First Annual Centre for Health Innovation Spring Symposium

Innovation for Good

June 6 – 7, 2022

School of Medicine Building

Queen's UNIVERSITY

Centre for Health Innovation

Kingston Health Sciences Centre

Centre des sciences de la santé de Kingston

Hôpital Hôtel Dieu Hospital   KGH Hôpital Général de Kingston General Hospital

Program Overview
Talks will be broadcast via Zoom

Day 1 — June 6th, 2022

8:30 – 8:45	**Indigenous Elders Welcome** Clinton Doxtator	Lecture Theatre (Room 132A)
8:45 – 9:00	**Opening Remarks** Elizabeth Eisenhauer, Amber Simpson	Lecture Theatre (Room 132A)
9:00 – 10:50	**Session 1: Biobanking** Chairs: Michael Rauh, Eva Slotman	Lecture Theatre (Room 132A)
10:50 – 11:00	**Break**	Atrium
11:00 – 12:50	**Session 2: From Cells to Communities** Chairs: Maria Aristizabal, Roshni Rainbow	Lecture Theatre (Room 132A)
12:50 – 1:30	**Boxed Lunch** (for in-person attendees)	Atrium
1:30 – 3:05	**Session 3: Better Living Through Chemistry** Chairs: Lindsay Fitzpatrick, Yuxi Zhang *Including Keynote Presentation:* *Carbon-to-metal Coating Institute: Navigating the grant process* Chantelle Capicciotti, Cathleen Crudden	Lecture Theatre (Room 132A)
3:05 – 3:45	**Poster Session 1 & Demos**	Grand Corridor/ Demo Rooms TBA
3:45 – 4:30	**Panel Session:** *Medical device design and use: what does sex have to do with it?* Katrina Gee, Susan Phillips, Laura Wells	Lecture Theatre (Room 132A)

Day 2 — June 7th, 2022

8:30 – 8:35	**Opening Remarks** Elizabeth Eisenhauer, Amber Simpson	Lecture Theatre (Room 132A)
8:35 – 11:15	**Session 4: Global Health in Local Health** Chairs: Shaila Merchant, Colton Barr	Lecture Theatre (Room 132A)
11:15 – 12:00	**Poster Session 2**	Grand Corridor
12:00 – 1:00	**Boxed Lunch** (for in-person attendees)	Atrium
1:00 – 2:50	**Session 5: Staying Healthy** Chairs: Megan Carter, Alexandra Robins	Lecture Theatre (Room 132A)
2:50 – 3:05	**Break**	Atrium
3:05 – 3:50	**Panel Session:** Chair: Jordan Loewen *How, Why, Should We Digital Twin? The implications of new AI technologies for medicine health, and well-being* Sharday Mosurinjohn, Amber Simpson	Lecture Theatre (Room 132A)
3:50 – 5:10	**Session 6: Informatics** Chairs: Megan Bailey, Jessica Rodgers	Lecture Theatre (Room 132A)
5:10 – 5:30	**Awards Session & Concluding Remarks** Elizabeth Eisenhauer, Amber Simpson	Lecture Theatre (Room 132A)

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Session 1: Biobanking

Lecture Theatre (Room 132A)
Talks will be broadcast via Zoom
Chairs: Michael Rauh, Eva Slotman

9:00 – 9:05	**Announcement:** Biobanking Expansion Annette Hay, Amber Simpson
	15-minute talks + 5 minutes for Q&A
9:05 – 9:20	**ExCELLirate Canada: Pioneering cell therapy research together** Annette Hay, on behalf of the ExCELLirate Team
9:30 – 9:45	**The fundamental role of biobanking in establishing an academic clinical practice and translational research program** Holly Mewhort, James Purzner, Teresa Purzner
9:55 – 10:10	**Queen's Pathology and Canadian Cancer Trials Biobank** Shakeel Virk
10:20 – 10:35	**Blood cancer surveillance and precision medicine facilitated by biobanks** Sheela Abraham, Michael Rauh
	NSERC CREATE in Medical Informatics Pitches
10:45 – 10:50	**Distinguishing radionecrosis from recurrent glioblastoma using rapid evaporative ionization mass spectrometry** Dilakshan Srikanthan

Session 2: From Cells to Communities

Lecture Theatre (Room 132A)
Talks will be broadcast via Zoom
Chairs: Maria Aristizabal, Roshni Rainbow

11:00 – 11:05	**Announcement:** Genomics Expansion Harriet Feilotter, Prameet Sheth, Amber Simpson
	15-minute talks + 5 minutes for Q&A
11:05 – 11:20	**Translational genomics at Queen's and KHSC** Nicole Archer, Scott Davey, Harriet Feilotter, Hamid Ghaedi, Stephanie McCormack, Laura Semenuk, Amber Simpson, Nick Zhang
11:30 – 11:45	**Successes from COVID-19** Prameet Sheth
11:55 – 12:10	**Neuro-immune interactions in health and disease** Qingling Duan, Nader Ghasemlou, Sebastien Talbot
12:20 – 12:35	**Convergence research for tick-borne diseases** Rob Colautti, Qingling Duan, Rylan Egan, Nader Ghasemlou, Tim Salomons
	NSERC CREATE in Medical Informatics Pitches
12:45 – 12:50	**Feature selection for polygenic risk scores using genetic algorithm** Zhendong Sha

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Session 3: Better Living Through Chemistry
Lecture Theatre (Room 132A)
Talks will be broadcast via Zoom
Chairs: Lindsay Fitzpatrick, Yuxi Zhang

	15-minute talks + 5 minutes for Q&A
1:30 – 1:45	**Doctor, did you get it all? Am I going to be OK?** Joanna Cheesman, Alessia Di Carlo, Joshua Ehrlich, C. Jay Engel, Gabor Fichtinger, Amoon Jamzad, Martin Kaufmann, Kathryn Logan, Shaila Merchant, Parvin Mousavi, Richard Oleschuk, Kevin Yi Mi Ren, Jessica Rodgers, John Rudan, Tamas Ungi, Sonal Varma, Ross Walker, Julie Wallis
1:55 – 2:10	**Rapid Tissue and Pathogen Profiling Using Patterned Materials and Open Port Interface** Richard Oleschuk
	NSERC CREATE in Medical Informatics Pitches
2:20 – 2:25	**Robotic tumor-bed inspection in breast conserving surgery** Laura Connolly
2:25 – 2:30	**Automated tumour reconstruction for real-time visualization in breast-conserving surgical navigation** Chris Yeung
2:30 – 2:35	**Finding patterns in mass spectrometry images** Rachel Theriault
	Keynote
2:35 – 3:05	**Carbon-to-metal Coating Institute: Navigating the grant process** Chantelle Capicciotti, Cathy Crudden

Poster Session 1
Grand Corridor
Vote for the Audience Choice Poster Award using the stickers provided!

1	Dilakshan Srikanthan	Distinguishing radionecrosis from recurrent glioblastoma using rapid evaporative ionization mass spectrometry
2	Zhendong Sha	Feature selection for polygenic risk scores using genetic algorithm
3	Laura Connolly	Robotic tumor-bed inspection in breast conserving surgery
4	Chris Yeung	Automated tumour reconstruction for real-time visualization in breast-conserving surgical navigation
5	Rachel Theriault	Finding patterns in mass spectrometry images
6	Mahsa Zojaji	Quantifying the contribution of dietary mineral intake to cortical bone mechanical properties under compressive loading using finite element analysis
7	Courtney Bannerman	TBD
8	Angela Choi	Investigating biomarkers to improve prediction of response to anti-PD-1 therapy in non-small cell lung carcinoma
9	Sumaiya Karim	Responsive surface modifications of acrylic-based copolymers for the modulation of lens epithelial cell behaviour
10	Eva Slotman	Nuclear morphometry as a tool for refining diagnostic categories in bladder cancer pathology

Session 4: Global Health is Local Health
Lecture Theatre (Room 132A)
Talks will be broadcast via Zoom
Chairs: Shaila Merchant, Colton Barr

15-minute talks + 5 minutes for Q&A	
8:35 – 8:50	**Virtual Simulations for Global Health Equity** Marian Luctkar-Flude, Kevin Woo
9:00 – 9:15	**A program of cervical cancer prevention in low-resource settings through the power of DNA testing, cervical imaging, histopathology and smartphones** Melinda Chelva, Karen Yeates
9:25 – 9:40	**Utility of Point of Care Portable MRI for Cerebral Imaging in a Remote Northern Canadian Health Authority** Gord Boyd, Chloe DesRoche, Elaine Innes, Omar Islam, Ben Kwan, Johanna Ortiz-Jimenez, Ian Silver, Donatella Tampieri, KHSC IT Team, WAHA Family Physicians
9:50 – 10:05	**Ergonomic analysis and design for improved health of Faso DanFani weavers in Burkina Faso** Samuel Brost, J. Timothy Bryant, Charlie Drysdale, Genevieve Dumas, Qingguo Li, Amidou Sawadogo
10:15 – 10:30	**CareCo** Nicole Bobbette, Afolasade Fakolade
10:40 – 10:55	**To participate, you must be able to communicate** Beata Batorowicz, Claire Davies
NSERC CREATE in Medical Informatics Pitches	
11:05 – 11:10	**Low cost prostate capsule reconstruction using optical tracking and deep learning** Colton Barr
11:10 – 11:15	**A 3D US percutaneous liver ablation system for ultrasonically invisible tumors** Shuwei Xing

Poster Session 2
Grand Corridor
Vote for the Audience Choice Poster Award using the stickers provided!

1	**Colton Barr**	Low cost prostate capsule reconstruction using optical tracking and deep learning
2	**Kenna Bartlett**	Predictive model from factorial analysis of factors affecting glenoid baseplate micromotion in reverse shoulder arthroplasty
3	**Mahdi Gilany**	Towards confident detection of prostate cancer using high resolution micro-ultrasound
4	**Nicole Kitner**	Automatic catheter modelling in 3D transrectal ultrasound images from high-dose-rate prostate brachytherapy using deep learning and feature extraction methods
5	**Yuxi Zhang**	Effects of exogenous insulin on macrophage survival and pre-inflammatory signalling
6	**Nadejda Boev**	Whole genome sequencing (WGS) enhances and refines institutional responses to SARS-CoV-2
7	**Kyla Tozer**	TBD
8	**Melinda Chelva**	Assessing the implementation of patient navigation delivery strategies to the smartphone-enhanced Cervical Cancer Prevention Program in Tanzania
9	**Paola Dantonio**	Embryonic protein NODAL plays anti-tumourigenic roles in thyroid cancer
10	**Hailey Gowdy**	The DouleurCircaPain study: examining circadian control of chronic pain through a national cross-sectional survey
11	**Ramtin Mojtahedi Saffari**	Tumor segmentation in colorectal liver metastasis using an optimal vision transformer patch resolution

Session 5: Staying Healthy
Lecture Theatre (Room 132A)
Talks will be broadcast via Zoom
Chairs: Megan Carter, Alexandra Robins

	15-minute talks + 5 minutes for Q&A
1:00 – 1:15	**Dietary phosphate as a sex-specific mediator of bone loss in spaceflight** Michael Adams, Susan Bloomfield, Rachel Holden, Austin Lansing, Brent Lievers, Keith Pilkey, Heidi-Lynn Ploeg, Tyler Rowsell, Scott Smith, Mandy Turner, Mahsa Zojaji, Sara Zwart
1:25 – 1:40	**Revved up program** Amy Latimer-Cheung, Jennifer Tomasone
1:50 – 2:05	**Investigating form and function relationships in orthopaedic biomechanics** Ryan Bicknell, Dan Borschneck, Parham Daneshvar, Erin Lee, Zoe Mack, David Pichora, Michael Rainbow, Lauren Welte, Mitchell Wheatley
2:15 – 2:30	**Monitoring wastewater for COVID-19 prevalence** Dwayne Francis, Sarah Jane Payne, Nancy Slipp
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2:40 – 2:45	**Testing and validation of total joint replacements** Kenna Bartlett
2:45 – 2:50	**Radiomic analysis of bone metastases to predict clinical outcomes following SBRT** Lauren Zelko

Session 6: Informatics
Lecture Theatre (Room 132A)
Talks will be broadcast via Zoom
Chairs: Megan Bailey, Jessica Rodgers

	15-minute talks + 5 minutes for Q&A
3:50 – 4:05	**Characterizing the impact of virtual care and the COVID-19 pandemic on capacity of ambulatory clinical care at Kingston Health Sciences Centre** Elizabeth Eisenhauer, Alex Hamilton
4:15 – 4:30	**The living lab** Tara Baetz
4:40 – 4:55	**Opportunities in the Queen's health data landscape** Amber Simpson
	NSERC CREATE in Medical Informatics Pitches
4:55 – 5:00	**Towards confident detection of prostate cancer using high resolution micro-ultrasound** Mahdi Gilany
5:00 – 5:05	**Automatic catheter modelling in 3D transrectal ultrasound images from high-dose-rate prostate brachytherapy using deep learning and feature extraction methods** Nicole Kitner
5:05 – 5:10	**Biomedical data mining using evolutionary learning algorithm** Chengyuan Sha