From: **T-CAIREM** tcairem.comms@utoronto.ca
Subject: ❄The T-CAIREM Buzz (January 2022)
Date: January 7, 2022 at 11:15 AM
To: d.ali@utoronto.ca

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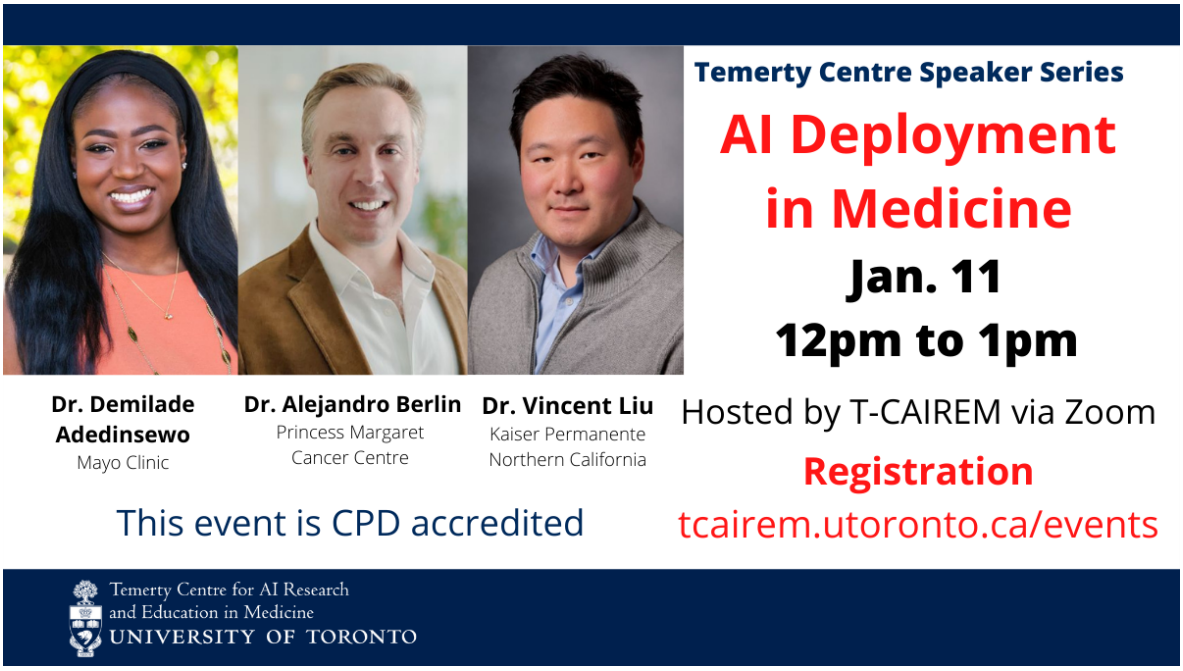
Temerty Centre for AI Research and Education in Medicine
UNIVERSITY OF TORONTO

T-CAIREM Buzz

January 2022

News & Activities

UPCOMING EVENT: AI Deployment in Medicine (Jan. 11)



Register for Jan. 11 event

Temerty Centre Speaker Series: AI Deployment in Medicine

Date: January 11, 2022 (Tuesday)
Time: 12pm to 1pm
Method: Zoom
Note to physicians: This event is CPD accredited
Registration:
https://us06web.zoom.us/webinar/register/WN_lls3NWhIQ2O82veywtSedA

AI applications across a wide range of specialties are beginning to transition from research papers into impact at the point of care. Deploying AI successfully and responsibly involves considering the technical and sociological impacts these tools will have in the clinical environment.

Join T-CAIREM for a panel discussion featuring three experts working to deploy algorithms across cardiology, radiation oncology, and critical care.
• Dr. Demilade Adedinsewo, Assistant Professor of Medicine, Mayo Clinic College of Medicine and Science
• Dr. Alejandro Berlin, Clinician-Scientist, Princess Margaret Cancer Centre
• Dr. Vincent Liu, Research Scientist, Kaiser Permanente Northern California

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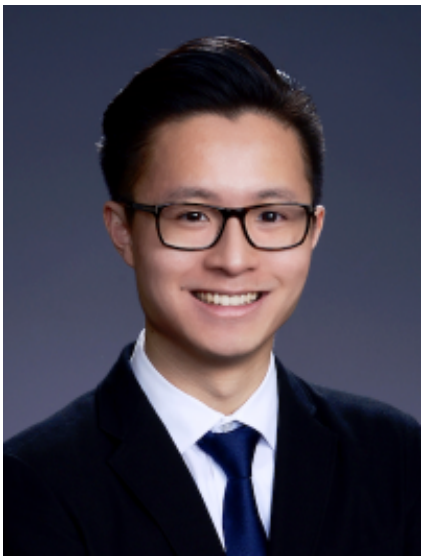
Winner of T-CAIREM 2021 Trainee Rounds announced



We're pleased to announce that **Dr. Jethro Kwong** is the winner of T-CAIREM's 2021 Trainee Rounds Research Award.

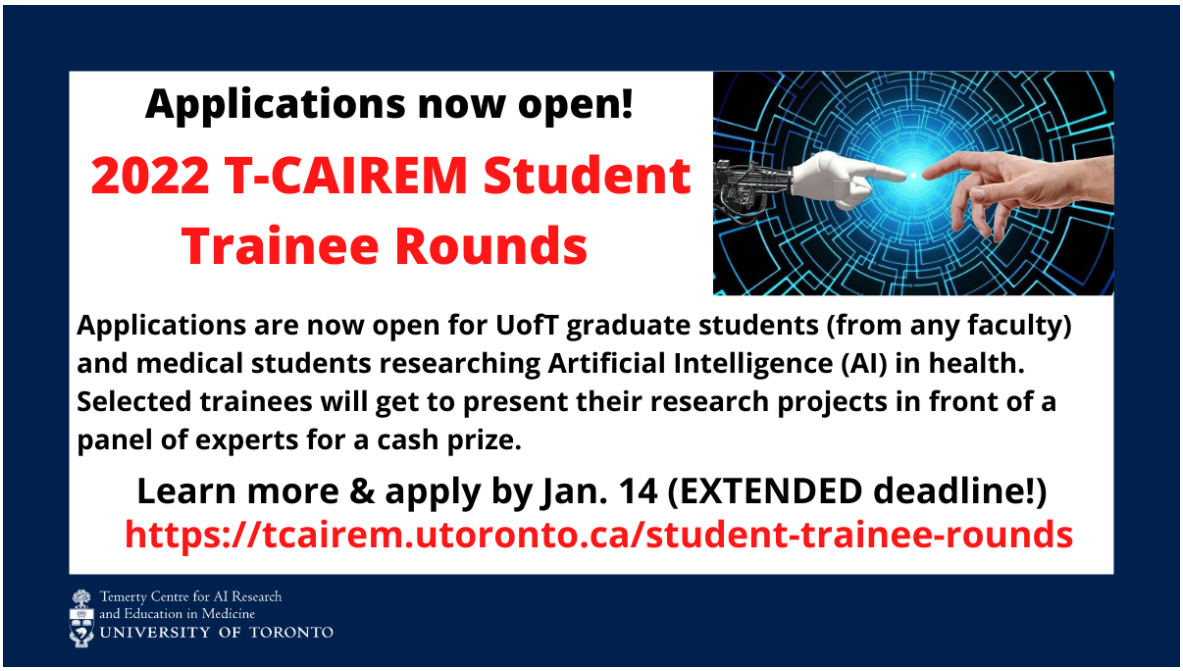
His presentation explored the "Development and external validation of an explainable machine learning model to predict risk of side-specific extraprostatic extension in men with prostate cancer."

Dr. Kwong is a resident physician with the division of urology, department of surgery, at the Temerty Faculty of Medicine.

T-CAIREM's Student Trainee Rounds are a monthly competitive seminar series that highlights innovative research at the intersection of artificial intelligence (AI) and healthcare across the University of Toronto's graduate and professional programs.

Researchers are invited to apply for the 2022 Trainee Rounds seminar series by **January 14.**

Applications open for 2022 Student Trainee Rounds (Deadline: Jan. 14)



University of Toronto students are invited to apply for the 2022 T-CAIREM Student Trainee Rounds. This monthly competitive seminar series highlights innovative and outstanding research at the intersection of artificial intelligence (AI) and healthcare across the U of T's graduate and professional programs.

One of us! One of us! Become a T-CAIREM member

T-CAIREM seeks members who want to build a community across disciplines to promote understanding and awareness of AI in medicine. **Membership is free and open to staff, faculty, students, and researchers with the University of Toronto and its affiliated institutions and hospitals.**

Become a T-CAIREM Member!

The new T-CAIREM Resource Hub is now online

We've assembled some of the best online tutorials and courses for anyone interested in learning more about AI in medicine. Check out T-CAIREM's new Resource Hub.

Connect with others on the T-CAIREM Collaboration Hub

T-CAIREM's Collaboration Hub makes it easier for you to find specific data, other team members, and research partners. **If you have specific needs to make your project successful, please fill out the** Collaboration Hub

make your project successful, please fill out the [Collaboration Hub submission form](#)**.** We'll post it to our website ASAP.

List your project in the Collaboration Hub

Opportunities

🇩🇪Networking Tour of German AI (Deadline: Jan. 11)

The DAAD AInet Fellowship is awarded twice a year to outstanding international early career researchers in artificial intelligence. Successful candidates will explore German robotics research and connect with leading researchers during the virtual networking week and via onsite visits.

2022 SRI faculty & graduate fellowships (Deadline: Feb. 6)

The Schwartz Reisman Institute for Technology and Society (SRI) launched its 2022 call for Faculty and Graduate Fellows for members of the University of Toronto's tri-campus community. Graduate Fellowship terms are one year, while Faculty Fellowship terms are two years.

Applications open for T-CAIREM's 2022 Summer Research Studentships (Deadline: Feb. 18)

~~Studentships (Deadline: Feb. 15)~~

T-CAIREM is now accepting applications for its 2022 Summer Research Studentship Program to introduce undergraduate and medical students to AI research in health. The program aims to encourage the next generation of professionals to pursue careers that use AI to make biomedical discoveries, improve clinical care, and create better health outcomes.

Twenty (20) summer studentships are available. Students who are accepted to the 10-week program will carry out summer AI research projects under the supervision of a T-CAIREM member.

Upcoming Events

CARTE seminar series: Steven Truong, Founder and CEO of Vietnam's VinBrain (Jan. 14)

Amid the COVID-19 outbreak in Vietnam, VinBrain's AI SmartCare became the country's official digital health application for the treatment of COVID-19 patients at home. Hear from CEO and Founder Steven Truong in this presentation for the Centre for Analytics and Artificial Intelligence Engineering.

2022 T-CAIREM Summer Research Program information session (Jan. 28)

Register for the Jan. 28 session

This information session is intended for students interested in applying for a paid AI in medicine summer research position. The T-CAIREM Summer Student Research Program is open to all undergraduate or medical students at a Canadian university.

Twenty (20) summer positions are available for students who will carry out AI research projects under the supervision of a T-CAIREM member. Students will be required to work full-time for a minimum of 10 weeks between May 2 and August 31.

For more details on the program and to apply: https://tcairem.utoronto.ca/call-student-researchers

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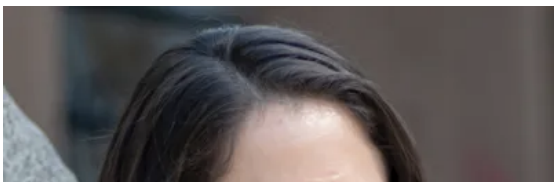
T-CAIREM Member Spotlight



Dafna Sussman, PhD, PEng

Dafna Sussman leads the Maternal Fetal Imaging Laboratory at St

Fetal Imaging Laboratory at St. Michael's Hospital's Institute for Biomedical Engineering, Science and Technology (iBEST). Her team develops MRI sequences and artificial intelligence algorithms to improve diagnosis and quality of life from birth.

What initially inspired you to research biomedical engineering & biomedical physics?

I was always interested in physics and math, which drew me to a Bachelor's in Engineering Science with a physics specialty. After working as an optical engineer and designing telescope components, I felt that I needed to do something that had a more direct, tangible, and imminent impact on human lives. I then decided to explore the biological applications of physics as part of my Master's degree. That is when I was introduced to the field of developmental physiology. At that point, I knew that I found my passion: using physics and engineering to understand human development and physiological processes.

How would you describe your work at the Maternal-Fetal Imaging Lab?

Our work at the MFI lab is highly multidisciplinary and merges biomedical physics and engineering with obstetrics, gynecology, fetal medicine, and public health. Projects range from developing novel MRI sequences for imaging fetal metabolism to developing imaging phantoms, conducting clinical studies on fetal development, and ending in automatic image analysis (MRI, Ultrasound, Pathology slides) and disease prognostication.

What's the biggest challenge of your work?

I would say that the biggest challenge of my work is gaining access to large enough clinical datasets to be able to create robust, accurate, and generalizable AI algorithms. For several recent studies, we ended up aggregating medical data from a variety of national and international sources. This was time-consuming not only due to the multiple legal agreements and ethics boards approvals but also because we had to consolidate medical parameters which sometimes had the same names but were used differently

depending on the site or country. Having a large network of wonderful collaborators, including clinical practitioners, was certainly key to being able to complete this task both quickly and accurately.

How did you become interested in AI?
I became interested in AI when I first established the MFI lab. We were working on medical image processing algorithms and were looking for a robust approach for automating our analysis and creating disease prognostication tools that were also clinically usable and user-friendly. That's when I came across various AI tools which sparked my interest.

What's the number one piece of advice you'd give to students following in your footsteps?
One piece of advice I'd give students is to always keep an open mind and not be scared to explore. AI in medicine is rapidly evolving and our work and curiosity help the field evolve. If nobody else has done what you would like to do, that is just the more reason you should do it yourself!

Are there any projects or initiatives you're working on right now that you're really excited about?
Honestly, I am excited about all of our projects! To mention a few, we are currently developing a COVID-19 disease prognostication tool for pregnant individuals (the PROTECT study), a placental disease classification and clinical outcome prediction algorithm, and a gynecological cancer diagnostic algorithm.

What excites you the most about the possibilities of AI in healthcare?
What excites me most about AI in healthcare is the potential for forecasting disease progression or even predicting disease. These, in turn, could be used in treatment planning or to offer preventative treatments, thereby improving the quality of life of patients as well as potential patients.

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