

## Séminaire

Le mardi 2 avril 2019, 14h45  
Des rafraîchissements seront servis dès 14h15  
Complexe de recherche avancée, pièce 233  
Université d'Ottawa, 25, rue Templeton  
\*Le séminaire se déroulera en anglais.\*

## Seminar

Tuesday, April 2, 2019, 2:45 p.m.  
Refreshments to be served starting at 2:15 p.m.  
Advanced Research Complex, room 233  
University of Ottawa, 25 Templeton Street

### Colloidal Quantum Dots for Future Photovoltaic and Display Technologies: Addressing Safety and Toxicity Issues Siva Sivoththaman, University of Waterloo

**Abstract:** Semiconductor quantum dots (QD) are rapidly gaining importance in diverse future applications including optoelectronics and photovoltaics. Colloidal QDs are particularly attractive due to their process simplicity, tunable optoelectronic properties, and large area scalability. QD-based devices with high performance have been demonstrated by several researchers. With the industrial application starting to become a reality, it is also important to consider safety and toxicity of the QD materials, making the material choice an important consideration. In this talk I will focus on our ongoing work on the synthesis of non-toxic, Cu-In-S based QDs, ligand-exchange processes, device implementation and some experimental results on photovoltaic, detector, and display devices.

**Bio:** Dr. Sivoththaman received the PhD degree from University of Paris XII - Creteil Val de Marne (France) in 1993. After his PhD he worked at the Interuniversity Micro Electronic Center - IMEC (Belgium) as a Research Scientist for six years. Since 2000 he has been with the Electrical and Computer Engineering department of the University of Waterloo. Dr. Sivoththaman has held an NSERC Associate Industrial Research Chair in Radio Frequency Micro Electro Mechanical Systems (RF-MEMS) during 2002-2006, and the Ontario Research Chair (ORC) in Renewable Energy Technologies and Health during 2010-2015. He is also the Director of the Centre for Advanced Photovoltaic and Display Systems (CAPDS) at Waterloo. Dr. Sivoththaman currently serves as the Chapter Chair for the Electron Devices Society of the IEEE Kitchener-Waterloo section. His research interests are photovoltaic materials and devices, microelectronic processes, and nanotechnologies.



TOP-SET est un programme de formation FONCER du CRSNG en puissance optoélectronique ayant pour but de façonner une cohorte de personnel hautement qualifié détenant des connaissances approfondies en systèmes optoélectroniques pour joindre les rangs d'équipes de recherche et développement.

NSERC CREATE Training in Optoelectronics for Power: from Science and Engineering to Technology (TOP-SET) is a training program that aims to form a cohort of highly qualified personnel with comprehensive understanding of optoelectronic systems, capable of joining advanced R&D teams.

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