

Optics & Photonics Alumni Event

March 25, 2021, 7-9 pm
University of Toronto



Paul O'Brien

Assistant Professor at York University
Ph.D, Materials Science & Engineering
Department, UofT



Hamid Alemohammad

CEO at AOMS Technologies
Ph.D, Mechanical Engineering, University of Waterloo



Arthur Montazeri

Affiliate Scientist at Lawrence
Berkeley National Laboratory
Ph.D, ECE department, UofT



Kevin Joseph

Senior R&D Engineer at AOMS
Technologies
MAsc., ECE Department, UofT



Saeid Rezaei

Hardware Engineer at Google
MAsc., ECE Department, UofT



Hudson Pimenta

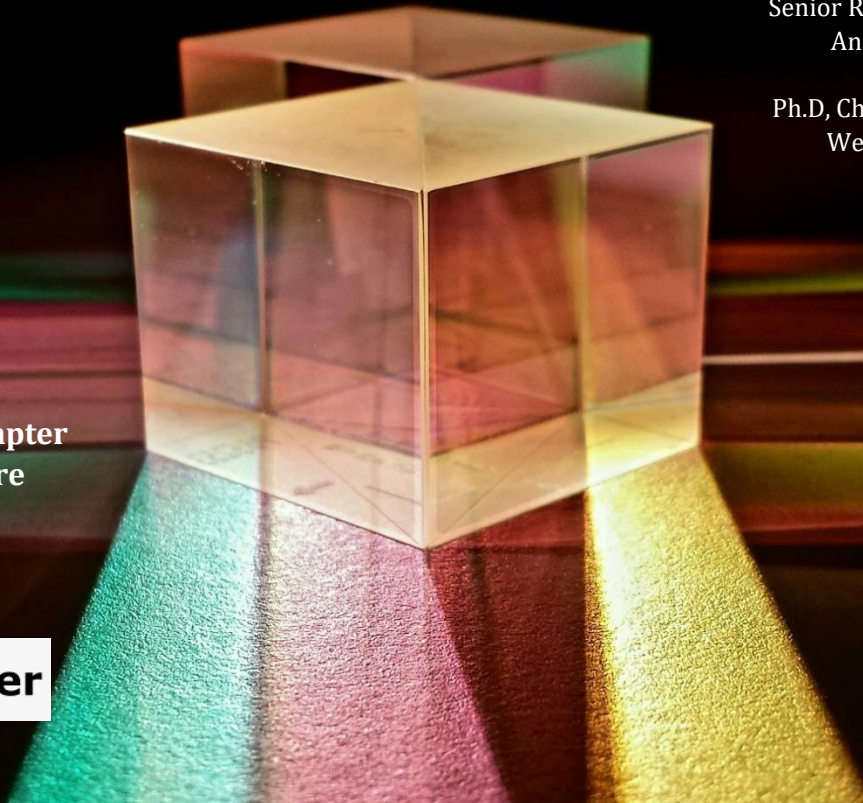
Data Scientist at Scotiabank
Ph.D, Physics Department, UofT



Nass Kazemi

Senior R&D Scientist at Sigma
Analytical Services
Ph.D, Chemistry Department,
Western University

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Biographies

❖ Hamid Alemohammad:

Dr. Alemohammad is the co-founder and CEO of AOMS Technologies, a company specialized in the development of industrial IoT systems for harsh environments. Hamid has over 15 years of industrial and entrepreneurship experience in industrial sensing systems and instrumentation and the Internet of Things (IoT). He is an advocate for commercializing transformative scientific research to address global challenges in energy and sustainability.

❖ Paul O'Brien:

Dr. O'Brien completed his PhD on nanostructured materials for light-harvesting in thin-film photovoltaics within the Department of Materials Science and Engineering at the University of Toronto (U of T) in 2011. He subsequently joined the Solar Fuels Cluster at (U of T) where he applied his knowledge of optical materials to develop catalysts that utilize solar energy to convert CO₂ into chemical feedstock for fuels. In 2016 Dr. O'Brien was appointed to the Department of Mechanical Engineering at York University as an Assistant Professor, where he presently leads the Advanced Materials for Sustainable Energy Technologies Laboratory (AM-SET-Lab).

❖ Arthur Montazeri:

Dr. Montazeri received his PhD from the EECS Department at the University of Toronto in 2016. He spent the last couple of years of his graduate school (2014-2016) at UC Berkeley, where he used the nanofabrication facility at the Lawrence Berkeley National Laboratory for building some of the devices proposed in his PhD thesis. Some of these ideas were patented in Canada and the US, and are currently undergoing further development and commercialization efforts. After spending a few more years as a postdoctoral fellow at Berkeley Lab, he co-founded a company Spectacular Labs, for developing rapid pathogen detection systems.

❖ Saeid Rezaei:

Saeid Rezaei received his B.Sc. degree from University of Tehran in 2008 and his M.A.Sc. degree in Electrical Engineering from the University of Toronto in 2011. Since graduation, he has worked as a Photonics Engineer at OZ Optics in Ottawa, from 2011 to 2012, Laser Engineer at Light Matter Interaction (formerly Attodyne Lasers) in Toronto, from 2012 to 2016 and as an Optical Engineer at North Inc. (formerly Thalmic Labs) in Kitchener. In June of 2020, he joined Google's AR/VR team as a Hardware Engineer through the acquisition of North Inc. by Google.

❖ Hudson Pimenta:

Dr. Pimenta is a PhD from the University of Toronto. His research was in the fields of quantum optics and condensed matter, particularly on the subject of photon-photon interactions. Currently, Hudson works as a data scientist at Scotiabank. He is interested in machine learning applications and in the field of Natural Language Processing (NLP).

❖ Kevin Joseph:

Kevin Joseph received his MSc. from the University of Toronto in Electrical & Computer Engineering focusing in Ultrafast Laser Processing, and his BSc. from the University of Waterloo in Nanotechnology Engineering. Prior to working at AOMS, Kevin worked as Senior Photonics Engineer at Hyperion Sensors, a Markham-based company, developing a BOTDA distributed fibre-optic sensing system for high voltage assets. He is currently Senior Research & Development Engineer in Fibre Optic Sensors at AOMS Technologies, where he leads the development of fibre-optic projects.

❖ Nass Kazemi”

Dr. Kazemi is a Chemistry PhD graduate from Western University. Her PhD research project involved the design (Lumerical FDTD simulations) and development of an experimental setup for tip-enhanced Raman spectroscopy (TERS) by integrating a Raman spectrometer and an atomic force microscopy (AFM) instrument. This setup was used to improve the sensitivity and resolution of spectroscopic detection of variety of samples including proteins adsorbed on kidney stone microcrystals, isolated carbon nanotubes and isolated silicon nanowires. With research background in field of plasmonic nanostructures, she joined the research group of Professor Kherani in 2015 to assist with the development and implementation of patented plasmonic graded nanogratings as point-of-care spectroscopy-based medical sensing and imaging devices. The research results were used to attract +\$4M government (ORF) and industry investment to support the prototyping and commercialization of the technology. She is currently working as Senior Chromatography Scientist at Sigma Analytical Services. Her activities at Sigma includes developing analytical test methods and performing method validation for Cannabis products using HPLC, GC-FID/MS, LC-MS-Ms and ICP-MS instruments.

