This year, KI celebrated the (virtual) convocation of the ninth group of Bachelor of Knowledge Integration students, and shared online the annual senior research project symposium.

The Bachelor of Knowledge Integration (BKI) students continue to do well, with strong academic performance and involvement in a wide range of collaborative projects.

We had another strong group of first year students entering KI in September, and maintained our application numbers for Fall 2021. Despite these successful stories, figuring out how to target and market the program remains a challenge, and will be a focus for the next few years.

Our graduates also continue their successes, and continue to stay connected with and supportive of the KI community. They went into post-secondary education or into the workforce in diverse fields including designers, consultants, researchers and strategists.

The pandemic caused us to cancel the INTEG 230 Museum Course field trip to Copenhagen due to travel restrictions. All KI courses went online (remote learning), and we’ve stepped up to the challenge to keep students engaged while we are all missing the in-person connections in the KI Studio. Both INTEG 320: Museum Course: Research and Design and INTEG 321: Museum Course: Practicum and Presentation were also cancelled due to the complication of creating design exhibits during remote learning. INTEG 10, the KI seminars, this year had extra emphasis on community-building and we are providing a valuable mix of opportunities fitting with the all-online demands.

The Anti-Oppression Knowledge Integrators (A-OK) working group was formed with a vital mandate to identify opportunities to advance anti-racism and anti-oppression in our curriculum and extra-curricular activities, and contribute the broader anti-oppression cause. KI Associate Professor Vanessa Schweizer is serving as the first chair, and the group participating in training, hosted INTEG 10 students seminars, and developed a web page to sharing their progress and resources.

KI students were involved in many extracurricular projects and several presented their work at academic conferences. The Journal of Integrative Research & Reflection (JIRR), a cross-disciplinary undergraduate journal entirely edited, reviewed and administered by students from KI, continues to provide a valuable platform for student work.

Our donor-funded KI Student Experience Awards have supported valuable student opportunities. This year, recipients used their funding to create a kit to teach the elementary school coding curriculum, edited a book of poetry, developed a pilot program to eliminate single-use items and plastics in Banff, created a documentary about science hesitancy and science denialism, and researched the impact of humidity on long-term care homes.

Clarence Woudsma, former Director of the School of Planning and long-time friend of KI, is supporting KI as interim chair while Rob Gorbet is on sabbatical.

The KI faculty had another great year in their research and scholarly activities, as they adapted to the challenges the pandemic has presented.
Rob Gorbet spent a crazy summer trying to adapt to leadership in a pandemic, and was glad to go on sabbatical in September. Thank you Clarence for stepping in and taking care of the KI folks so well! On sabbatical, Rob has been busy with a whole list of projects that feature his unique balance of engineering, design, science and art! First, A collaboration with local artist Gary Kirkham on a 30’ sand pendulum that is instrumented to allow for real-time electro-acoustic composition based on the pendulum location. Watch for a performance coming to KW this fall! There is also a collaboration with current Performing Arts in Toronto, on infrastructure for a series of GPS-location triggered dramatic performances of storytelling and walking-theatre in Toronto neighbourhoods. Rob has also been busy preparing for Grove, the Living Architecture Systems Group’s invited contribution to the 2021 Venice Biennale of Architecture, opening May 22 2021. On the education front, Rob is contributing important service via Co-Chairing the Education Onward Council, a group of two-dozen school board directors from across Canada meeting regularly to discuss K-12 pandemic education. He is producing the Living Dialogs, a series of podcasts/webinars whose goal is to bring the ideas and language of Living Architecture to a generalist audience. www.lasg.ca/living
And Co-leading an 8-month project with Riverview High School in Riverview NB in which kids are engaged in a big STEAM project to create an interactive light fixture for their local theatre. Finally, Rob was very busy submitting a big stage one SSHRC Partnership Grant proposal for Integrated Living Architecture Systems; a $2.5M ask to SSHRC to complement over $4M in secured partnership cash and in-kind funding.

In 2020-21, Katie Plaisance made several important research contributions to her own discipline (philosophy of science) as well as related scientific fields. This included publishing the first qualitative study of the broader impacts of philosophy of science, specifically focusing on the influence philosophers of science have had in scientific domains. She will be continuing this line of research over the next five years through a SSHRC-funded project on “Engaging Science with Philosophy: Best Practices for Fostering Effective Collaboration,” which seeks to leverage philosophy in ways that improve STEM research. Katie has also continued to collaborate with scientists herself as part of a larger research program on Genetics and Human Agency. Last fall, Katie and her collaborators published the empirical results from the first-ever randomized intervention study with twins, entitled, “Can a Brief Intervention Alter Genetic and Environmental Influences on Motivational Constructs? An Experimental Behavioral Genetics Approach.”

More recently, Katie has also developed a new research program on the concept of a Collaborative Mindset. This includes her Scholarship of Teaching and Learning (SoTL) research on effective ways to teach collaborative skills (especially interdisciplinary collaboration), as well as an investigation of the relationship between social diversity on teams and the role of psychological safety for improving team outcomes. Over the past year, Katie has worked to integrate this line of research with her existing research projects as well as her courses and her pedagogical practices. For example, in 2020, she was invited to give the keynote presentation on Excellence in Team Science Undergraduate Education at the annual International Science of Team Science (InSciTS) conference; this in turn, has led to a number of consulting opportunities related to teaching and facilitating interdisciplinary collaboration, especially in science teams. She has also developed and disseminated a new tool that uses collaborative principles to enact anti-racist and inclusive pedagogy. This initiative is part of Katie’s work as an educational researcher, leader, and innovator, which contributed to her nomination for a 3M National Teaching Fellowship in 2021.

John McLevey published the research monograph Industrial Development and Eco-Tourisms with Mark Stoddart and Alice Mattoni, comparing the social, economic, and political dynamics of these two development strategies in Norway, Scotland, Denmark, Iceland, and Newfoundland and Labrador. His book Doing Computational Social Science with Sage UK also went into production. He co-edited a special issue of Society & Natural Resources with Vanessa Schweizer and other colleagues on climate change and energy futures, and a special issue of Social Networks on the topic of social networks, climate change, and socio-ecological systems, which will be published in 2021. In addition, he published journal articles and book chapters on a variety of methodological topics, including computational network science, network methods for substantive research on collective action and social movements, and practices for improving
reproducibility, accountability, and transparency in machine learning research. John received a SSHRC Insight Grant for his new project “Disinformation, Democracy, and Online Political Deliberation” and a supplement from the Department of Canadian Heritage’s Initiative for Digital Citizenship. He also completed two large government research contracts on disinformation campaigns in Canada and the UK, and co-authored a research report “COVID-19 Pandemic and Canadian Schooling” for the Education Onward Council convened by Fair Chance Learning in response to the COVID-19 pandemic with Janice Aurini, Rob Gorbet, Allyson Stokes, and Jessica Ritzk. John also developed and released new open source software for reproducible and transparent statistical computing. On the teaching side of things, John developed a new KI course Bullshit, Bias, and Bad Arguments and his course Computational Social Science has been growing rapidly. He co-taught a week-long course on computational social science methods at GESIS in Germany (ranked the top quantitative methods institute in Europe) with KI-alum Jillian Anderson right before the start of the pandemic.

Vanessa Schweizer was granted tenure as of July 1, 2020; this is a critical milestone achievement for Vanessa and recognition of her excellence as a scholar and educator. In 2020-21, Vanessa became the Global Young Academy Co-chair on one of the Focal Areas for this year, Anti-discrimination in Science. She also became the faculty representative for AOK. She lead-authored an invited primer in the open-access journal One Earth on the carbon-dioxide removal scenarios published in the IPCC Special Report on Global Warming of 1.5°C. She and her students presented co-authored conference papers on the topics of conflict resolution and decision support systems at the IEEE International Conference on Systems, Man, and Cybernetics. On the topic, “How Achievable are the Sustainable Development Goals?”, Vanessa was an invited panelist on the Global Insights series webcast by the Balsillie School of International Affairs.

Jessica Martinson joined us in February as our new KI undergraduate advisor, building on her experience extensive advising experience and value of student development, and has done an excellent job connecting with the students. We are grateful that Darlene McGeer, our former undergrad advisor, came out of retirement to support the students until Jess was available to start in the role.

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: Clarence Woudsma, May 11th 2021