

## Séminaire

Le lundi 18 novembre 2024, 13h ARC 233 \*Le séminaire se déroulera en anglais.\*

## Seminar

Monday, November 18, 2024, 1 p.m. ARC 233

## Manufacturing challenges in high-resolution displays and the quest for new device solutions Chang-Hyun Kim, University of Ottawa

**Abstract:** Electronic displays have become an integral part of our daily lives. Technological advances have enabled displays to produce highly realistic images with low power consumption, and creative thinking has brought unconventional form factors to the market. In this seminar, we briefly introduce the operating principles of the two mainstream display technologies (LCD and OLED), discuss their manufacturing challenges to meet the growing demands, and share our research on new transistors that can partially overcome these challenges. Students attending this seminar will gain a basic understanding of the spatiotemporal driving scheme inherent in any display and the emerging design considerations imposed by new (and increasingly popular) products such as smartwatches and mixed reality headsets.

**Bio:** Chang-Hyun Kim joined uOttawa in January 2024 as an Associate Professor in the School of Electrical Engineering and Computer Science. Prior to that, he spent six years as an Assistant and then Associate Professor of Electronic Engineering at Gachon University, South Korea. His research group TFEL (Thin Film Electronics Laboratory) strives to provide functionally robust, sustainably manufacturable, and energy-efficient device solutions for the increasingly diverse applications of thin-film semiconductors in electronics, energy, and healthcare sectors. Dr. Kim



received a B.Sc. in information display from Kyung Hee University, South Korea (2007), a M.Sc. in technology innovation engineering and a Ph.D. in physics from École Polytechnique, France (2010 and 2013, respectively).

**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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