next level.

My research focuses on creating technologies that enable more inclusive, equitable, and personal support for health, wellbeing, and quality of life for older adults. My team at the Intelligent Technologies for Wellness and Independent Living lab (www.itwil.ca) engages in transdisciplinary collaboration and user-driven design practices that blend state-of-the-art knowledge from computer science, engineering, and health sciences to create internationally renowned intelligent assistive technologies for supporting graceful aging. I am also spearheading the concept of ‘Ethical by Design’, which involves the systematic development of a methodology to enable disparate stakeholders to collaboratively build aspects such as ethics, culture, and citizenship into products and systems throughout their lifecycle.

The willingness and ability of the Games Institute to support complex, multidisciplinary research is exceptional. All my research projects have benefited from my and my trainee’s membership; two in particular are the Immersive Virtual Reality Exergames for Older Adults and Ethical by Design projects. Being a part of the Institute has underpinned my success in acquiring funding to support these projects, connected me to relevant faculty and industry, and provided space in which to engage in collaborative design, development, and evaluation. I articulate the role the Games Institute plays as a resource on all my funding applications and this has received positive feedback from more than one reviewer.

The approach of the Games Institute as a space, its staff, and its members epitomises what it is to bring together open-minded, outside-the-box thinkers and innovators in a way that results in an inclusive, productive, and fun environment. I currently collaborate on funded research with six of its faculty members and many more HQP. Pre-COVID, three of my graduate students and my postdoc spent one or more days physically at the Games Institute to work on projects because they feel it is an environment that fosters creative thinking and productivity as well as their personal and career growth. Most of my trainees joined as student members and all of them have participated in at least one event hosted by

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<td>The GI has always been eager to facilitate my research dissemination through providing assistance for attending conferences, a crucial aspect of professionalization for any graduate student. With the GI’s help, I was able to attend the inaugural Esports Conference in UC Irvine and present two papers at Congress, the biggest interdisciplinary humanities conference in Canada. In addition, with the GI’s support I was able to organize and present a panel for the gaming community at EGLX, Canada’s largest gaming expo.</td>
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the Games Institute; most have been to several (and by this, I mean more than a dozen), including invited speakers, reading groups, and game jams.

Looking forward, I am delighted the Games Institute is choosing to add a focus on the virtual future. This is not only because the virtual future is a timely and critical topic with so much potential, but because the Institute and its membership are not afraid to ask and explore crucial but hard questions about our technology and systems that others are unable or unwilling to answer, such as: How can STEM better address equity, diversity, and inclusion? What is the relationship of people and society to technology and how can we support healthy ones? How do we support more responsible design, development, and use of technologies, including those intended for vulnerable populations? As my and others’ research increasingly focus on such questions, the Games Institute will provide the backbone that will enable us to better access to funding, collaborate with others, and disseminate knowledge; knowledge that is certain to benefit the University, Canada, and the world at large.

In short, the Games Institute is a valuable, effective, and unique part of the University of Waterloo that has no parallel; I wholeheartedly support its renewal. If there is anything you wish to discuss further, please do not hesitate to contact me.

Cao, Shi, Associate Professor, Department of Systems Design Engineering, University of Waterloo

How has the GI’s interdisciplinary focus contributed to your work and the work of your students and collaborators? GI provides me and my trainees (students and post-doc) a highly valuable place to learn and discuss research ideas. My research focus is human factors engineering, and games (e.g., driving simulation and flight simulation) are an important component of my research. GI also provides a hub for me to connect to other researchers and companies.

How the GI has contributed to your research? GI provides the research lab space (e.g., indoor navigation testing place, flight simulator lab). The following papers are supported by GI space:

How the GI has contributed to your supervision? GI has provided student and post-doc office space to my trainees (e.g., Umair Rehman, PhD; John Munoz, Post-doc). They benefit from the collaborative and multidisciplinary learning environment.

How the GI has contributed to grants/funding you have received? GI helped me find research collaborators for successful funding application: University of Waterloo Trailblazer Grant. Designing adaptive virtual reality exergames for people living with dementia (2020-2022, CAD $80,000).

How will the GI contribute to your upcoming grant/funding proposals? GI will help me identify collaborators and student research assistants in my upcoming grant proposals in the field of virtual reality/augmented reality applications in education and training.

What are your plans for leveraging the GI’s status and resources in your research for the next five years? (e.g., you’re part of a university-level institute with staff, space, and an interdisciplinary ecosystem with a commitment to EDI issues – how will you leverage this?) Some of my students and post-doc can keep using GI office space. I can recruit student programmers from GI’s pool of students. One of my projects is developing VR exercise games for older adults. GI can help promote the game and increase its impact.

What are your plans to help the GI grow? Faculty and student recruiting, funding (all sources), space additions, labs, other. I will acknowledge GI in my related research and projects. I will introduce GI to my current and future collaborators. I will ask students working in related projects to join GI. The GI has expanded from being solely about games research into a centre for research into interactive immersive technologies and media of many types and is now expanding to include a network for the virtual future.

How will this impact your outlook on what is possible for your own research moving forward? Virtual and augmented reality applications are a major part of my research. This development at GI will help promote Waterloo as a hub for such technology and applications.

What would you like to see the GI do and be engaged with in the future – research, outreach, community, training, programs, otherwise)? Reaching out to students, general public, and sponsors to promote research in GI. Student research talks and presentations, with best paper/presentation awards. VR programming training workshop.

Hancock, Mark, Associate Director, Games Institute, Associate Professor, Department of Management Sciences, Faculty of Engineering

GI Renewal Statement

In addition to serving as the Associate Director of the Games Institute, I have also benefitted greatly as a member of the Games Institute. Specifically, 2 postdoctoral fellows, 15 graduate students and 8 undergraduate research assistants have benefited greatly from working in the physical space provided in the Games Institute. It is hard to overstate this benefit, as these students have been provided workstations, state-of-the-art CFI-funded equipment (e.g., a 3D printer, VR technology, large touch surfaces, high-powered computers, space for conducting user studies, etc.), access to top researchers in highly relevant yet highly interdisciplinary fields (e.g., human-computer interaction (HCI), games
studies, psychology, kinesiology, health, etc.), significant support communicating their research to the broader community, and perhaps most importantly, a community of researchers including undergraduate co-op students, graduate students, and faculty that is unprecedented at the university.

Support for Research, Scholarship, and Funding

I have also been involved in several grants that owe their success in part to the Games Institute. In particular, my NSERC CREATE SWaGUR (Saskatchewan-Waterloo Games User Research) grant, for which I am the Waterloo lead, would likely not have been successful without the promise of support offered by the Games Institute and the help provided by its staff in writing and administering the grant. The Games Institute has also been instrumental in support of my individual grants, including my Ontario Early Researcher Award, four Mitacs Accelerate grants, and a CFI/ORF equipment grant. This support has come both in the form of help with writing of the grants, letters of support, and a physical space to house equipment (including significant efforts to find a suitable space for my 3D printer).

The Games Institute also provides an invaluable environment for a large group of human-computer interaction (HCI) researchers, including ~5 faculty and over 40 graduate students. This group regularly meets using the Games Institute facility, has students co-located in the shared space, and frequently collaborates on research work and publications. Specifically, at least 20 of my publications have involved either the use of equipment/space to conduct studies and/or co-authorship with other researchers. This group also regularly holds “writing review circles” that have helped all of my students with paper writing and knowledge translation.

Future Plans

The future direction of the Games Institute to expand to Interactive Immersive Technologies aligns directly with my own research plans. Over the next five years I intend to focus on further advancing my research into the use of novel interactive technologies, such as virtual reality, voice assistants, and interactive surfaces by investigating technology to support equity, diversity, and inclusion (EDI). My recent research (supported by the GI) shows a clear lack of attention to gender diversity in the design of virtual reality (VR) interfaces, and I intend to expand this research to investigate EDI more broadly and to engage in more serious attempts to bring technology to underrepresented groups and conduct testing and engage in participatory design practice with these underrepresented groups.

The Games Institute has already been instrumental in supporting this research trajectory. Specifically, the Games Institute has already been involved in applications for equipment grants to secure funding for a mobile interactive testing platform that can be used to bring interactive immersive technologies to these underrepresented communities. The interdisciplinary nature of the Games Institute also makes it possible to work closely with experts in the various relevant disciplines when investing in technology to support EDI and is unique in how varied these relevant backgrounds are (spanning all 6 faculties).
Summary

Over the past five years, the Games Institute has grown significantly and developed into a unique and uniquely interdisciplinary community of researchers interested in games and interactive media more broadly. While other research labs exist across campus, they typically have a home in one faculty/department, making cross- and interdisciplinary collaboration more challenging. I and my students have benefited greatly from both the physical space that the Games Institute provides, the support for obtaining funding, and the community of people in it that has been instrumental in the success of research.

Hardiman, Craig, Department: Classical Studies, Associate Professor; Director, Waterloo Institute for Hellenistic Studies.

I have only been affiliated with the Games Institute (GI) for just over a year. As such, I cannot offer the depth of analysis that others may with longer affiliation (esp. with this past year being what it has been), but I can say that I have found my association with the GI quite fulfilling and full of promise for the future. My own research in Ancient Greek and Roman Art has always been multidisciplinary, involving visuals, text, archaeology – a host of disciplines. As such I have felt right at home and inspired by the GI and its own interdisciplinary nature. My own work has also involved some work in the creation and/or use of three dimensional (3D) models, most recently supervising an MA student who created a 3D model of an ancient sculptural group using software that is often used for modelling characters in commercial video games. This supervisory role, along with other factors involving my research and interests, made me realize that the GI would be an excellent Institute in which I could further my research goals.

I have always had an interest in video games, since I was a child and continue to play them today. From the genre’s outset, Ancient Greece and Rome have always formed a strong backdrop to the gaming industry, be that a game that is set during these cultures, a game that uses narrative techniques or stories from these cultures or is visually communicating with the art and architecture from these cultures. I was fortunate to be asked to give a talk on these issues at the GI in 2020 and was subsequently asked to become a member. It was a former student, who has since gone on to pursue a PhD in English looking at communities of female gamers, who first brought the GI and I together as I began to work in this area and as I started to teach a course (CLAS 123) on Classics and pop culture (movies, video games and comics). I certainly plan to continue my research into these areas that intersect video games, narratology and Classical myth and art. I have begun to write a few articles in these areas and I will be teaching an ARTS FIRST course that specifically deals with the issue of Classics and Video Games (ARTS 130), and I know that this would not have occurred to me were it not for my interaction with the GI.

As this is a new avenue of research for me, I have not yet put forth a research grant proposal, but I am hoping to receive a sabbatical leave for the academic year 2021-2022, at which point I will begin to put together a proposal for an international conference on Classics and Video Games. At that point the GI will form an integral component of the proposal, in order to differentiate the conference from a “generic” one on aspects of Classics and video games (of which there have only been 2 or 3) and ground the conference in appropriate game theory and to bring together experts from the host of fields represented by the GI. In this way, I hope that I can fully realize the potential of collaboration with the GI, as I bring together experts in content (Classical Studies) and those with greater expertise in the general field of gaming and technology.
I have already had two students involve themselves with the GI or GI related topics and I hope to pursue this avenue of having more graduate students interested in reception studies, video games and modern technology. It is my hope that in the future, the GI will facilitate this by having some cross listed courses or possible internship positions (possibly even with gaming companies) to help attract students who may be interested in these fields, though not from a traditional computer science background. It would certainly help me, as someone transitioning into new branches of scholarly inquiry, to have the GI present more on some of the more technical aspects of the gaming and technology arenas, but I can say that without the GI, my transition would be much more difficult and less fruitful. As such I can only say, as someone who has just begun his association with the GI, that I fully endorse the renewal of the GI for another five years and that without an instate like the GI at the University of Waterloo, my research proposals and activities for the next five years would be that much more difficult.

Harris, Randy, English Language and Literature, Faculty of Arts; Research Director, The Rhetoricon Database; Scientific Advisory Board Member, Centre for Argument Technology

How has the GI’s interdisciplinary focus contributed to your work and the work of your students and collaborators? The Games Institute has allowed me to form a widely interdisciplinary research team, with colleagues and students from Computer Science, Accounting, Psychology, Peace and Conflict Studies, Biology, Public Health, and English. It has also afforded multi-institutional and international collaborations.

How the GI has contributed to your research? The Games Institute has provided worksites for me, my students, and my research employees (co-op and work study), including collaborative spaces for regular, in-person team meetings, and digital connections with remote colleagues. Its funding has helped subsidized student travel for conference presentations.

How the GI has contributed to grants/funding you have? I would likely not have received my current SSHRC Insight Grant without GI involvement, both with GI personnel as collaborators and GI expertise in crafting the application. I always highlight my association with the GI in my funding applications, so while the projects themselves do not involve the institute, both my NAR Catalyst Grant application and my SSHRC Partnership Engage application (both successful) might be said to have benefited from the association.

How will the GI contribute to your upcoming grant/funding proposals? I intend to apply for a large grant next year to expand my project. My affiliation with the GI, and access to its resources, will be very significant both for strengthening the application and also for my ability to carry out the research should the grant be awarded.

What are your plans for leveraging the GI’s status and resources in your research for the next five years? I have launched collaborations with scholars in Passau Germany to further develop and distribute a citizen science game for building a large corpus of linguistic passages annotated for rhetorical patterns that can be used for Machine Learning Training Sets. I plan to release and administer two versions of the game. The GI will be key to the collaboration, as well as to the promotion and administration of game versions, in terms of space and expertise. I also plan to continue drawing on the GI in my teaching, at the undergraduate and the graduate level.
What are your plans to help the GI grow? Faculty and student recruiting, funding (all sources), space additions, labs, other. I regularly encourage doctoral students especially to explore game studies as part of their research, to diversify both their professional expertise and their teaching flexibility.

Hirschkop, Ken, Professor, English Language and Literature, Faculty of Arts
I have only recently become involved with the Games Institute, but it has turned out to be an exceptionally valuable resource for myself and my graduate students. Over the past few years, in particular since 2015, I have become involved in the supervision of several English PhD candidates who are interested in narrative form in videogames (in large part because I teach a graduate course on narrative theory, ‘Stories and Theories’ almost every other year in the English Department). Seeing there was so much interest in the topic, in February of 2020 I organized a graduate working group on Games and Narrative, which has been meeting – in person in early 2020, online afterwards – every three weeks for two hours for almost 10 months now. The Working Group, composed of myself and a number of PhD students discuss recent important research in the field, conduct analyses of narrative form in particular videogames, and present research results to one another. The group has been extremely successful: I believe it has contributed in substantial ways to the research of each of the PhD students who attends it, providing them with a forum in which to discuss critical issues in their field of work. One of the most important features of the group is discussion of classic ‘narratology (narrative theory developed in the analysis of literature and cinema), which has not been applied rigorously in the narrative analysis of videogames, despite its clear applicability and usefulness.

The success of the group has inspired us to launch another research initiative: the online International Conference on Games and Narrative, to be hosted by the Games Institute on June 11-16, 2021. This conference will be a major international event, the first to focus attention on the distinctive problems and questions posed by videogame narrative. It will attract contributors from around the world (we have keynote speakers from Asia, Europe, and North America) and will feature contributions from both scholars and professional game designers. As such, it will foster not only important scholarly discussion, but also provide an interface between that discussion and the videogame industry. We intend to publish some of the work at the conference in various formats after its conclusion.

The Games Institute has been indispensable to this work. It has provided the infrastructure for the Working Group (rooms, an online platform, a constituency, help with administration) and it will be the host for the conference. The conference itself would not be possible without the input and efforts of the GI’s administrative staff.
Kadir, Aynur, Assistant Professor, Department of Communication Arts

Dear Sirs, Madams,

I have been working for the University of Waterloo since July 2nd 2019. I first visited the Games Institute through an introduction from my colleague Dr. Lennart Nacke. Since my visit, I was eager to become a member based on the sense of community I felt from the GI as a place to support interdisciplinary researchers such as myself. This community has been a valuable foundation for collaborative research.

Because of this, I have been brought on panels with other interdisciplinary researchers to speak of and present my work to a wider audience. This has enabled me to collaborate with other researchers outside of my department and my research field. It has also provided space for my students to present their multimedia projects in front of a wider community so that they might also connect with others in academia.

When coming to the GI and taking up a shared office space with Dr. Oliver Schneider, I was in need of a research assistant for help in drafting material for various SSHRC grants and a CFI grant. Marisa Benjamin, as the Research Coordinator of the GI, worked on connecting me to one of the GI members, Sid Heeg, an alumnus and previous graduate student working through the GI as a research assistant. With Sid’s help, I have been able to begin the groundwork on future collaborative projects with a focus on Indigenous research and media practices.

The way in which the GI infrastructure is set up allows for me to tap into other areas of research that in turn help bolster the work that I am doing. The GI is a space to learn and develop familiarity with new technologies not only related to gaming but to other audio and video formats that are important to my work in ethnography-based research. It is the aim of my research to contribute to the skills and understanding of what this technology can do in humanities based research and enable the GI to continue to be a resource for students and researchers who are interested in using such technology for their projects. The GI always brings prominent scholars in the field as Drs. Kishonna Gray, William Odom, Ashely Mehlenbacher, Ron Wakkary and many others that make for an abundant space to exchange ideas and knowledge mobilization.

The ecosystem of the GI fosters collaborative and interdisciplinary research. It is home to many other labs and research groups.

- HCI Games Group headed by Dr. Lennart Nacke
- HCI + Health Lab headed by Dr. Jim Wallace
- MBC (Multisensory Brian and Cognition) Lab headed by Dr. Michael Barnett-Cowan
- qCollaborative headed by Dr. Jennifer Roberts-Smith and Dr. Shana MacDonald
- UW TouchLab headed by Dr. Mark Hancock
- Haptic Computing Lab headed by Dr. Oliver Schneider

These labs make use of the space and equipment the GI offers while also bringing in their own resources and tools to the GI for members of other labs to make use of. This type of ecosystem is great for fostering collaborative research between many other disciplines within the University of Waterloo. It allows researchers and students to learn of other research methods and projects outside of their normal scope and
encourages these labs to support and learn from each other. The GI has enabled me to explore many other ideas and ways we can collaborate in the future. It has a range of equipment available to its members for use on projects and in research including audio and visual tools, and VR equipment. When the need arose in my research for specific equipment, the GI was willing to purchase what I needed due to my limitations in funding.

Within this ecosystem, in collaboration with Dr. Jennifer Roberts-Smith I am proposing to create the Collaborative Digital Heritage Studio (CoDHerS) should funding be provided by a CFI grant. This studio would emphasize collaborative research with Indigenous community and interactive media. Students and researchers would be able to make use of audio and video technologies to present research based on topics of Indigeneity, digital media, collaborative and participatory research creation. By being a part of the GI, the studio will have access to the GI’s network and resources, and in turn, the GI and its residents would have access to technologies that are unique to CoDHerS and be immersed in perspectives and research methods unique to CoDHerS.

I have spoken much about the interdisciplinary nature in terms of research in the GI, what delights me is that even the environment and the community there is so widely diverse. LGBTQ+, BIPOC, and Indigenous scholars, researchers, and students are welcomed to the environment, and they are connected through research to create an equitable community. I have also volunteered to be a discussant and judge of the Equity Board Game Contest. I think this initiative is very interesting and an important contribution to the equity work for the university. I believe the GI has really championed equity work and aims to bring everyone together from academic spaces to industry partners.

The GI and its community have been an invaluable source of resources, support, and community for me and my transition into working at the University of Waterloo. It is my goal to continue contributing to the interdisciplinary space the GI offers, creating more spaces for future students and researchers in Indigenous research, collaborative research, and participatory digital media.

Llewellyn, Kristina R.
I am an internationally recognized expert in oral history and education, with a focus on pedagogical innovations. Oral history has increasingly been taken up by educators. While there exist ‘how-to’ guides, few scholars have examined how oral history has been used to learn about the past. I was awarded a SSHRC Connection Grant in 2015 to hold the first international gathering of experts – over 100 historians, museum curators, teacher educators, and teachers – to address conceptual approaches, methodological limitations, and pedagogical possibilities of oral history in education. From that workshop, I was lead co-editor of Oral History and Education: Theories, Dilemmas, and Practices (Palgrave, 2017). This book is the first comprehensive assessment of oral history – inclusive of oral tradition, digital storytelling, and family histories – for education. The book was awarded the 2018 Canadian Oral History Association Prize.

My most recent work developing oral history education addresses public pedagogy and historical injustice. In 2019, I was the lead co-editor of Oral History, Education, and Justice: Possibilities and Limitations for Redress and Reconciliation (Routledge, 2019). This book troubles the possibilities and limitations of oral history in relation to the redress of historical harms. In his review of the book, distinguished oral historian Dr.
Steven High writes: “We are living the consequences of settler-colonialism and the violence that was, and is still being, inflicted in the name of Canada. Oral History, Education, and Justice explores the generative possibilities of oral history in breaking collective silences, building reciprocal relationships, and furthering reconciliation. It is urgent work.”

This urgent work is exemplified by my 2016 SSHRC Partnership Development Grant project Digital Oral Histories for Reconciliation: The Nova Scotia Home for Colored Children History Education Initiative (DOHR). The Games Institute was instrumental in assisting to develop the scope of the project and offering resources to support this application. The Home was a child welfare institution where generations of African Nova Scotian children suffered abuse during its operation from 1921 until the early 2000s. Following a 17-year struggle for justice by former residents, Nova Scotia established a Restorative Inquiry into the Home’s history and legacy of racism. DOHR supports the Inquiry’s mandate to educate the public about the experiences of former residents for restorative justice. DOHR is a community-driven project with former residents, scholars, and stakeholders to co-design a grade 11 Canadian History curriculum that includes an oral history-based virtual reality experience. The curriculum was piloted in 2019 to overwhelmingly positive feedback and is under revision with the Department of Education. This project makes significant scholarly contributions for: a restorative approach to research; historical thinking for reconciliation; virtual reality education, and trauma-informed oral history. DOHR is among the first oral history projects to design a curriculum and conduct empirical research about its educational value.

To date, the team has: published an article for the Journal of Interactive Technology and Presence, published a chapter for History Education and Digital Practices, submitted a chapter for Leading and Listening to Community; produced an exhibit for the Prague Quadrennial of Performance and Space; and given over 20 conference presentations and invited talks. The project has been featured by numerous media, including The Canadian Press (picked up by 100 international outlets) and CBC’s The National. The DOHR team is currently working on a book project, with the intention of submitting a proposal in the coming months to Fernwood Press. In addition, the DOHR team has been asked by the Black Cultural Centre in Nova Scotia to work on a public history exhibit about the Nova Scotia Home for Colored Children. To that end, I have applied with members of the Games Institute (Dr. Oliver Schneider, PI) for a SSHRC New Frontiers in Research Grant to explore how haptics affects storytelling in museums. I will also be applying for a SSHRC Partnership Engage Grant to support DOHR’s work with the museum. DOHR, and its unfolding work, would not have been possible without the Games Institute. The Games Institute provided the space, infrastructure, networks, expertise, and resources necessary for truly interdisciplinary and innovative collaboration with both faculty and students. The Games Institute also provided critical pathways to partnerships with industry for this work, including a gift from Oculus for DOHR.

DOHR, and my other oral history work, has been essential in creating a distinct field of study for oral history education. My research has been recognized by scholars as offering the first comprehensive studies of how oral history is used to learn about the past and in building a network of interdisciplinary scholars and community practitioners to build capacity for oral history in schools. For example, I was the keynote speaker for over 1,000 attendees at the 2016 Brazilian Oral History Association conference on Oral History, Educational Practices, and Interdisciplinarity. Furthermore, my oral history expertise now supports three SSHRC projects. The first is as collaborator with Games Institute member Dr. Jennifer
Robert-Smith (PI) on the Connection Grant Design for *Peace (Tamaco) Exhibition and Workshop*, for which diverse stakeholders across Columbia – including immobilized FARC, farmers, and Indigenous groups – are using design methods to convey their oral histories of harm towards a just future. The second is as co-applicant for the Partnership Development Grant *La ville extraordinaire: Learning from older Montrealers’ urban knowledge through oral history research-creation*, which seeks to make public the oral histories of diverse Montrealers. Most substantially, the third is as a co-applicant and Executive member for the seven-year Partnership Grant *Thinking Historically for Canada’s Future*. This project is examining the state of history education in Canada and proposing innovations for reform. I am currently co-leading a study of textbooks and curricula and will be working to develop oral history resources in classrooms. This project will draw upon the expertise and resources of the Games Institute to build cutting-edge resources for history education, including VR learning environments. I have already been approached by industry to partner in the development of AI for teaching about the past.

MacDonald, Shana, Associate Professor, Department of Communication Arts (Fac. of Arts), Co-director, qCollaborative, President of the Film Studies Association of Canada

*How has the GI’s interdisciplinary focus contributed to your work and the work of your students and collaborators?* It has provided an institutional space that respects and recognizes the types of interdisciplinary collaborations I advance in my work. It puts my students in conversation with scholars and peers with determinedly different backgrounds and scholarly perspectives which allows for all collaborators involved to gain expert insight from other fields. This is a unique interface of researchers in my experiences where largely scholars with humanities training rarely interact to this degree with scholars from STEM.

*How the GI has contributed to your research?* The GI supports and facilitates my core work with the qCollaborative, providing space, equipment, access to the network of researchers and potential grad student RAs, and direct funding for research dissemination (including conference travel and the lab’s invited speakers).

*How the GI has contributed to your supervision?* It has opened up to opportunity to supervise graduate students as I do not have a graduate program in my department. In working at the GI I have connected with several doctoral students and now sit on one student’s committee as a contributing member.

*How will the GI contribute to your upcoming grant/funding proposals?* I suspect via in-kind funds via space, equipment, support, server space etc.

*What are your plans for leveraging the GI’s status and resources in your research for the next five years? (e.g., you’re part of a university-level institute with staff, space, and an interdisciplinary ecosystem with a commitment to EDI issues – how will you leverage this?)* I would like to use the space as it is needed in my research to meet with other researchers and student researchers to develop community and create design prototypes. I would like to use the staff resources to develop, promote, and facilitate research forums via informal and formal exchanges of
ideas. University level institute helps with creating a strong institutional support structure to develop, launch, and disseminate my research, which is fully invested in EDI issues at its core, to a larger international audience.

What are your plans to help the GI grow? Faculty and student recruiting, funding (all sources), space additions, labs, other. All funding I will apply for will be tied into projects that directly work within the scope and commitments of the GI. I wish to fund and work with graduate students from the GI as they are. Working with qlab, there is a move to apply for a CFI immediately, this would help with space/lab additions that would directly benefit students and researchers at the GI.

The GI has expanded from being solely about games research into a centre for research into interactive immersive technologies and media of many types and is now expanding to include a network for the virtual future. How will this impact your outlook on what is possible for your own research moving forward?

My research fits well into this expansion as I look directly at social media platforms as social practices that structure our larger communicative worlds. As social media affordances develop and advance, they are a core section of the virtual future. My inquiry into the promises and pitfalls of the centre on two main issues 1) how the virtual is leveraged by activists to prompt viral social movements 2) how the virtual is equally involved in the troubling spread of disinformation and misinformation and the drastic consequences of this. These are two areas of imminent concern in the present moment of pandemics, and the struggles against alt-right movement. I suspect these will continue to be central areas of concern in the future as well.

What would you like to see the GI do and be engaged with in the future – research, outreach, community, training, programs, otherwise)? Continued community building, continued formal and informal exchanges of ideas, spaces to develop prototypes beyond the digital - exploring material experimentation and prototyping as a means of research, a dedication to practice-based research principles and practices that we uphold in the qlab.

Nacke, Lennart, Stratford School of Interaction Design and Business & Department of Communication Arts, Faculty of Arts, cross-appointments: Cheriton School of Computer Science; Department of English Language and Literature, Department of Management Science

How has the GI’s interdisciplinary focus contributed to your work and the work of your students and collaborators? The Games Institute has been essentially the home for my interdisciplinary research group for the past 5 years. As a professor jointly appointed in two departments that currently have no own research-based graduate program, it has been essential for my career to seek cross-appointments through the University and build a highly interdisciplinary research group right in the heart of the Games Institute, who has supported me generously with space and academic infrastructure. My students love working in the GI and I love working there with all of my excellent collaborators from other disciplines in the University. Next to my home department, the Stratford School of Interaction Design and Business, this seems to be the only place at the University that lives and breathes interdisciplinary collaboration. I find this atmosphere extremely enriching for my work.
**How the GI has contributed to your research?** Initially, I was cross-funded through the IMMERSe grant at the GI and since have benefitted from several CFIs, the GI infrastructure in general, and now through the ability to train students in the NSERC CREATE SWaGUR grant right in the GI. To say it all, without the GI, my recent career would not have been possible and I would not be able to conduct my research as efficiently as I do. On top of this, the GI has facilitated industry collaborations, provided a home for many international students that came to visit my research group over the past years, and fuelled the communication environment for my group in the recent history. For example, before the pandemic, the GI provided space and a physical “home” for my research group and now my group’s online collaboration tools during COVID-19 are embedded in the GI’s Discord and Slack servers. Collaborators and staff at the GI supported me in applying for grants, publicizing my research, connecting with industry, and driving knowledge translation. Finally, the GI provides a social web for my students that helps them connect and work together effectively across disciplines. I find this supportive of all of our research ideas and efforts.

**How the GI has contributed to your supervision?** While my supervisory ideals are firmly located in the traditional lab environment/science structure of supervision, I have found the unique interdisciplinary structure at the GI to infuse our group interactions and research directions into novel areas that would not have been possible outside of the space. Being a part of the GI makes it extremely easy to engage with other professors with similar interests to mine but taking other angles at this research, informed by their home disciplines, which also provides fresh ideas for supervision and student support. Having access to other professors in HCI at the GI has also extremely supported any challenges that I have faced over the years as a supervisor because I had a support system of peers.

**How the GI has contributed to grants/funding you have:**

- **Received:** The GI has supported and been featured in many of my existing grant applications. Specifically, my recent Mitacs research initiatives would not have been possible without the help and the support of the GI colleagues;

- **Applied for (even if unsuccessful):** While unsuccessful, the GI has supported recent grant applications the trailblazer interdisciplinary funds. Several grant applications in psychology together with Igor Grossmann would have never materialized if we would not have connected in the GI space.

**How will the GI contribute to your upcoming grant/funding proposals?** The GI will always be an essential research support system for my grants, it provides support in connecting me with like-minded individuals in a similar research space. Especially, the GI’s Director Neil Randall and I have now finally found several avenues to engage in larger research grants to support our aligned interests in the games stories and gamification spaces.

**What are your plans for leveraging the GI’s status and resources in your research for the next five years?** As mentioned above, I will continue to rely on the GI for providing a platform and a space to connect with like-minded researchers. I loved its inclusive and interdisciplinary environment for my HQP. It is a great place for the students to collaborate together and provide a platform for them to connect, even virtually. I will leverage this in several grant applications with collaborators across a variety of disciplines.
What are your plans to help the GI grow? Faculty and student recruiting, funding (all sources), space additions, labs, other I am always helping the GI grow by growing my research group and interweaving them more directly with other researchers at the GI. In addition, I have brought several new faculty members directly to the GI (e.g., Aynur Kadir, Leah Zhang-Kennedy, Daniel Harley) to bring their collaborations and research there. As we are hiring new faculty members at the Stratford School of Interaction Design and Business, I would like to expand Stratford’s reach even more directly into the GI because many of our research interests at the Stratford School and the GI align. This will be particularly relevant as we are working on new graduate programs in Stratford and are planning to expand the research capacity there. The GI could be a strategic partner as we are making the leap from a teaching-intensive school to a research-intensive school and position ourselves as emerging game changers within our faculty.

The GI has expanded from being solely about games research into a centre for research into interactive immersive technologies and media of many types and is now expanding to include a network for the virtual future. How will this impact your outlook on what is possible for your own research moving forward?

My heart is completely tied to games and user experience research, but the way that I view the UX research done in games is at the core of all of these emerging avenues in the new technology space and I think with the GI moving into that space, there are many more opportunities for my research group to expand upon existing possibilities.

What would you like to see the GI do and be engaged with in the future – research, outreach, community training, programs, otherwise? I would like to see the GI be more engaged in the administrative support of its members, specifically students that are cross-faculty-supervised (which is currently the case for all of my graduate students) and feel more at home at the GI than at their home faculties. So, if a stronger link could be established to facilitate things like GRS payments and onboarding and research support for early-career students, this would really support them even stronger.

I would also love to create a GI space at Stratford and facilitate student travel to the research labs I have built at the Stratford School.

Roberts-Smith, Jennifer, Associate Professor, Department of Communication Arts (Fac. of Arts)
Co-director, qCollaborative

How has the GI’s interdisciplinary focus contributed to your work and the work of your students and collaborators? The most concrete, immediate benefit is access to a network of faculty collaborators with different expertise, who can either participate directly in interdisciplinary research projects (e.g. a current collaboration between the DOHR project, Oliver Schneider’s haptics lab, and Michael Barnett-Cowan’s lab), or recommend grad student RAs with relevant skills. Less directly, informal conversation with colleagues from other disciplines has informed my independent work on interdisciplinary methodologies for design research (e.g. the interest that led to this forthcoming book: https://www.intellectbooks.com/prototyping-across-the-disciplines).
How the GI has contributed to your research? The GI houses my lab, the qCollaborative, providing space, equipment, access to the network of researchers and potential grad student RAs, and direct funding for research dissemination (including conference travel and the lab’s invited speakers).

How the GI has contributed to grants/funding you have: Received - External grants: by providing matching funds and access to collaborators; Internal grants: direct funding from the GI for travel for dissemination of GI-based research (with the DOHR project and the qCollaborative)

How will the GI contribute to your upcoming grant/funding proposals? I imagine in the same way? Eg. I have just joined another project on VR-based training for pilots with collaborators in Geography and CS, and I will be seeking in-kind contributions from the GI for a CFI for an intangible cultural heritage lab, Collaborative Digital Heritage Studio (CoDHerS, with Aynur Kadir).

What are your plans for leveraging the GI’s status and resources in your research for the next five years? In addition to continuing to leverage the kinds of personal benefits I’ve already received in terms of resources, collaborations, and thinking about interdisciplinary design methodologies as noted above and in item 8 below... I’d like to take better advantage of the GI’s networks and staff support to increase the dissemination reach of my work.

What are your plans to help the GI grow? Faculty and student recruiting, funding (all sources), space additions, labs, other. Participation in the AR/DC/EDI working group. CoDHerS (as above) is an addition both to infrastructure and to international collaborations (with Aynur’s connections in China, Japan, and Turkey, and my ongoing collaborations in the US and Colombia; plus another new connection with a potential project in Iraq). We also have a new MA starting in Comm Arts, which I hope will bring more community-engaged, student-initiated research through the GI. I am also in the process of establishing a creative research group whose mandate is to pursue social justice through inter-arts, mixed-reality performance, which would be a great fit at the GI.

The GI has expanded from being solely about games research into a centre for research into interactive immersive technologies and media of many types, and is now expanding to include a network for the virtual future. How will this impact your outlook on what is possible for your own research moving forward?

Not sure I have anything specific to add here, except that this vision is well aligned with work I am already doing: eg. my creative research group is developing an accessible, mixed-reality, at-home performance, and I will continue to work with virtual media for education.

What would you like to see the GI do and be engaged with in the future – research, outreach, community, training, programs, otherwise? In general, I’d like to see the GI try to triangulate community into the existing industry-academy relationship. It would be great to be able to tap some private funding for research projects initiated by community and/or faculty and benefiting community (rather than initiated by industry partners for commercial benefit). I’d also like to see more art-based methodologies at the GI, along the lines of CoDHerS and my new creative
research group. And overall, I’d like to see the GI leveraged as a force in the University and across academia as a whole, for EDI and for transdisciplinary research.

Schneider, Oliver, Dept. of Management Sciences, Faculty of Engineering cross-appointments: Cheriton School of Computer Science (Math); Electrical and Computer Engineering (Engineering).

How has the GI’s interdisciplinary focus contributed to your work and the work of your students and collaborators? The GI’s interdisciplinary focus has been essential to my work. The Haptic Computing Lab is a "full stack" haptics lab, working at all phases of physical interactive technology development, from hardware to software, design, psychology, and social impact. The GI brings together other technologists with different expertise - from Kinesiology to Communication Arts - to complement every level of my lab and offer new perspectives that enrich our work.

How the GI has contributed to your research? Without the GI, I would not be able to conduct my research. The way that the GI’s space - both physical and virtual - combines disciplines has allowed me to connect my work to new fields, including Games User Research and Social Justice in Education, and expanded the methods that my team has at their disposal. My group’s online collaboration is completely embedded in the GI’s virtual space, using its Slack. The GI support staff has helped me apply for grants, publicize our research, connect with potential industry collaborators. The GI also hosts my undergraduate students, including URAs, USRA students, and other coops, providing a space for them to work and for us to store our equipment while the Haptic Computing Lab is under construction. The GI provides a professional and social network for my students that enriches their experience and the resulting research.

How the GI has contributed to your supervision? The GI's unique interdisciplinary structure and sense of place have made it extremely easy to engage with students in different labs at different levels. It has facilitated co-supervision with multiple faculty members, and given my students access to a wider range of mentors than they would have access to otherwise.

How the GI has contributed to grants/funding you have: Received: The GI will host my $214,089 CFI JELF funded Haptic Computing Lab makerspace. This is an essential lab for my research, as it will be a unique prototyping environment for full-stack haptic technology development. Hosting this lab in the GI amplifies its impact, as it is right next to other, critically related labs. The GI has also featured prominently in my grant applications as an inclusive, interdisciplinary space that provides a unique environment for my HQP and research program. Applied for (even if unsuccessful): Without the GI, I would never have engaged with Profs. Barnett-Cowan, Roberts-Smith, and Llewlleyn to submit our Interdisciplinary Trailblazers grant (internal to Waterloo, one unsuccessful and one cancelled submission) and our $250,000 NFRF Exploration application (one unsuccessful, a resubmission is currently under review).
How will the GI contribute to your upcoming grant/funding proposals? The GI links me to potential industry partners, provides writing support that gives a unique interdisciplinary viewpoint on the work that we conduct with other GI members, and connects me with other like-minded researchers interested in collaborating.

What are your plans for leveraging the GI’s status and resources in your research for the next five years? (e.g., you’re part of a university-level institute with staff, space, and an interdisciplinary ecosystem with a commitment to EDI issues – how will you leverage this?) I will continue to depend upon the GI for its inclusive, interdisciplinary environment for my HQP, including hosting both my workshop and other essential equipment near related labs, workspaces for HQP (especially undergraduates or students outside of my home department), writing and grant support, and administrative support for the growing CanHaptics network.

What are your plans to help the GI grow? Faculty and student recruiting, funding (all sources), space additions, labs, other My plans to help grow the GI include 1) the CFI JELF Haptic Computing Lab makerspace under construction, and 2) planned projects pending funding. The Haptic Computing Lab is a novel interaction design environment for working with these complex technologies. I look forward to working with the GI to make this a thriving lab not just for haptics research, but to help enable creators of all backgrounds to be able to work with physical interactive technologies. I also look forward to expanding on my research program with collaborators in the GI, for example, the project for Incorporating Social Justice into Haptic VR Storytelling project that formed the basis of our NFRF Exploration application, which will depend on the GI as the organizational unit that unites the various researchers involved.

The GI has expanded from being solely about games research into a centre for research into interactive immersive technologies and media of many types, and is now expanding to include a network for the virtual future. How will this impact your outlook on what is possible for your own research moving forward? This will both allow my research to be increasingly at home in the GI, and critically, allow my research to be more ambitious and wide-reaching. Haptic and multisensory feedback is a natural topic to combing with gaming and interactive immersive technologies, but its impact can be felt around a plethora of other contexts connected to the virtual future. This will allow me to work on accessibility, social justice, and improved understanding of our relationship with touch, perception, and multimodal technology more broadly.

What would you like to see the GI do and be engaged with in the future – research, outreach, community training, programs, otherwise)? I would like to work with the GI to expand our community outreach, especially using the Haptic Computing Lab, to engage more people to work with physical technology and making more generally, especially with any future activities involving the emerging CanHaptics Network which would include Waterloo, and more specifically the GI, as a core node in its training, outreach, and research activities.

Thompson, Ben, Optometry and Vision Science, Faculty of Science

How has the GI’s interdisciplinary focus contributed to your work and the work of your students and collaborators? The GI has provided exposure to research approaches and methodologies that would otherwise be very difficult to access. Specific examples include the use of qualitative analysis techniques that formed the basis of my recent paper on the experience of children who underwent cataract surgery and
their families (Hamm et al. BMJ Open. 9:e024869) and an increased awareness of the power of gamification that led to a new collaboration with the BBC in the UK and an associated CIHR project grant for the treatment of a common eye disorder in children. I have also used my exposure to the interdisciplinary community of the GI to develop gamified interfaces for a new technology that measures vision in young children. This technology is being commercialized through my New Zealand-based start-up Objective Acuity.

**How the GI has contributed to your research?** The GI has provided the opportunity to increase awareness of my research both within the university and nationally through the opportunity to present at UW hosted conferences and seminar series. These opportunities have opened up new collaborative pathways.

**How the GI has contributed to your supervision?** My gamification-linked CIHR grant supports one PhD student and a postdoctoral fellow.

**How the GI has contributed to grants/funding you have:** Received: A greater awareness of the power of gamification led to my successful application for a CIHR grant for the treatment of children with amblyopia using modified cartoons in collaboration with the BBC in the UK ($336,000).

**How will the GI contribute to your upcoming grant/funding proposals?** I am actively seeking new gamification collaborations for the next step in my CIHR funded work which is an randomized clinical trial of our new treatment.

**What are your plans for leveraging the GI’s status and resources in your research for the next five years?** I plan to increase exposure of my students and postdocs to the interdisciplinary culture of the GI to further advance their health research projects.

**What are your plans to help the GI grow?** Faculty and student recruiting, funding (all sources), space additions, labs, other I will contribute my experience to support GI students explore real world application of their work in health care settings.

The GI has expanded from being solely about games research into a centre for research into interactive immersive technologies and media of many types and is now expanding to include a network for the virtual future. How will this impact your outlook on what is possible for your own research moving forward? Remote research is becoming increasingly important in the context of the pandemic. I will explore the use of GI platform technologies to conduct human research studies remotely.

**What would you like to see the GI do and be engaged with in the future?** Keep doing what you are doing – it is excellent!

**Voorhees, Gerald, Associate Professor, Communication Arts**

The GI’s interdisciplinary environment has enabled me to meet and begin collaborations with other researchers in the humanities and social sciences, and to engage in conversations with other researchers.
The GI and specifically First Person Scholar, have provided a platform for the dissemination of my game studies scholarship to game playing publics. FPS in particular has been a forum for some speculative writing that eventually became the basis of published peer review journal articles.

Wallace, James

Dear Senate Graduate and Research Council, I am writing to express my enthusiastic support for the Games Institute’s five-year renewal. In short: The GI makes every aspect of my life on campus better, including my research, student training, grant-writing, and teaching, and I cannot imagine coming back to a campus without it.

My research group, the Human-Computer Interaction and Health lab, consisting of PhD and MSc students, USRAs and Co-op students, and many volunteers, calls the GI home. We are deeply collaborative with other members of the GI, like the five other Human-Computer Interaction (HCI) faculty and their respective labs from across campus, spanning Engineering (Profs. Hancock and Schneider), Health (myself), and the Arts (Profs. Nacke, Harley, Zhang-Kennedy). I cannot emphasize enough the constructive, multi-disciplinary, and thriving environment that has been created in this space, with full support of staff, dedicated research space, and a commitment to a truly collaborative – and inclusive – working environment.

I’d also like to emphasize that the GI leadership has created a unique, world-class training environment that cannot be reproduced anywhere else on campus. Students from across campus contribute different perspectives and expertise, and the GI has created an environment where that knowledge is shared freely to everyone’s benefit. I believe that this is only possible because students are seated together and assigned space not “by faculty” or “by discipline”, but with the intention of cross-pollination. I have also seen the tremendous benefits of this in my own students’ work. For instance, Tina Chan, a recent MSc graduate, was able to build on the expertise of different neighbors by talking to them about game narrative, gender stereotypes, software development in Unity, and experimental design by informally consulting her neighbors as needed. Notably, many of these neighbors would not identify themselves as “HCI researchers”. I cannot overstate how valuable a resource this has been to my students, and of course to myself as their supervisor.

Similarly, GI faculty have independently and collaboratively developed many grants that are housed in the GI – including my CFI-funded $207,000 150” Touch-Interactive Display, a collaborative $2,400,000 NSERC CREATE, and a $240,000 MITACS cluster – that together create a suite of infrastructure, research and internship funding that supports everyone’s research. This funding and equipment is available to all at the GI, and, critically, GI staff manage use of research facilities and resources to ensure that they are widely and efficiently used. Through the GI, my students have direct and free access to usability labs, physiological sensors, AR and VR equipment, 3D printers, and an upcoming haptics makerspace. In my 20 years at Waterloo, I have never seen a group on campus so thoroughly live the principles of interdisciplinarity and collaboration, or for these collaborations to more directly benefit students.
I could go into more detail about the past, but I would like to draw your attention to the vital role that the GI will play in my research, and more broadly across campus, over the next few years. Waterloo is ranked as a top 10 institute for HCI research worldwide, with an incredible record for training undergraduate and graduate students, academic research, and well-established partnerships with industry partners like Google, Microsoft, and Huawei. HCI is necessarily a cross-disciplinary research area, and Waterloo has approximately 30 HCI faculty across campus. But, because HCI research is multi-disciplinary, and therefore distributed across our faculties, there is no public face for these successes at the institutional level. Waterloo is losing out on an opportunity to leverage our past success and the strength of our programs, draw in new talent and funding, and continue to define ourselves as a world-leader in HCI. Over the next five years, as the GI grows into a center for the study of Interactive and Immersive Technologies, I believe that it can uniquely serve as such a unifying and public face. In fact, in many aspects it is already doing so, and we just need the time and resources to build on existing strengths.

One area where I see the GI taking on a particularly important role is in coordinating large grants across campus. It is already a hub for researchers and students across campus, and we have seen the role that can be played in, for example, the NSERC CREATE or MITACS cluster grants. Work has also already begun on developing relationships with new industry partners and a new generation of research and funding through these partnerships. As two examples, the GI leadership has coordinated with Scotiabank and Rogers, who have a keen interest in long-term relationships with the GI and its faculty and students.

Finally, the GI has demonstrated great leadership in creating a safe and inclusive space on campus for everyone. I firmly believe that the GI was so successful in creating such a space because it was conceptualized as such from the very beginning, but that moving forward, it can serve as a model for others across Waterloo. Understanding how we can ingrain these values into our everyday lives has taken on renewed importance given the events of 2020, and will no doubt be at the center of Waterloo’s mission for the foreseeable future. We all should be incredibly proud of what has been accomplished at the GI so far.

**Whitson, Jennifer R., Associate Professor, Department of Sociology and Legal Studies (cross-appointed to the Stratford School).**

**How has the GI’s interdisciplinary focus contributed to your work and the work of your students and collaborators?**

I examine how new technologies influence our everyday life, social relations, economy, and the production and dissemination of knowledge and culture. Particularly, I am interested in ‘the secret life of software’, the people who make playful technologies, and how both change our daily lives. While I predominantly study game developers, I argue that the findings are much more widely applicable: developers are a ‘canary in the coal mine’ in terms of helping us understand changes to work more generally, particularly those related to surveillance capitalism, attention economies, and precarious gig work that commonly falls along gendered lines. My work falls into two key areas: Surveillance Studies (sub-areas: playful surveillance; and, critical sociology of big data); and Game Studies (sub-areas: persuasive design; socio-economics of the game industry; labour in culture industries; and, ethnographic ‘studio studies’ of collaborative work). Game studies is, by nature, interdisciplinary. There are no associated researchers in my own department that are familiar with my field of study. Accordingly, the GI provides an intellectual home and a community of peers that would not be available elsewhere.
How the GI has contributed to your research: The GI has provided collaboration, meeting spaces, and desk spaces for myself and 4 graduate students. It is a welcoming environment where, in normal times, we would meet, discuss readings and research projects, and collaborate on articles together.

How the GI has contributed to your supervision: Working space for graduate students is at a premium in my own department, with 5-6 students sharing windowless, cinderblock-walled closets. It is isolating while simultaneously distracting and is certainly not conducive to work. Accordingly, my students prefer to work in the GI space, where they can work in proximity to each other. We also book and hold all of our team meetings (generally every 2 weeks) in the GI space.

How the GI has contributed to grants/funding you have: Applied for (even if unsuccessful) While at the University of Waterloo, I have applied for and received a Gender Equity Research Grant ($10,000), two Seed Grants ($6,300), a SSHRC Insight Development Grant ($54,100), and a SSHRC Connection Grant ($30,000), and was a co-investigator on an SSHRC Insight Grant ($74,412) and SSHRC Partnership Grant ($2,498,116). For all of these grants, the GI provided in-kind contributions including access to technology and working space. For the SSHRC Connections Grant, the GI provided administrative support as well as contributed funding, which has been invaluable. Having GI staff process student salary payments has saved me many many hours, allowing me to focus on research and teaching.

How will the GI contribute to your upcoming grant/funding proposals? I expect that for future proposals, the GI will continue to contribute in-kind funds, related to technology access and working space.

What are your plans for leveraging the GI’s status and resources in your research for the next five years? If possible, I would love to host future grants at the GI (rather than my home Department) as the GI is able to provide substantially more administrative support, as well as research communication/knowledge translation support. GI staff and co-op students have a demonstrated interested in promoting the work of their researchers and students, hosting talks, and panels. This is something most smaller departments simply do not have the staff to provide. As a researcher working in and around games, having support staff that are knowledgeable in the field is an invaluable asset.

Given that most of my grants and research are related to EDI, including addressing workplace inequalities in the game industry, I expect this work will continue.

What are your plans to help the GI grow? Faculty and student recruiting, funding (all sources), space additions, labs, other I will continue to have the GI as a partner in all future grants. And will continue to recruit students who will work in the GI, on GI-relevant topics.

The GI has expanded from being solely about games research into a centre for research into interactive immersive technologies and media of many types and is now expanding to include a network for the virtual future. How will this impact your outlook on what is possible for your own research moving forward? My work has always expanded beyond Game Studies. I think the larger outlook on equitable access to technology and responsible innovation more generally is an excellent direction, that aligns with my own research directions. Ensuring that
interactive immersive technologies (e.g. haptics, VR, etc.) are accessible, designed for, and adaptable to larger demographics beyond the over-
sterotyped young, male, gamer is an essential part of this evolution.

**What would you like to see the GI do and be engaged with in the future – research, outreach, community, training, programs, otherwise)?** I think the GI is doing an excellent job. I think they could do an even better job if they were able to act as the “home base” for faculty grants. Given that many GI faculty are in different faculties and departments, collaborate, and share RAs, this would streamline financial accounting processes.
Appendix 6. Publications
Contents
Referred Journal Publications: ................................................................. 1
Conference Contributions (Papers, Abstracts, Posters) ........................................ 11
Conferences, Guest Talks and other Presentations: ........................................... 29
Academic Media Contributions ........................................................................ 41
Books and Book Chapter Contributions .......................................................... 45
Workshops/Exhibitions .................................................................................... 47
Government Documentation ............................................................................. 48
Software Artifacts .......................................................................................... 48
Hardware Artifacts ......................................................................................... 50

Referred Journal Publications:


Harris, R. Chiastic iconicity. Forthcoming. Iconicity in Language and Literature 18.

Harris, R. Dementia, rhetorical schemes, and cognitive resilience. 2020. POROI 15.1, Article 12.

Harris, R. Grammatical constructions and rhetorical figures: The case of chiasmus. To appear. LACUS Forum 38.

Harris, R. James McElvenny’s Form and Formalism in Linguistics (History and philosophy of the language sciences 1). (Berlin: Language Science Press, 2019.) Language & History. [Review]


Harris, R. Scientific futures for a rhetoric of science: We do this and they do that? With David R. Gruber. 2018. POROI 14.2, Article 2.


https://doi.org/10.1080/10572252.2019.1588376


http://dx.doi.org/https://doi.org/10.1108/WJSTSD-07-2016-0047


http://dx.doi.org/https://doi.org/10.1145/3134741


https://doi.org/10.1145/3290607.3313279

https://doi.org/10.1145/2968120.2971804

Whitson, J.R. (66%) and French, M. (33%). “Productive Play: Games, gambling and the shift from responsible consumption to responsible production”. Special Issue on Digital Transformations in Gaming and Gambling Consumption. Journal of Consumer Culture. Edited by Tom Brock and Mark R. Johnson. (forthcoming)


Conference Contributions (Papers, Abstracts, Posters)


Arnedo Moreno J, González CS, Mora Carreño A, Nacke LE. (2017). Foreword: 1st Workshop on Gamification and Games for Learning (GamiLearn’17). 1st Workshop on Gamification and Games for Learning (GamiLearn’17). GamiLearn 2017, Puerto de la Cruz, Tenerife, Spain (1- 2), Conference Date: 2017/6, Abstract


Hancock, M. “Choose Your Own Life: Research into Text and Self-Expression in Video Games.” Paper presented at the SSHRC-CRSH Partnership Grant Mid-Term Meeting for IMMERSe. Game Institute, Waterloo. November 2016.


Nakce, L. Interaction in Play. ACM CHI PLAY 2017, Amsterdam, Netherlands (5-18), Conference Date: 2017/10, Paper


Roberts-Smith, J., Justin Carpenter, Paul Cegys, William Chesney, Arda Kizilkay, Colin Labadie, Jennifer Llewellyn, Kristina R. Llewellyn, Robert Plowman, Gerald Voorhees, with Tracy Dorrington-Skinner, Gerald Morrison, Tony Smith, and the DOHR Team, “Performing Historical Place: Leveraging Theatre Historiography to Generate Presence in Virtual Reality Design for Restorative


Soroush, M., Hancock, M., and Bohns, V.K. Investigating game mechanics that target players’ selfcontrol while maintaining engagement. In: Proceedings of the 2018 Annual Symposium on


Thompson B, on behalf of the BRAVO study team. Adherence to at-home videogame game-based amblyopic treatment in the BRAVO study was characterized by short, sporadic treatment periods and frequent pauses. American Academy of Optometry Annual Meeting Planner 2019.


Tondello GF, Nacke LE. (2017). Using a Digital Skill Tree to Promote Self-Evaluation and Assignment Grading in Gamified Education. CHI 2018, Montreal, Canada, Conference Date: 2018/4, Paper


Turuwhenua, J., Sangi, M., Guo, C.X., Thompson, B. (2016). A platform for the measurement and analysis of optokinetic nystagmus. ARVO Online Meeting Planner, B0373.


Uribe, A., Ortiz, S., Rojas, D., & Kapralos, B. (2016). Hand tracking as a tool to quantify carpal tunnel syndrome preventive exercises. IISA 2017. The 7th International Conference on Information, Intelligence, Systems and Applications, Chalkidiki, Greece (1-5). IEEE, http://dx.doi.org/10.1109/IISA.2016.7785396"


Conferences, Guest Talks and other Presentations:


29

Bomfim, M. Guest Lecture, class HLTH 230 (Public Health Informatics). Team collaboration and the game design process of a global health informatics tool to educate children in Mongolia about health. – University of Waterloo. March 26, 2019.


Clement, R. “The Emergence of Narrative through the Interaction between Players, Game Mechanics, and Participatory Fan Communities.” Canadian Game Studies Association/Congress of the Humanities and Social Sciences, 31 May 2018, University of Regina, Regina.

Clement, R. “The Neo-medieval? The Internet, Corporate Feudalism, and the Decline of the Nation-state.” Beyond the Nation-state, 12 September 2007, Queen’s University, Belfast, Northern Ireland.


https://www.youtube.com/watch?v=PA3Km6_TuZU.

Gauthier, R. (2018) Online Addiction Recovery Communities, University of Waterloo, GradTalks: Social Networks


Hancock, M. Designing Interfaces that Compel and Motivate. Mappedin, Kitchener, Canada, Mar 2018. Invited by Emily Wong.

Hancock, M. Designing Interfaces that Compel and Motivate. uxWaterloo, Waterloo, Canada, Jan 2018. Invited by Adam Euerby and Mark Connolly.


Hancock, M. Game Institute Podcast 011: “Video Games and Comic Books with Michael Hancock.” Interviewed about research by the hosts of the Games Institute Podcast. Fall 2019.

Hancock, M. Game Institute Podcast 013: “Comic Book Scholarship with Three Panel Contrast.” Interviewed (with fellow co-hosts) about comic research by the hosts of the Games Institute Podcast. Fall 2019.


Hancock, M. Using Principles from Games to Design Novel Interfaces that Compel and Motivate. HCI@RIT Colloquium, Rochester, NY, USA, Nov 2018. Invited by Kristen Shinohara.

Hancock, M. Using Principles from Games to Design Novel Interfaces that Compel and Motivate. Simon Fraser University, Burnaby, BC, Canada, Dec 2019. Invited by Sheelagh Carpendale.


Hardiman, C. I. 2015. “Fame and the Sculptor in the Hellenistic Age”. Presented at an international workshop entitled Celebrity, Fame and Infamy in the Hellenistic World at the University of Waterloo (Waterloo).


Hardiman, C. I. 2016. “The Role of Queen Apollonis in the Creation of Dynastic Messaging and Loyalty among the Attalids of Pergamon”. To be presented at an international conference entitled Kings and Queens 5: Dynastic Loyalties at Clemson University (Greenville).

Hardiman, C. I. 2017. “Micro-Regionalism, Macro-Regionalism and a Hellenistic Artistic Koine”. Presented as the Keynote Address for the Canadian Institute in Greece’s Biannual Graduate Student Conference on Regional Identities in the Greek World (Edmonton, Canada).
Hardiman, C. I. 2017. “Plato’s Eye and Our Mind: Is there a Fixed Biological Experience to Art?”. Presented as a guest speaker for the Edmonton chapter of the Archaeological Institute of America (Edmonton, Canada).

Hardiman, C. I. 2019. “Gaming the Past: Archaeology, Video Games and the Classroom”. Presented as a Guest Lecturer for the Archaeological Institute of America – Toronto Chapter (Toronto, Canada).


Hardiman, C. I. 2020. “Veni, Vidi, Vici...Domino Pugnam: Classical Studies and Video Games”. Presented at the University of Waterloo, Games Institute (Waterloo, Canada – same lecture as below, 2019)


Harris, R. “You can take the linguist out of MIT, but you can’t take MIT out of the linguist:” Construction Grammar and Rhetorical Schemes. LACUS 2019. St. Jerome’s University, Waterloo, 23 July 2019. [Keynote]


Harris, R. A cognitive ontology of rhetorical figures. With Chrysanne Di Marco, Ashley Rose Mehlenbacher, Robert Clapperton, Insun Choi, Isabel Li, Sebastian Ruan, and Cliff O’Reilly. CAOS - Cognition and Ontologies. University of Bath. 20 April 2017.

Harris, R. A figure is a figure is a figure: The Cognitive-computational approach to rhetorical figures. With Kyle Gerber, Danielle Bisnar Griffin, & Katherine Tu. RhetCanada 2019.

Harris, R. A neurocognitive ontology of rhetorical figures. Congress. Canadian Society for the Study of Rhetoric. 1 June 2017. Ryerson University.


Harris, R. Antimetabole, argument, computation. Argumentation Group, Artificial Intelligence section of the Department of Computer Science, The University of Liverpool. 20 March 2017.


Harris, R. Chiastic figures and how they argue. Centre for Argument Technology, University of Dundee. 23 March 2017.

Harris, R. Chiastic iconicity. The 12th International Symposium on Iconicity in Language and Literature. Lund University, Sweden, 4 May 2019.


Harris, R. Computers, cognition, chiasmus; chiasmus, cognition, computers. Computers Figuring / Figuring Computers II: A Workshop on Computational Rhetoric. 12 August 2016. University of Waterloo Davis Centre. [Keynote]


Harris, R. Figural logic in scientific argumentation. Soka University of America. Aliso Viejo, California. 13 February 2018. [Featured talk]

Harris, R. Form-Function dyads and computational rhetoric. CMNA XVII - Computational Models of Natural Argument. Strand campus, King's College, London. 16 June 2017. [Keynote]

Harris, R. Gamifying the Study of Rhetorical Figures in the Undergraduate Rhetorical Studies Curriculum. With Danielle Griffin, and Flora Chan, Northeast Modern Languages Association in Boston, MA, USA, 7 March 2020.

Harris, R. GoFigure: Citizen Science meets the gamification of rhetoric. With AC Atienza (Senior author), Danielle Griffin, and Flora Chan. Play On! in Montreal, Quebec, McGill University Library 13 May 20; accepted and scheduled but conference subsequently canceled due to COVID–19 pandemic.


Harris, R. Re-Inventing rhetorical figures: Celebrating the past, building the future. Rhetoric Society of America Conference. Minneapolis, MN. 2 June 2018.
Harris, R. Rhetoric, neuroscience, and cognitive resilience. Association for the Rhetoric of Science, Technology, and Medicine Pre-Conference. 31 May 2018.


Harris, R. Scientific futures for a rhetoric of science: We do this and they do that? With David Gruber. Rhetoric Society of America Conference. Minneapolis, MN. 1 June 2018.


Harris, R. The chiastic suite. Toronto Semiotic Circle, Victoria College, University of Toronto, Toronto, ON, 11 April 2018. [Featured talk]


Harris, R. The fourth master trope, antithesis. Rhetoric Society of America. 28 May 2016, Atlanta, GA.

Harris, R. This idea must die: Conceptual metaphor. This Idea Must Die Symposium. 14 December 2015. AL 208, University of Waterloo

Harris, R. Words, words, words: The secret life of plokes. The Centre for Research in Reasoning, Argumentation, and Rhetoric (CRRAR). University of Windsor, 11 October 2019. [Featured talk]


Hirschkop, K. - Chair of and participant in roundtable, ‘Understanding, misunderstanding and the Critique of Language as a Code, MLA Convention, Austin, Texas, January 9, 2016.


Hirschkop, K. ‘The Trouble with Shklovsky’, British Association of Modernist Studies Conference, London, June 20, 2019
Hirschkop, K. ‘Toronto’s Late (Half-Hearted) Modernism’, Modernist Studies Association Conference, Toronto, October 19, 2019

Hirschkop, K. ‘Walter Benjamin meets Jane Jacobs – or, how is Toronto modern?’ Symposium, Helsinki Literature and City Network, University of Helsinki, August 28, 2014.

Kim, J. (2018). ThumbText: Text Entry for Wearable Devices Using a Miniature Ring [C3], Talk at GI ’18, Toronto, Ontario, Canada


Pafla, M. Jumping on the Bandwagon: Overcoming Social Barriers to Public Display Use." in Kingston, Ontario, Canada in 2019

Parker, F. and Whitson, J.R. “A Booth of Our Own: The IndieMEGABOOTH as Collective, Community, and Brand,” Canadian Game Studies Association, University of Calgary, Calgary, Canada, June 2016.

Parker, F., Simon, B., Whitson, J.R. “Indie Interfaces: Invisible labour, sustainability and feminist cultural economy in the game industry,” ReFig: Refiguring Innovation in Games, Concordia University, Montreal, Canada, October 2016.


Perks, M. and Whitson, J.R. “Counting, Categorizing, and Representing: Gender diversity initiatives in Canadian game industry funding”. ReFig: Refiguring Innovation in Games Annual Conference, University of British Columbia, Vancouver, Canada, October 2018.

Perks, M. and Whitson, J.R. “Hosting a Symposium as Data Collection: Bringing together dispersed participants and creating ‘the field’”. ReFig: Refiguring Innovation in Games Annual Conference, OCAD, Toronto, Canada, November 2019.


Racicot, T. (2020). “Science in Media: Movies, Comics, Gamification”. ENGL 193, University of Waterloo, Waterloo, ON


Uribe Quevedo, A. (2017). State of the art and challenges for developing immersive VR and mixed reality games. IV Regional Science and Technology Meeting, Fusagasuga, Colombia


Uribe Quevedo, A., Acosta, D., Gu, D., Chan, M., Kapralos, B., Jenkin, M., Jaimes, N., & Kanev, K. (2018). An augmented and mixed reality approach to eye fundus training. Realities in Medicine, Toronto, Canada


Whitson, J. R. “All Play and No Work: The Quantified us,” Transmediale Festival: Capture All, Haus der Kulturen der Welt, Berlin, Germany, January 2015.

Whitson, J. R. “Risk, Reward, and Addiction: How gamification compels us to gamble with our lives,” Summer Interactive Symposium: Raising the Virtual Stakes, Concordia University, Montreal, Quebec, Canada, June 2015.


Whitson, J. R. “Counting Gender and Categorizing Diversity: Sophie’s Choice of linking state funding to increased gender-representation in the workplace,” Surveillance Studies Network 8th Biennial Conference, Aarhus University, Aarhus, Denmark, June 2018.


Whitson, J.R., “Transnational Communities of Practice: The value regimes of ‘Indie’ and sustainable game development in Canada and Australia”. Transnational Materialities, the 2018 Association of Internet Researchers Conference, Montreal, Canada, October 2018.

Whitson, J.R., French, M. “Gamblification: The dark side of the ludic century,” Canadian Game Studies Association Meeting at Congress, Ryerson University, Toronto, Canada, June 2017.


Whitson. J. R. “Games of Risk: Making sense of data analytics in culture industries,” Big Data and Risk Workshop, Concordia University, Montreal, Quebec, Canada, November 2015.


Whitson, J. R. “Salvation or Snake Oil? A closer look at big data practices in the game industry”. Oasis Speakers Series, University of Tampere, Tampere, Finland, May 2018.


Whitson, J. R. “These Numbers Don’t Mean What You Think They Mean: Game developers’ strategic use of big data,” Surveillance Studies Centre Seminar Series, Queens University, Kingston, Ontario, Canada, November 2016.


Wilcox, S. “Feed-Forward Scholarship.” (Invited as guest speaker to represent ‘the next generation of scholars’). SSHRC - Imagining Canada's Future. Waterloo, ON. Nov 2013.


Yoon, J. The Phenomenology of Videogame Narrative - Canadian Game Studies Association (June 2019)

Yoon, J. Towards a Phenomenological Approach to Interactive Storytelling - Canadian Society for the Digital Humanities (June 2019)

**Academic Media Contributions**


Lawrence, C. (2019). Scorpion and Sub-Zero should make it official. Article published by unwinnable.com

Lawrence, C. (2019) Sail the Nebulae: Seedship and Queer Escapism. Article published by sidequest.zone

Lawrence, C. (2019). Doom 64 Is a slower, more satisfying burn than the originial. Article published by kotaku.com


Racicot, R. (2020).“Guiding the Immigrant God: Helper Characters in God of War”, First Person Scholar.

Schmidt, P. M., Benjamin, M., Racicot, T. (Nov. 12, 2020) Apocalyptic Video Game Narratives with Pamela Maria Schmidt. The Games Institute Podcast


Tondello, G. Episode 35 of the Professor Game Podcast (published on June 25, 2018), in which I was interviewed by Rob Alvarez Bucholska about gamification for education and user experience design.


Tondello, G. Researchers create 'player trait model' allowing for personalized games. University of Waterloo, September 26, 2019. Online: https://cs.uwaterloo.ca/computer-science/news/researchers-create-player-trait-model-allowing-personalized. (Also repeated in several other news sites.)

Tondello, G. Researchers help to bridge the gap between psychology and gamification. University of Waterloo, September 26, 2018. Online: https://uwaterloo.ca/news/news/researchers-help-bridge-gap-between-psychology-and. (Also repeated in several other news sites.)


Books and Book Chapter Contributions

Browne, P. (20%), Schram, B. (20%), Whitson, J.R. (20%), Simon, B. (10%), Parker, F. (10%), Perks, M. (10%), Volgormez, C. (5%), & Lavenir, G (5%). “Hosting a Symposium as Data Collection: Bringing together dispersed participants and creating “the field””. Loading...The Journal of the Canadian Game Studies Association. (under review)

Browne, P. (50%), and Whitson, J.R. (50%). “Network or Die: What Social Network Analysis can tell us about indie game development”. In P. Ruffino (Ed.), Gaming After Independence: Production, consumption, autonomy and inclusivity in independent game development. Abingdon, Oxon: Routledge. 2021: 77-94


"Llewellyn, K. R., Jennifer Llewellyn, Jennifer-Roberts-Smith, Lindsay Gibson with Tony Smith, Gerald Morrison, and Tracy Dorrington-Skinner, A Restorative Approach to Historical Injustice: Lessons for Research and Education (book proposal for Fernwood in February 2021)."


Workshops/Exhibitions


Gauthier, R. Qualitative Research Methods – CSCW Conference 2019 Participated from the perspective of seeking to leverage machine learning and natural language processing to purposively sample large data sets for thematic analysis.


Tondello, G. Applying the Gameful Design Heuristics. 3-hour course taught at CHI 2017 with Dr. Lennart Nacke.

Tondello, G. Gamification: Tools and Techniques for Motivating Users. 4.5-hour course taught at CHI 2018 with Dr. Lennart Nacke.

**Government Documentation**


**Software Artifacts**

Atienza, AC. (May 2019) "Go Figure". - Developed a website through the Games Institute to host a novel method of sourcing and storing linguistic artifacts.

Hancock, M. 2014-2015. Canadian Hockey Project - Online Database Multidisciplinary project designed to record and preserve oral histories relating the collection and spectatorship of hockey in Canada. My role in the project involved interview participation and collating scholarship on hockey history in Canada and crowd-sourcing design.

Hancock, M. 2015—2016. Game Studies 101 – Website: A project for showcasing curated resources for game scholars across multiple subdisciplines. My role in the project involved creating content for the recently-launched site based on submissions to the #gamestudies101 hashtag.
Mehrabi, S. (Ongoing) Virtual Reality Exergames to Promote Physical Activity & Well-Being in MCI/Dementia
(Videogame: https://www.youtube.com/watch?v=2lrBiO_cqIk&t=1s&ab_channel=RealityWell)

Munoz, John. Videogame - Seas the day, virtual reality exergames to promote exercise among people living with dementia. Technology: Standalone Virtual Reality

Racicot, T. (2018). Aventus – D&D module used to teach a Graduate class the mechanics and play of D&D

Racicot, T. (2019). Middle Earth Adventure – D&D module simulation of Middle-Earth; used in Graduate course

Racicot, T. (2020). Onion Grove Massacre – D&D module focusing on treatment of animals and food supplies; used in Graduate course

Racicot, T. (2020). The Darkness Above and Below – D&D module focusing on immigration and environment issues; used in Graduate course


Soroush, M. - Foodie Willpower (2020) is an app that helps users set their eating behaviour goals and use the app frequently to pursue their goals and/or battle templating foods using our interactive designs. * now Published on the App Store and Google Play

Soroush, M. - Save the Garden (2018) is a game that helps us measure and improve players’ cognitive control.


- User experience research for a gameful digital app to help users write a business plan.

Design and prototyping of a gameful app for performance and wellbeing management


Wilcox, S. Lead designer, professional training game ‘Stigma and Sexual Health: Addressing Biases through Game-based Learning.’ Canadian Public Health Association. 2018-2019

Wilcox, S. Lead designer, professional training game. ‘Recognizing and Responding to Family Violence in Clinical Settings.’ VEGA (Violence, Evidence, Guidance, Action), a project funded by the Public Health Agency of Canada. 2016-2020.

Hardware Artifacts
Atienza, A. (May 2017). "Final Guardian". - a fantasy game exploring how alcoholism begins, progresses and how it can be managed

Atienza, A. (May 2019). "Energize" - Connected to the Waterloo Global Science Initiative (WGSI) through the Games Institute and developed the board game “Energize” as a regional educational tool.


Clement, R. Kitchen Table. The Game Institute, 2016. Board game. Featured in University of Waterloo “Use of Persuasive Games to Promote Empathy for Persons with Food Allergies” study. Exhibited as part of the Technology, Art and Games Research Centre and the Games Institute’s INTERPLAY: Thinking Through Games exhibition at THEMUSEUM in Kitchener-Waterloo, Canada (2018)


Hancock, M. 2012. Bonfire of the Humanities. (Game Design) An Alternate Reality Game designed (but not, ultimately, launched) to run during the 2012 Congress of the Humanities and Social Sciences and Social Sciences. My role in the project involved general planning and organizing the clues and events for the first phase of the project.

Harris, R. GoFigure (Citizen Science Puzzle-solving Game)

Harris, R. War of words (Tutorial RPG Game)


<table>
<thead>
<tr>
<th>Date</th>
<th>Title</th>
<th>Author(s)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-Oct-20</td>
<td>The Fabric of Digital Space</td>
<td>Jeffery Klaehn</td>
<td>Essay</td>
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<tr>
<td>08-Oct-20</td>
<td>A Chain of Memories</td>
<td>John Ferris</td>
<td>Essay</td>
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<tr>
<td>31-Jul-19</td>
<td>Space, Navigation, and Queerness in Gone Home; or Toward a Queer Spatiality</td>
<td>Don Everhart</td>
<td>Essay</td>
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<td>20-Nov-19</td>
<td>The Gendered Mechanics of Pokémon Sword and Shield</td>
<td>Melissa Jane Lewis</td>
<td>Essay</td>
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<tr>
<td>01-Jul-20</td>
<td>A glimpse of the blockchain</td>
<td>Christopher B. Patterson</td>
<td>Essay</td>
</tr>
<tr>
<td>30-Sep-20</td>
<td>Queer Modding</td>
<td>Sabrina Sgandurra, Patrick Dolan, and Lillia</td>
<td>Essay</td>
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<tr>
<td>01-Apr-20</td>
<td>Life Will Change</td>
<td>Brigid Kennedy</td>
<td>Essay</td>
</tr>
<tr>
<td>09-Oct-19</td>
<td>You Ever Have That Feeling Where You’re Not Sure If You’re Awake or Still Dreaming?</td>
<td>Stacey Henley</td>
<td>Essay</td>
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<tr>
<td>28-Sep-20</td>
<td>Out of Context</td>
<td>Josh Zimmerman</td>
<td>Essay</td>
</tr>
<tr>
<td>05-Feb-20</td>
<td>Its Dangerous to Go Alone</td>
<td>Melissa Jane Lewis</td>
<td>Essay</td>
</tr>
<tr>
<td>10-Jun-20</td>
<td>To Bloom New Possibilities</td>
<td>Hélène Sellier</td>
<td>Essay</td>
</tr>
<tr>
<td>11-Dec-19</td>
<td>The Burden on Our Back</td>
<td>Ciaran Devlin</td>
<td>Essay</td>
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<td>04-Dec-19</td>
<td>The Burden on Our Back</td>
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<td>A glimpse of the blockchain</td>
<td>Christopher B. Patterson</td>
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<td>23-Oct-19</td>
<td>Mars Exploration: A Short Stay In Station Square</td>
<td>Amanda Caldwell</td>
<td>Essay</td>
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<tr>
<td>15-Nov-19</td>
<td>Dreaming of Zion</td>
<td>Megan Perram, Astrid Enosun, Cara Ros</td>
<td>Essay</td>
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<td>22-Apr-20</td>
<td>Modern Mechanics of Red Dead Redemption II Old West</td>
<td>Sabrina Sgandurra, Patrick Dolan, and Lillia</td>
<td>Essay</td>
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<td>18-Sep-19</td>
<td>Queer Modding</td>
<td>Sabrina Sgandurra, Patrick Dolan, and Lillia</td>
<td>Essay</td>
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<td>08-Jul-20</td>
<td>Remonetizing Nostalgia</td>
<td>Markus Russin</td>
<td>Essay</td>
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<td>03-Jun-20</td>
<td>We’re Gonna Crash</td>
<td>Porter Simmons</td>
<td>Commentar</td>
</tr>
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<td>05-Feb-20</td>
<td>Interview: Melos Han Tani</td>
<td>Melissa Jane Lewis</td>
<td>Essay</td>
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<td>19-Jun-20</td>
<td>A Multimodal Approach to Video Games and the Player</td>
<td>Gerald Voorhees</td>
<td>Essay</td>
</tr>
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<td>06-Nov-19</td>
<td>An Interview</td>
<td>Betsy Brey, Chris Lawrence, and Rob Patino</td>
<td>Essay</td>
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<tr>
<td>26-Feb-20</td>
<td>A Multimodal Approach to Video Games and the Player</td>
<td>Gerald Voorhees</td>
<td>Essay</td>
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<td>Participants</td>
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<td>First Person Podcast Episode 30</td>
<td>Betsy Brey, Justin Carpenter, Chris Lawrence, Sarah Stang</td>
<td>Standard</td>
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<td>Winter 2017</td>
<td>First Person Podcast Episode 17</td>
<td>Alexandra Orlando, Rob Parker, Chris Lawrence, Cameron Kunzelman</td>
<td>Standard</td>
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<td>Winter 2017</td>
<td>First Person Podcast Episode 16</td>
<td>Alexandra Orlando, Betsy Brey, Shawn Dorey, Alex Fleck</td>
<td>Standard</td>
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<td>Winter 2016</td>
<td>One True Games</td>
<td>Emma Vossen, Robert Parker, Alexandra Orlando, Chris Lawrence, and Betsy Brey</td>
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<td>Spring 2017</td>
<td>First Person Podcast Episode 20</td>
<td>Alexandra Orlando, Rob Parker, Rina Wehbe</td>
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<tr>
<td>Spring 2017</td>
<td>First Person Podcast Episode 18</td>
<td>Alexandra Orlando, Betsy Brey, Rob Parker, Shawn Dorey</td>
<td>Standard</td>
</tr>
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<td>Winter 2020</td>
<td>(Re)Coding Survivance: Sovereign Video Games Special Issue</td>
<td>Michelle Lee Brown, Beth LaPensée, Maru Nihoniho, Meagan Byrne, and Betsy Brey</td>
<td>Special Issue</td>
</tr>
</tbody>
</table>

*Note: Recorded interviews have not been added as part of this section. Rather, they are found under the "articles" section, since they are accompanied by a written piece.*
Appendix 7. Support Letters
November 23, 2020

Professor Charmaine Dean  
Vice-President Research and International  
Co-Chair, Senate Graduate and Research Council

Dear Professor Dean,

On behalf of the Faculty of Arts, I am writing to express my strongest support for the renewal of the Games Institute (GI) funding for an additional five-year period. The Institute is a glowing example of Arts-led interdisciplinarity, bringing together researchers from Arts, Engineering, Health, Math. The scholarly pursuits of the Institute resonate with the 2020-25 Strategic Plan in several dimensions, specifically creating “opportunities for cross-Faculty, interdisciplinary research teams that use disciplinary strengths to address problems of societal importance”. A favourite highlight is the Human Computer Interaction + Health Lab, an outstanding initiative addressing the role of games in education and in the promotion of healthy living, successfully developing games with impact at the “interface of society, health and technology”. Furthermore, the GI has a strong commitment to anti-discrimination attitudes in the academy, often lending its voice to equity seeking groups. The recent addition of the qCollaborative group specifically creates an inclusive space for marginalized and targeted communities to create and disseminate research relevant to their groups, thus “improv[ing] the representation, participation and engagement of equity-seeking groups within our community” (2020-25 Strategic Plan).

Within the GI, there are twenty Arts-faculty members representing a variety of disciplines, such as English (home department of the Director of the Institute, Professor Randall), Communication Arts, Sociology and Legal Studies, Psychology, and a strong connection to the Stratford School of Interaction Design and Business. Hence, the Faculty of Arts has been a significant beneficiary of GI research activities and initiatives, most directly in the form of Tri-Agency grants in support of Arts members’ research projects and grants from the Canada Foundation for Innovation funding the Institute’s infrastructure. The Director of the Centre is the PI in a multimillion SSHRC Partnership grant and three CFI grants, and is a co-applicant in two additional Tri-Council grants. Professor Randall is also the PI in ten grants in partnership with public and private institutions, including seven Mitacs grants. Additional Tri-Council support through other members of the GI over the past five years, as PI or Collaborator, include three...
NSERC grants, two SSHRC Connection grants, two SSHRC IDG, and one SSHRC Partnership grant. Members of the Institute have also attracted funding through partnerships with private and financial institutions through Mitacs grant programs, as well as one further CFI grant to support supplementary infrastructure at the GI. The GI engages with a number of government and industrial partners, from game developers and commercial banks, to Correctional Services Canada or the Public Health Agency of Canada, that benefit from the multidisciplinary lens offered by the institute. These partnerships in turn have offered excellent opportunities for experiential learning to Arts students.

The GI supports the training of HQP through direct mentorship of graduate students and post-doctoral fellows (115 of them in 2019-2020 alone!) and supervision of thesis work. Arts graduate students in particular are regularly supported through a variety of members’ grants and work opportunities at the institute, allowing them to develop broad sets of skills that are valuable within and beyond academia. Over the past five years, a combination of 55 graduate students, post-doctoral fellows, and research associates have been in residence at the GI space in East Campus 1 (this means they have been provided cubicle space to assist with the progress of their research). The GI is currently home to four post-doctoral research fellows, three of them from the Faculty of Arts. Recent applications to various post-doctoral programs, including the prestigious Banting, reveal that newly-minted ARTS PhDs from other universities are eager to conduct their post-doctoral studies as fellows associated with the GI.

The GI further supports the work of their affiliated graduate students through facilitating travel to the Canadian Games Studies Association meetings that are held annually as part of the Congress for the Social Science and Humanities. Over the past five years, more than 20 students have had the opportunity to attend the primary academic game studies organization conference in Canada, present their work, network with fellow students and scholars, and spark even more ideas and potential collaborations. The GI has been fundamental in encouraging these experiential opportunities that are core to graduate student training.

It is also noteworthy that the GI is supportive of undergraduate students in ARTS. Since 2013, the GI has hired one co-op student a term (three a year), with the majority of them from the Faculty of Arts. One of GI’s undergraduate co-op students, Emily West (Psychology) received the Arts Faculty Co-op Student of the Year Award in 2016, and another – Kaitlin O’Brien – was hired post-graduation as a full time Graduate Recruitment Officer in the Faculty of Arts.
The GI impact is enhanced by an excellent strategy for knowledge dissemination, through the digital publication *First Person Scholar* and the *GI podcasts*. These platforms regularly showcase the contribution of Arts members and students in adherence to the goal of the Strategic Plan to “understand and enhance human experiences and address the human dimensions of global challenges and examine ways to translate knowledge for governance and policy”. These platforms have a substantial national and international following. In particular, *First Person Scholar* has recently been recognized by the Ivy Plus Libraries Confederation and it appears as recommended reading in games studies syllabi around the world. Hence, the research undertaken within the Institute contributes to raising the international profile of the University of Waterloo in advanced research and learning.

The GI provides an excellent space for scholars from Arts and other Faculties to engage in truly innovative collaborative research and teaching. The continued support for the GI will provide greater and more diverse opportunities for our faculty and students. The Faculty of Arts fully supports the renewal of funding for the Institute.

Sincerely,

Sheila L. Ager  
Dean, Faculty of Arts
November 26, 2020

Professor Charmaine Dean  
Vice-President Research and International  
Co-Chair, Senate Graduate and Research Council

Dear Dr. Dean,

I am writing to express my strong support for the renewal of the Games Institute (GI) for an additional five-year period.

As a university research institute, the Games Institute has as its primary goal the exploration, process, production, and dissemination of top-quality research. Focusing on games studies, games-related research, and interactive technologies, the GI uniquely draws in researchers from all disciplines and provides an inter- and transdisciplinary environment where innovative modes of knowledge can thrive.

From its inception in 2010, the Faculty of Engineering has been closely involved in the leadership of the Games Institute with our faculty members Dr. Stacey Scott (Systems Design Engineering) and Dr. Mark Hancock (Management Sciences) serving as GI’s inaugural and current Associate Directors, respectively. Indeed, the Games Institute was co-founded by Dr. Scott alongside Drs. Karen Collins (Communication Arts), Chrysanne DiMarco (Computer Science), and Neil Randall (English), the inaugural and current GI Executive Director.

The Games Institute actively supports the work of ten Engineering faculty members and over 30 graduate students and post-doctoral fellows who, drawn by the GI’s interdisciplinary research ecosystem, have chosen to work in the GI facilities in East Campus 1 as a supplement to their spaces in their home departments. This includes collaborative work and research space where individuals are exposed to a variety of research methodologies and knowledge from disciplines they would not otherwise easily interact with in the normal course of their programs. In fact, two of Engineering faculty, Drs. Mark Hancock and Oliver Schneider, have integrated their CFI-ORF funded research infrastructure into the GI to extend their multidisciplinary collaborations and offer additional resources to the GI membership at large – indeed, all six CFI-funded infrastructure projects in the GI are shared by the entire ecosystem, another significant draw for researchers. We are also aware that this collaborative ecosystem played an important role in attracting a number of junior faculty members (including in Engineering) who have now joined the University.

The Faculty of Engineering has also benefited from a number of grants as well as sponsored research where the existence of the Games Institute played a key role in the award. Most notably, this includes the NSERC-CREATE Saskatchewan- Waterloo Games User Research training program which is based at the GI and includes a multi-disciplinary team of researchers from five departments (Management Sciences, Systems Design Engineering, Computer Science, Communication Arts and English) and three Faculties (Engineering, Math and Arts) at UW. Other examples of excellence in training and mentorship of HQP come from the movement
of GI students and graduates: Cayley MacArthur who chose to enter a PhD program in Management Sciences following a Master's degree in English or Deltcho Valtchanov who was hired as a post-doctoral fellow (PDF) in Engineering following the completion of his PhD in Psychology. In fact, Dr. Valtchanov’s PDF appointment was funded by a Mitacs grant with Axonify Inc. where he – since becoming Axonify’s full-time employee – now supervises the work of yet another Engineering Master’s student via a new Mitacs internship.

Certainly, these examples show how closely GI’s activities are aligned with UW’s Strategic Plan Impact Theme of developing talent for a complex future by: “remov(ing) barriers to collaboration, interdisciplinarity and the integration of knowledge” and “foster(ing) an interdisciplinary environment for graduate students and post-doctoral scholars to increase the impact of their work.”

It is noteworthy that inter- and transdisciplinary initiatives are not restricted to student training and mentorship. A new initiative stemming from the GI’s impressively unique research ecosystem, led by Engineering faculty Dr. Oliver Schneider, has been formulated and submitted for consideration to the New Frontiers in Research Fund by a team of GI researchers from Management Sciences, Kinesiology, Communication Arts and Social Development Studies. The proposed project aims to address an important societal issue of amplifying the voices from marginalized communities through VR and haptic technology to promote social justice actions. Dr. Schneider noted in his support statement for the Games Institute that “… without the GI, I would never have engaged with Profs. Barnett-Cowan, Roberts-Smith, and Llewellyn to submit our Interdisciplinary Trailblazers grant ... and our $250,000 NFRF Exploration application...”

The Games Institute is also keenly aware of the importance of network building with other academic institutions, industry, non-profit and public sector institutions. The most recent example of such an endeavour is the CanHaptics network, a collective of researchers, industry practitioners, and community stakeholders across Canada supported by the Games Institute. The goal of the network is to make technology more human by making it physical - pushing out from the screen to be graspable, holdable, and engage with all human senses - and do so by putting people, not technology, first.

These two initiatives clearly respond to UW’s strategic goals of using “its disciplinary and interdisciplinary strengths to solve increasingly complex, real-world problems” by “explor(ing) opportunities to create cross-Faculty, interdisciplinary research teams that use disciplinary strengths to address problems of societal importance”.

In summary, the Games Institute is a unique and innovative research centre which, in my opinion, has proven its value to the Faculty of Engineering and to the University community as a whole and - as it expands and reaches its full potential – promises to deliver more innovative support for University research and training activities. On behalf of the Faculty of Engineering, I fully support the renewal of Games Institute’s mandate for another five years.

Sincerely,

Mary Wells
Dean, Faculty of Engineering
December 7, 2020

Dr. Charmaine Dean
Vice-President of Research and International

Re: Games Institute, University Research Centre, 5-Year Review

I am writing to provide my strong support for the continuation of the Games Institute as a University Research Centre for the period 2020-2025. My support is based on its delivery of unique, high-impact, interdisciplinary and inter-Faculty activities.

The uniqueness comes from its focus – the study of games, gamification, interactive technologies and immersive environments—something that spans the breadth of disciples and has importance for virtually all aspects of contemporary life, from education, training and employment to recreation, travel, and art.

Its impact comes from its collaborative approach and the ways in which the Institute has supported research and educational opportunities across campus. Several examples from the Faculty of Environment are outlined below:

1. Susan Elliott’s GET-FACTS CIHR knowledge mobilization grant, in which Games Institute PhD students created two games designed to help educate people about issues surrounding food allergies in children.
2. Illuminate – ICCC project in which the Games Institute contributed the design of a game, called Illuminate (https://ic3uwaterlooca.itch.io/illuminate) designed to help a general public (this will be a museum exhibit) understand the complexities of climate change.
3. Aviation cluster – working with Suzanne Kearns and others on research into the design of game-driven simulation training for pilots.
4. WISE – The Games Institute was part of the McArthur Foundation proposal submitted by Jatin Nathwani of WISE to work on serious games to help African refugee communities develop training for sustainable energy.
5. VR lab development – support for Michelle Rutty’s CFI application related to tourism.

I look forward to working with and supporting the Games Institute as they continue to evolve over the next five years. It is a true jewel in working across disciplinary boundaries that sometimes divide us.

Sincerely,

Dean, Faculty of Environment
December 4, 2020

Dr. Charmaine Dean
VP Research and International

RE: Letter of Support for Games Institute

Dear Dr. Dean:

On behalf of the Faculty of Applied Health Sciences, I am providing a letter in support of a 5-year Senate renewal of the Games Institute (GI) at the University of Waterloo. The Games Institute is an important organization to researchers in the Faculty of Applied Health Sciences (to become Faculty of Health in January 2021).

I anticipate that the Games Institute and the Faculty of Applied Health Sciences (AHS) will increase collaboration in the next several years. This is in part because of the vast interest in the role of games, virtual reality, augmented reality, and virtual reality applied to health. It is also because the Games Institute will be the home of the Network for the Virtual Future, with a major focus on virtual and digital health. I foresee extensive synergies.

Initially approved by Senate in 2010, the Games Institute was founded by faculty members from Arts, Engineering, and Math. The institute was renewed by Senate in 2015, and in 2017, became one of the University Centres and Institutes. I understand that the Games Institute is seeking renewal for another five years.

With respect to impact, nine students and post-doctoral fellows in AHS have engaged with the Games Institute, including four Master’s students, three PhD students, and 2 post-doctoral fellows. Five researchers representing all three academic units in our Faculty, are engaged with the Games Institute: Michael Barnett-Cowan (Kinesiology or KIN) and Jim Wallace (School of Public Health and Health Systems or SPHHS) have strong and established collaborations in the Games Institute. Luke Potwarka (Rec & Leisure) and Kaylena Martens (KIN) have begun their relationships with the Institute. For my own research program in the SPHHS, two of my post-doctoral fellows are collaborating with GI Executive Director Neil Randall, and others to create knowledge mobilization online tools using games theory. The Games Institute offers an interdisciplinary ecosystem that attracts researchers and their students.

The Games Institute has facilitated research funding to faculty members in the Faculty of Applied Health Sciences. Below is a list of selected grants awarded (wholly or in part) to our faculty where their co-applicants stem from the Games Institute in other faculties:

- **UW Trailblazer**: $80k cash; PI: Michael Barnett-Cowan (KIN), GI co-PI: Shi Cao (SYDE);
  Designing adaptive virtual reality exergames for people living with dementia
• **Network in Aging Research Catalyst:** $20K cash; **PI: Michael Barnett-Cowan (KIN), GI co-PIs: Jennifer Boger (SYDE), Shi Cao (SYDE); Virtual Reality Exergames to Improve Access to Strength Grant and Range of Motion Exercise among People Living with Dementia**

• **MITACS: StressWelliQ**, $240K cash; **Co-PI: Jim Wallace (SPHHS), GI co-PIs: Lennart Nacke (CommArts), Mark Hancock (MSCI); StressWelliQ – platform for gamified technology solutions for stress management

• **NSERC CREATE: Saskatchewan-Waterloo Games User Research (SWaGUR)** – $1.65 M cash; **Collaborator: Jim Wallace (SPHHS), GI Co-applicants: Mark Hancock (MSCI), Lennart Nacke (CommArts), Neil Randall (English), Stacey Scott (SYDE).** Based at the Games Institute, SWaGUR brought together a multidisciplinary team at the Universities of Saskatchewan and Waterloo with the long-term goal of training 85 HQP in Games User Research. Addressing human-computer interaction, digital information, and communications technologies, this initiative generates technologies and provides training to develop technologies that change how people interact with digital information.

• **AGE-WELL NCE:** Alberta Rating Index for Apps (ARIA) - $10K; **Lili Liu (PI), GI Collaborators: Neil Randall;** ARIA’s online website helps the general public and health care providers rate the quality of the health care apps. It is a collaboration between a postdoctoral researcher in Rehab Sciences (University of Alberta) and a PhD candidate in Rhetorical Theory (Waterloo).

• **AGE-WELL NCE:** $20K; **Lili Liu (PI);** Knowledge mobilization of a strategy guideline to reduce risks associated with getting lost among persons living with dementia. It is study conducted by post-doctoral fellow in collaboration with GI member Leah Zhang-Kennedy (Stratford campus) and co-op student.

• **CFI JELF/ORF grants:** $140K; **PI: Jim Wallace; HCI+ Health Lab;** Awarded to AHS faculty and located at GI, **PI: Jim Wallace; HCI+ Health Lab (originally, Interactive Data Exploration and Analysis System), 2017.** Dr. Wallace’s HCI+ Health Lab and other CFI funded infrastructure/labs form GI’s collaborative and inter-disciplinary research ecosystem. Additional labs available to Engineering students and faculty and located at the GI include: **Haptics Computing Lab** (in construction), **Waterloo Games Analysis and Monitoring Environment, WatVRStory Lab,** and the **Storyboard Lab** (in construction). Students and faculty researchers benefit from ongoing collaboration, exchange of knowledge and ideas as they take advantage of the co-located labs and other research infrastructure.

**Other Research Outputs: Games**

The following is a selection of games or interactive media produced by students or faculty in the Faculty of Applied Health Sciences:

- **Merlynne**, created by graduate student Tina Chan (SPHHS), supervised by Dr. Jim Wallace (SPHHS). Merlynne is a single player role-playing game that asks the player to advance the narrative by offering support, advice, and encouragement to non-player characters by using techniques from cognitive behavioural therapy (CBT).

- **Pirate Bri’s Grocery Adventure**, created by graduate student Marcela Bomfim (SPHHS) supervised by Dr. Jim Wallace (SPHHS). Pirate Bri’s Grocery Adventure (PBGA) is a gameful mobile app designed to improve student’s food literacy through a situated learning approach to grocery shopping. PBGA combines in-game experiences with the real-life activities of
planning at home and selecting foods at the grocery store. PBGA is grounded in Self-Determination Theory (SDT), supporting the psychological needs of competence, autonomy, and relatedness to motivate self-efficacy for long-term healthy behaviour change.

- **Quantum Cats**, created by Dr. Jim Wallace (SPHHS) and graduate student Victor Cheung (SYDE), supervised by Dr. Jim Wallace (SPHHS). Quantum Cats is a mobile game that allows players to learn and engage with concepts from quantum physics. It was created by a team of researchers from the Institute for Quantum Computing (IQC) and the Games Institute. Dr. James Wallace (SPHHS) and graduate student Victor Cheung (SYDE) are credited for the conceptualization and design, Mike Brown (GI) and Jagger Nast (GI) are credited for the programming, and Keith McLean (independent) is credited for the art. Quantum Cats was featured in an exhibit at the Ontario Science Centre exhibit "Quantum: The Exhibition” and the MUSEUM in Kitchener. The game was publicly released on both Android and iOS platforms and has been downloaded more than 10,000 times and was presented at the ACM Conference of Interactive Surfaces and Spaces (ISS 2016).

**Other Initiatives**

- **Incorporating Social Justice into Haptic VR Storytelling**

Submitted for consideration to NFRF Exploration program, PI: Oliver Schneider; co-applicants: Michael Barnett-Cowan (KIN), Jennifer Roberts-Smith, and Kristina Llewlleyn. This interdisciplinary proposal boasts a collaboration between GI faculty from MSCI, Kinesiology, Communication Arts and Social Development Studies. As per the statement from the PI:

> “Without the GI, I would never have engaged with Profs. Barnett-Cowan, Roberts-Smith, and Llewlleyn to submit our Interdisciplinary Trailblazers grant ... and our $250,000 NFRF Exploration application...”

The project proposes to retarget development of VR environments and their interfaces to be guided by social justice so that voices from marginalized communities can tell their stories to broad audiences.

- **Virtual Reality Working Group**

Led by Michael Barnett-Cowan (KIN) and Neil Randall (English), the VR Working Group is a Games Institute collaboration initiative for researchers interested in exploring the opportunities VR technology affords. The Working Group meets, on an alternating schedule, at the GI facilities (EC1) and at Barnett-Cowan’s Multisensory Brain and Cognition Lab (TJB) once per week to discuss topics of interest. The group’s membership includes graduate students from AHS, Arts, Math-Computer Science and Engineering. Scholars in the humanities and social sciences working in areas such as literature, history, anthropology, and psychology, recognized long ago the capacity for language and narrative to increase engagement with a story or topic and thus to enhance the flow of information between communities and cultures.
• **Human-Computer Interaction Research Group**

Led by a multi-disciplinary group of GI faculty members (including, Engineering, Math-Computer Science, Arts and AHS), Human-Computer Interaction (HCI) Group is a central collaboration initiative for GI members involved in HCI research. Members of this research group stem from individual faculty-led labs; for example: HCI Touch Lab (Mark Hancock, MSCI), Haptic Computing Lab (Oliver Schneider, MSCI), **Multisensory Brain and Cognition Lab (Michael Barnett-Cowan, KIN)**, HCI+Health Lab (Jim Wallace, SPHHS), HCI Games Group (Lennart Nacke, Communication Arts/Stratford School), among others.

Clearly, the funding, outcomes and outputs generated by members of the Faculty of Applied Health Sciences through interdisciplinary opportunities provided through the Games Institute have been significant. I look forward to leveraging and expanding the Faculty of Applied Health Sciences contributions and engagement with the Games Institute over the next five years.

Sincerely,

Lili Liu, Dean
Dear Dr. Dean,

I am writing today on behalf of the Faculty of Mathematics to express my support for the Games Institute on its institutional renewal for the next five years.

Math faculty have been integral to the Games Institute since its inception. Notably, Dr. Chrysanne DiMarco, alongside Dr. Neil Randall, co-founded the Institute in 2010. Even in those early days, Drs. DiMarco and Randall understood the importance of a multidisciplinary approach to the study of immersive and interactive environments. They brought together faculty and students from various disciplines to apply for, and ultimately receive, a $2.54M SSHRC Partnership Grant to establish IMMERSe – a network of academic and industry partners to examine the rapidly growing field of games research. Dr. DiMarco again partnered with Dr. Randall on WatGAME, the Institute’s first CFI grant.

Over the next 10 years the Games Institute would welcome more Math faculty members and numerous Computer Science graduate students and postdoctoral fellows. Math representation in the Games Institute includes faculty from Computer Science and Statistics and Actuarial Science, specifically Dan Vogel, Ed Lank, Craig Kaplan, Ben Feng, Edith Law, Pascal Poupart, Chrysanne Di Marco (ret.), Vic DiCiccio (ICR, ret.), and Adjunct Professor Morgan McGuire. Additionally, a number of faculty members cross-appointed with the Cheriton School of Computer Science engage heavily with the institute – these include Mark Hancock (Associate Director of the GI), Lennart Nacke, Oliver Schneider, and James Wallace. The Games Institute has also been a workplace and collaboration space for six CS Masters students, twelve CS PhD students, and five CS postdoctoral fellows. Further, the GI’s technical support team has been led by CSCF since 2013, in particular CS staff members Lawrence Folland and Lori Paniak.

Perhaps the strongest connection between Math and the Games Institute is through the Waterloo Human-Computer Interaction (HCI) consortium. This multidisciplinary group of researchers focus on the interrelationship between human behaviour and activity and the connected world. With research spanning gesture-based interaction
to affective computing, from virtual reality to intelligent software systems, the collaboration between Waterloo HCI and the Games Institute has resulted in significant contributions to the academy through publications and conference presentations, but also in the understanding and development of impactful immersive technologies.

Looking to the next phase of the Games Institute, the interconnection between computer science, statistics, analytics and game-related research will only grow stronger as industries continue to recognize the benefits and impacts of interactive immersive technologies. As the institute builds its next major initiative, the Network for the Virtual Future, collaborations and intersections with the Faculty of Mathematics are expected to increase significantly. The Games Institute will invite these faculty and students into its growing community of diverse, inter- and multi-disciplinary researchers who will have impact in the academy, industry, and policy. Dr. Dean, I strongly recommend the Games Institute for renewal for an additional 5-year term and congratulate Dr. Randall and all the Games Institute membership on their continued success.

Yours truly,

Mark Giesbrecht
Professor and Dean
Faculty of Mathematics
November 28, 2020

Dr. Charmaine Dean  
Vice-President University Research  
University of Waterloo

Re: Games Institute renewal

Dear Charmaine:

On behalf of the Faculty of Science, I write to express my strong support for the 5-year renewal of the Games Institute (GI) as a University Institute. Thus far, our involvement with GI has been limited to one researcher, Prof Ben Thompson of the School of Optometry & Vision Science, but I am confident that the next five years will see more Science faculty engage with the Games Institute as it expands the use of games for innovative knowledge mobilization, including the enhancement of science communication; one such project with IQC has led to the production of interactive media for public outreach of elements of quantum research. Another area of future collaboration will focus on an upcoming initiative called the Network for the Virtual Future. It is expected that Science faculty will contribute to the research needed to understand the role of virtual technologies in the post-COVID world.

I look forward to working with the GI leadership in broadening the scope of Science faculty engagement with the Games Institute, and I support its 5-year renewal with enthusiasm.

Sincerely,

Robert P. Lemieux, PhD  
Dean of Science and Professor of Chemistry