DEPARTMENT OF KNOWLEDGE INTEGRATION ANNUAL REPORT
MAY 1, 2023 TO APRIL 30, 2024
Special Meeting of the Environment Faculty Council, May 2024

This year, KI celebrated the convocation of the twelfth group of Bachelor of Knowledge Integration students, hosted a 15-year anniversary reception, held the KI Exhibition of our third-year design course, and hosted the senior honours project symposium. The Bachelor of Knowledge Integration (BKI) students continue to do well, with excellent academic performance and involvement in a wide range of collaborative projects.

Recruitment

KI had an increase of first year students entering the program in September from the previous year, and has been focusing departmental efforts on increasing awareness to high school students. Our contracted work on developing marketing strategies finished in the summer, allowing us to begin the implementation of new strategies around website and social media efforts, recruitment events and materials, and more.

KI's Social Media Strategist student has helped engage prospective students through student day-in-the-life stories on Instagram, course highlights and student spotlight stories. Thanks to the Faculty of Environment's faculty-wide photoshoot in March 2024, KI's website now hosts some modern and compelling photos, helping refresh its look. Work is underway to update KI's website content and provide a clearer purpose, rationale, and incentive to prospective high school students and family members about the program. Further implementation and collaboration with the Marketing Undergraduate Recruitment team will be a focus for the coming year while ensuring that the KI program aligns with the University's Future Ready Framework and Environment 2030.

Events & Programming

Our second cyclical academic program review is wrapping up. The site visit last fall collected valuable input from external reviewers, both of whom were impressed with the program and the KI students.

Second-year KI students visited Barcelona, Spain, in May 2023 as part of their *INTEG 230 Museum Course* field trip to prepare them for their third-year design capstone. There, they immersed themselves in museums and culture, and honed their observational skills in a new environment.

In July 2023, KI hosted the Shad high school enrichment program on behalf of the university. Rob Gorbet was the Program Director, and former KI staff member Kim Boucher was the Program Manager. KI became the host of the Shad Waterloo campus when the BKI was founded – transferring over from Engineering with KI founder, Ed Jernigan. In 2024, Solène Jollivet will take over as Program Manager and Rob Gorbet will continue on as Program Director.

In March 2024, the students in the *INTEG 321 Museum Course* launched five exhibits aligned with the United Nations' Sustainable Development Goals. A record 821 visitors attended the KIX exhibits at St. Jerome's University over six days, including prospective students, alumni, and KW community members. In their exhibits, the students explored dreams and their relation to creativity and wellness; Nudge Theory and its influence on individual decision-making; third places and their importance for building resilient communities; the benefits of pretend play in adulthood; and greenwashing in marketing of sustainable products.

Three undergraduate KI students had the opportunity to present their research and design process from their KIX museum exhibit *Imagine That!* at the international Study for the Association of Play (TASP) conference in Rochester, New York. As the [only undergraduate students presenting at the conference](#), their talk was titled "Play in the Museum Format: Encouraging Make-Believe in Young Adults."

The Anti-Oppression Knowledge Integrators (AOK) working group, with KI Assistant Professor Mathieu Feagan serving as chair, continued their important work promoting anti-oppression and other EDIJ efforts in our curriculum and activities. This year, this included hosting a three-part seminar series on *Addressing Climate Complexity with Two-Row Learning: Indigenous & Western Knowledges*, in partnership with Dr. Leslie Wexler, Naomi Paul and Dr. Vanessa Schweizer. The KI Department is thrilled to announce Dr. Leslie Wexler's adjunct appointment in KI.

Celebrating 15-years of Knowledge Integration

In March 2024, KI celebrated its 15-year anniversary and the 2024 KIX exhibits alongside 150+ community members. The memorable night was filled with great conversations, inspiring remarks, delicious food, and discovery. It was a heartwarming event that brought the KI community together and looking forward to what the future holds for the program.

Knowledge Integration was created by Dr. Ed Jernigan, who at the time was professor and Chair of Systems Design Engineering at Waterloo and Program Director for the Shad Valley enrichment high school program. In 2004, Ed built a week-long enrichment program, called Waterloo Unlimited, for high school students modelled after Shad at the request of the Provost. During the development of this new program, Ed designed the undergraduate degree that would become Knowledge Integration alongside Kim Boucher, Paul McKone, Linda Carson, Stephanie Schmitke, and Rae Crossman.

In September 2008, KI welcomed its first cohort of students. Since then, KI has celebrated over 280 alumni who have gone into post-secondary education or into the workforce in diverse fields including designers, consultants, researchers, medical professionals, and analysts. We're grateful that our graduates continue to share their successes and support the KI community.

One of the benefits of KI's flexibility is the student's ability to create unique combinations of minors and specializations. To date, 62 KI grads have graduated with a double major across 17 different disciplines, and 197 KI grads have graduated with at least one minor or specialization across 45 different fields. Each Friday, KI students gather to hear from a guest speaker and connect as a community. Since its inception, there have been 337 KI seminars with over 15,800 total visitors and students in attendance. We look forward to discovering how our students and graduates will continue to apply their KI learnings.

Faculty and Staff Updates

Rob Gorbet's term as Chair wrapped up after many years of dedicated service since 2014, and Katie Plaisance served her first year as the new Chair. Vanessa Schweizer and John McLevey shared the role of Associate Chair, Undergraduate studies.

KI faculty have co-supervised three Postdoctoral Fellows, and we have been pleased to host two of them in KI. **Dr. Sara Doody**, co-supervised by KI Associate Professor Katie Plaisance and Ashley Rose Mehlenbacher, Associate Professor of English Language and Literature, continues to work on how inter- and transdisciplinary teams of researchers collaborate and communicate research both within teams and to the public more generally. **Dr. Stuart Schussler**, will begin the second year of his postdoctoral fellowship under the co-supervision of KI Associate Professor Katie Plaisance and Craig Fortier. Stuart is one of the

Provost's Interdisciplinary Postdoctoral Scholars. Dr. Christopher Orr, a Caivan Communities Postdoctoral Fellow co-supervised by Professor Sarah Burch in the Department of Geography and Environmental Management, Canada Research Chair and KI Associate Professor Vanessa Schweizer, is working on the transformative capacity of cities to create sustainable action agendas.

There were changes on the staff front. **Kim Boucher** moved to the Centre for Teaching Excellence after 15 years of working in, and helping establish, KI. Her contributions to the KI program and department will have long-lasting impact. **Solène Jollivet**, BKI 2020 grad, stepped into the Outreach & Administrative Manager position in September 2023, while still continuing to cover the Undergraduate Advisor role. In February 2024, she passed on the advising torch and KI welcomed **Emily Beilby** as KI's new Undergraduate Advisor.

Faculty Research Highlights

The KI faculty had another great year in their research and scholarly activities. Here are some highlights.

Rob Gorbet has been collaborating with colleagues at Laurier's Faculty of Education, on ways that the Meander installation in Cambridge might be used in K-8 education. Two projects are underway: how might Meander help students with autism or learning disabilities, and the creation of an early-reader based on Meander to get K-3 kids started early on interdisciplinary and creative thinking! He continues to produce the Living Dialogs podcast, now in its third season, and is excited to have been invited back to the Domaine de Boisbuchet art & design retreat to deliver a workshop this coming August.

Katie Plaisance continues to lead a SSHRC Insight Grant project on fostering meaningful collaboration between humanities and STEM researchers. The most recent phase of this project included a large-scale survey of over 2,000 scientists and engineers across Canada and the U.S. regarding their views towards interdisciplinary collaboration. She also co-authored a report and discussion paper on key barriers and facilitators regarding community-engaged research, which may be of interest to faculty and senior administrators at Waterloo. On the educational leadership front, Katie continues to engage in research on the Scholarship of Teaching and Learning (SoTL) and initiatives to improve teaching and learning at Waterloo and beyond. She recently published a paper evaluating the effectiveness of *INTEG 210: Making Collaboration Work* for enabling students across campus to improve teamwork experiences. (Note that this course is offered by KI every fall and is open to all 2A+ students who are *not* enrolled in KI. Rob Gorbet will be teaching the course this fall.) Katie also started working with Carrie Mitchell in Planning to launch WiSER@Waterloo: Wellbeing in Student Education and Research, which is being supported by a 2024 UW LITE grant. Under the leadership of Dr. Mitchell, WiSER will offer training workshops for faculty in Planning and KI to incorporate evidence-based practices that enhance belonging, wellbeing, and equity amongst undergraduate students; these practices were co-developed by WiSER's third member, Dr. Christine Logel in Social Development Studies at Renison. Finally, Katie just wrapped up her first year as Department Chair and is enjoying the opportunity to contribute to discussions among ENV leadership and work with the other fantastic Chairs and Directors!

John McLevey published his fourth book, *The Sage Handbook of Social Network Analysis*, co-edited with Dr. John Scott and Dr. Peter Carrington. On a personal note, John and his partner welcomed twin girls in November 2023. John is on parental leave to spend some quality time with his family.

Vanessa Schweizer co-organized with interdisciplinary Steering Committee members of the Waterloo Institute for Complexity & Innovation (Prof. Dawn Parker, School of Planning; Prof. Chrystopher Nehaniv, Systems Design Engineering) a joint workshop with the Fields Institute of Mathematical Sciences on

"Mathematics for Complex Climate Challenges" in May 2023. She also continues to co-lead (with Prof. Eric Croiset, Chemical Engineering) a Climate Action and Awareness Fund project (managed by ECCC) on dynamic adaptive policy pathways for direct air capture deployment in Canada. The 2023 phase of the project included a workshop in Ottawa eliciting expert views on drivers of widespread direct air capture deployment after 2050. Related to this project, one of Dr. Schweizer's trainees lead-authored a publication in the journal *Applied Energy* about key uncertainties in global projections of direct air capture deployment. During the Winter 2024 term, she offered the first Special Topics course on Climate Interventions at the University of Waterloo. She is also the Chair of the newly formed Canadian Regional Group for the international Decision Making under Deep Uncertainty Society. Schweizer's methodological research on modeling evolutionary pathways of socio-economic systems as well as the development of a reflexive framework for scenario analysis in sustainability science lead-authored by one of her trainees appeared in the journals *PLOS ONE* and *One Earth.*

Mathieu Feagan's research uses different ways of knowing to advance just transitions towards sustainable and equitable futures. The year started out with a successful LITE grant from the Centre for Teaching Excellence, enabling a series of Two-Row Learning sessions on climate complexity, co-designed with Indigenous colleagues and KI's Anti-Oppression Knowledge Integrators working group (AOK). This work has led to an article submitted (under review) to a special edition of the journal *New Directions in Teaching and Learning, on "* Walking together on parallel paths." And thanks to RA and PhD student Naomi Paul and Postdoc Abby Kulisz, another article is in planning based on interviews with participants to better understand the opportunities and barriers for creating ethical space in which Indigenous and Western knowledge can provide supporting learning environments for working on climate change issues. Moreover, Feagan's research has drawn local and international attention, featured in a chapter led by Julia Burke in an edited volume entitled *A Multi-Voiced Story: The Evolution of Climate Change Education at the University of Waterloo, Canada*, as well as in a new briefing report by the European Environment Agency entitled "Delivering Justice in Sustainability Transitions." Probably the biggest highlight of the year has been submitting to the New Frontiers In Research Fund - Exploration competition, for a project entitled, "Just transitions as consciousness change: Learning with front-line communities," which brings together Indigenous, migrant, and settler community struggles in Southern Ontario, Phoenix, and Bogota to develop new intersectional frameworks for bottom-up approaches to just transitions.

On behalf of the Department of Knowledge Integration I'd like to thank the faculty, staff, and students of the Faculty of Environment for their collegiality and support as we continue to build this innovative approach to undergraduate education.

Submitted by: Katie Plaisance, Chair, on May 21, 2024