On Thursday, Sept. 30, the School of Health Information Science will be commemorating Orange Shirt Day. The day is designated as the National Day for Truth and Reconciliation, a new federal statutory holiday to honour former residential school students and their families. We encourage all faculty, staff and students to wear an orange shirt during the week of September 27 to 30, as a visual symbol of our awareness of the need for ongoing action toward reconciliation among Indigenous and non-Indigenous peoples in Canada.

~ Andre Kushniruk, Director of the School of Health Information Science

News, Awards and Recognitions

The **VADA** Program

Visual and Automated Disease Analytics
Graduate Training Program

The **VADA NSERC** graduate training program is co-led at the Universtiy of Victoria by **Dr. Andre Kushniruk** and **Dr. Elizabeth Borycki**. The program is a joint initiative between the University of Victoria and University of Manitoba. Through the VADA Program, trainees gain cutting-edge data science knowledge and skills in the areas of data visualization and analysis within a cooperative and experiential learning environment. VADA program link - http://vada.cs.umanitoba.ca/ This Summer the School of Health Information Science provided the Summer School. Thank you to our many expert speakers!

Many of the recordings have been posted on the School of Health Information Science Youtube Channel. You can Access the lectures by clicking on the "Watch Here" links below in this newsletter as well.

Summer School Speakers (and links to their talks)

Informing the Advancement of Digital Health with Research and Measurement
Speakers: **Simon Hagens** (MBA; Director, Performance Analytics, Canada Health Infoway)

Building a Self-serve Analytics Website for Sharing the Results of a National Digital Health Survey
Bobby Gheorghiu (BBA MHSc CPHIMS-CA; Canada Health Infoway) & **Barry Xu** (BESc and MEng; Data Science Analyst, Canada Health Infoway)

Digital Health in Canada
Speaker: **Mark Casselman** (Chief Executive Officer, Digital Health Canada)

Watch Here

Biomedical AI: Its Roots, Evolution, and Agenda for the Future
Speaker: **Dr. Edward H. (Ted) Shortliffe** (MD, PhD, MACP, FACMI, FIAHSI; Chair Emeritus and Adjunct Professor, Department of Biomedical Informatics, Columbia University; President and CEO Emeritus, American Medical Informatics Association (AMIA); Adjunct Professor, Arizona State University and Weill Cornell Medical College; Editor Emeritus, Journal of Biomedical Informatics (Elsevier))

[Watch Here](#)

Human-Centered AI: Supporting User Control & Visualization
Speaker: **Dr. Ben Shneiderman** (PhD; Emeritus Distinguished University Professor, Department of Computer Science, Founding Director, Human-Computer Interaction Laboratory and a Member of the UM Institute for Advanced Computer Studies (UMIACS), University of Maryland; Fellow of the AAAS, ACM, IEEE, NAI, and the Visualization Academy and a Member of the U.S. National Academy of Engineering).

[Watch Here](#)

Examples of the Application of Data Science in the Management of Covid-19 Within the BC Ministry of Health
Speaker: **Martin Wright** (M.Sc.; Assistant Deputy Minister, Health Sector Information, Analysis and Reporting, BC Ministry of Health)

Adventures in Analytics: Building a Healthcare Improvement Team
Speaker: **Michael Li** (MHSc; Regional Director, Decision Support System Improvement and Quality Analytics, Vancouver Coastal Health)

[Watch Here](#)

Canada's Health TECH Industry – Opportunities & Collaboration
Speaker: **Elaine S. Huesing** (Executive Director, TECHNATION's Health division; Chief Executive Officer, International Medical Informatics Association (IMIA); Owner, Editor, and Publisher of Healthcare Information Management & Communications Canada Inc.)

eXplainable AI - Towards Self-Assessment Methods for Machine Learning Systems
Speaker: **Dr. Riccardo Bellazzi** (PhD; Direttore del Dipartimento di Ingegneria Industriale e dell'Informazione, Università di Pavia (IT); Responsabile LISRC Lab, Istituti Clinici Scientifici Maugeri – Pavia (IT); Professor, Bioengineering and Biomedical Informatics, University of Pavia; Director, Department of Electrical, Computer and Biomedical Engineering, University of Pavia; Lead, Laboratory of biomedical informatics, hospital "Salvatore Maugeri")

[Watch Here](#)

AI for Earlier Medicine
Speaker: **Dr. Yu-Chuan Jack Li** (MD, PhD; Distinguished Professor, Taipei Medical University; Dermatologist, Taipei Municipal Wanfang Hospital; President-elect, International Medical Informatics Association)

[Watch Here](#)

So, Is Privacy Dead? Not so Fast...
Speaker: **Paulette Lacroix** (Chair, International Medical Informatics Association (IMIA) ethics, privacy and security working group; Certified information privacy professional, International Association of Privacy Professionals; Adjunct Assistant Professor, University of Victoria, School of Health Information Science)

[Watch Here](#)

Introduction to the Yale Center for Biomedical Data Science
Speaker: **Dr. Xinxin (Katie) Zhu** (MD, PhD, FAMIA, FIAHSI; Executive Director, Center for Biomedical Data Science, Yale University)

[Watch Here](#)

Challenges and Opportunities for Artificial Intelligence in Low Resource Settings
Speaker: **Dr. Yuri Quintana** (PhD; Chief, Division of Clinical Informatics, Beth Israel Deaconess Medical Center; Assistant Professor of Medicine, Harvard Medical School)

[Watch Here](#)

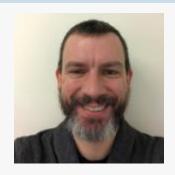**Artificial Intelligence In Health: Back to the Future**
Speaker: **Dr. Fernando Martin-Sanchez** (PhD, FACHI, FACMI, FIAHSI; Research Professor, Biomedical Informatics and Director, "Digital Health & Learning" Program, National School of Public Health, National Institute of Health ´Carlos III´ of Spain (ISCIII))

[Watch Here](#)

Population Data BC – Researcher Resources and Data Access Request (DAR) Services
Speakers: **Megan Ahuja** (MPH; Lead of Strategic Projects, Population Data BC) & **Ann Greenwood** (MEd; Education & Training Lead, Population Data BC)

[Watch Here](#)

Using Data Science to Harness an Advanced EHR and Improve Analytical Maturity in a Regional Health Authority
Speaker: **Dr. Brandon Wagar** (PhD; Director of Clinical Analytics and Clinical Information Support, Island Health Authority; Adjunct Assistant Professor, University of Victoria, School of Health Information Science)

[Watch Here](#)

Leveraging Data and Analytics to Improve the Quality and Efficiency of Health Services
Speaker: **Peter Papadakos** (Director, Decision Support and Analytics, Health Information Services, and Chief Privacy Officer at Quinte Health Care)

[Watch Here](#)

Summer School Workshop Speakers(and links to their talks)

Data Wrangling in the Tidyverse
Speakers: **Dr. Robert Balshaw** (PhD, Senior Biostatistician, University of Manitoba) and **Olawale Ayilara** (PhD Candidate, Community Health Sciences, University of Manitoba)

How to Data Science with Python
Speaker: **Simon Minshall** (PhD Student, Assistant Teaching Professor, School of Health Information Science, University of Victoria)

[Watch Part 1 Here](#)
[Watch Part 2 Here](#)
[Watch Part 3 Here](#)

Information Visualizations for Health Care: A Human Factors Perspective
Speakers: **Dr. Helen Monkman** (PhD, Assistant Professor, the School of Health Information Science at the University of Victoria) and **Susan Martin** (MSc, Teaching Assistant, School of Health Information Science at the University of Victoria)

Creating Decision-Support Dashboard from eICU Relational Database Using Tableau and PowerBI
Speaker: **Dr. Dillon Chrimes** (PhD, Assistant Teaching Professor, School of Health Information Science, University of Victoria)

Healthcare Big Data Mining Concepts, Techniques and Practice
Speakers: **Dr. Alex Kuo** (PhD, Professor at the School of Health Information Science, University of Victoria) and **Cherry Cheng** (MSc)

Congratulations to our Graduates from the VADA Program

Amr Farghali won the **"Student Research Presentation Award"** for his research on **"The Impact of Electronic Prescribing on Medication Errors and Productivity in Community Pharmacies"**. He led the team that won the **2021 Data Science Challenge** that developed the **"COVID-19 Vaccine Uptake across Regional Health Authorities in Manitoba: A Health Equity Lens Perspective"**. Amr and his team created a dynamic, interactive dashboard using Microsoft Power BI that is directly linked to the government of Manitoba geoportal to create real time updates.

Amirav Davy studied predictive modeling and statistical techniques such as propensity score analysis during his Visual and Automated Disease Analytics (VADA) training that were applied to understanding risk factors among diabetes patients for a 30-day readmission and specifically the impact of skilled nursing facility (SNF) discharges and medication changes on readmissions.

Ryan Kletke's research involves comparing e-commerce websites that provide medical devices and equipment to create new interface designs that expedite and simplify the selection of medical devices and equipment for patients and health professionals.

Dr. Dillion Chrimes VADA Data Science program work focused on Data, Dashboards and Predicting **Usability of Electronic Health Records** with linear modeling. Neural regression via machine learning application improved the model correlation. Dr. Chrimes is now on the **VADA Program Advisory Commitee**.

Faculty and Student Publications

Data Science and Artificial Intelligence

Borycki, E. M., Kushniruk, A. W. (2019). Big data and patient safety. In Househ, M., Kushniruk, A. W., Borycki, E. M. (Eds.). Big Data, Big Challenges: A Healthcare Perspective. New York: Springer.

Borycki, E., Kushniruk, A. (2021). AI and patient safety: Issues and challenges. In Househ, M., Kushniruk, A. W., Borycki, E. M. (Eds.). Multiple Perspectives on Artificial Intelligence in Healthcare Opportunities and Challenges. New York: Springer.

Cheng N., **Kuo MH.** Using Long Short-Term Memory (LSTM) Neural Networks to Predict Emergency Department Wait Time. Medical Informatics Europe 2020

(MIE2020), Geneva, Switzerland, April 28-May 1, 2020.

Cheng N, **Kuo A**. Using Long Short-Term Memory (LSTM) Neural Networks to Predict Emergency Department Wait Time. Stud Health Technol Inform. 2020 Jun 26;272:199-202. https://doi.org/10.3233/SHTI200528

Cheng N, Kuo MH, Ryan D. Neural Network Machine Learning to Predict Emergency Department Wait Times. eHealth 2020 Conference, Vancouver, BC, June 1 – 3, 2020.

Chrimes D, Zamani H, Spenser C, Westwood A (2021) Decision-Support Expert System to Assess Severe COVID-19. COVID-19 Pandemic: Case Studies & Opinions 02(03): 279–303. https://researchinfotext.com/article-details/Decision-Support-Expert-System-to-Assess-Severe-COVID-19

Kushniruk, A., **Borycki, E.** (2021). The human factors of AI in healthcare: Recurrent issues, future challenge and ways forward. In Househ, M., Kushniruk, A. W. and Borycki, E. M. (Eds.). Multiple Perspectives on Artificial Intelligence in Healthcare Opportunities and Challenges. New York: Springer.

Kushniruk, A. W., **Borycki, E. M.** (2019). Big data challenges from a human factors perspective. In Househ, M., Kushniruk, A. W., Borycki, E. M. (Eds.). Big Data, Big Challenges: A Healthcare Perspective. New York: Springer.

Faculty Presentations

Invited talk about using dashboard software with open source datasets as learning tool: Let's Talk About Teaching (LTAT) 2021 – Invited Presenter: Establishing Learning by Creating a Health Informatics Decision-Support Dashboard Using Software.

Books, Toolkits and Tools

Househ, M., **Kushniruk, A. W.**, &; **Borycki, E. M.** (2019). Big Data, Big Challenges: A Healthcare Perspective Background, Issues, Solutions and Research Directions. Cham: Springer International Publishing.

https://www.springer.com/gp/book/9783030061081

Househ, M., **Borycki, E. M.**, &; **Kushniruk, A. W.** (2021). Multiple Perspectives on Artificial Intelligence in Healthcare, Opportunities and Challenges. Chams: Springer International Publishing.

https://www.springer.com/gp/book/9783030673024

Professional Development

HINF 491 - Special Topics Course - AI in Health Care by **Dillion Chrimes**

This course is now offered Fall 2021 ONLINE in real time on Tuesday and Wednesday from 6:00-7:20pm

To Learn More

Experiential Learning and Co-op

Co-op Hiring

Considering a Co-op student? Typical Health Information Science Co-op jobs include:

+ Business applications analyst
+ Clinical applications student
+ Go-live support
+ Health business consultant
+ Health data analyst
+ Health systems analyst

The hiring process is simple. If you are interested in learning more about hiring please contact the Health Information Science Co-op office hiscoop@uvic.ca

Co-op Funding Opportunities

Co-op Funding Update: BioTalent
The Federal government's Student Work Placement Program (SWPP) provides up to 50% of the student's wages (to a maximum of $5,000) or 70% (to a maximum of $7,000) for students from underrepresented groups which includes female STEM students, first year students, indigenous students, student with a disability, visible minorities and newcomers to Canada.

SWPP has 12 funding partners who deliver the funding across Canada based on industry sector. Each funding partner has different application processes and there are some slight differences in criteria.

- Consider applying to BioTalent Canada

Employers, uncertain if your job qualifies? Contact Colleen at 1-866-243-2472, ext. 218 or askme@biotalent.ca

- You have to apply for the funding before the student starts their job.
- Multiple grants are possible eg. Hire two students and receive two grants.
- Student eligibility: This Federal program is only available to students who are Canadian citizens, Permanent Residents or students who have refugee status. International students are not eligible for this funding.

Employers have told us that the application process takes 15-20 minutes to complete. Grants are allocated on a first-come, first-served basis so you are encouraged to apply as soon as possible. Should you not find a suitable student for your position, simply inform the funding partner that you do not need the grant.

Donors

Denis and Pat Protti Endowment Award

In 2004, a group of generous donors came together to honour Denis and Pat Protti's contributions to the Canadian healthcare system.

Apply Here

Scholarships and Awards

Apply Now!

If you require financial aid, consider applying for the Health Information Science undergraduate and graduate awards and scholarships.

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We acknowledge and respect the ləkʷəŋən peoples on whose traditional territory the University of Victoria stands, and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.