



# IEEE

## Ottawa Section



*The IEEE Ottawa, IEEE Ottawa Chapter of Power and Energy Society (PES), IEEE Ottawa Joint Chapter of Reliability Society and Power Electronics Society (RS/PELS), IEEE Ottawa Chapter of Photonics Society, IEEE Ottawa Chapter of Industry Applications Society (IAS), IEEE Ottawa Educational Activities (EA), and Algonquin College Student Branch (ACSB) in conjunction with School of Advanced Technology, Algonquin College are inviting all interested IEEE members and other engineers, technologists, and students to an educational seminar on*

## Next Generation Photovoltaics

by

**Dr. Karin Hinzer,**

**Professor, Canada Research Chair Canada, SUNLAB, School of Electrical Engineering and Computer Science, University of Ottawa**

**DATE:** Tuesday September 20, 2016

**TIME:** Refreshments, Registration and Networking: 06:00 p.m.; Seminar: 06:30 p.m. – 07:30 p.m.

**PLACE:** Algonquin College, [1385 Woodroffe Ave.](#), [School of Advanced Technology, T-Building, Ciena-Optophotonics Lab \(Room T129\)](#)

**PARKING:** No fee after 5:00 p.m. at the Visitors' Parking Lots 8 & 9. Please respect restricted areas.

**Admission:** Free. Registration required. To ensure a seat, please register by e-mail contacting:

Raed Abdullah [RaedAbdullah@ieee.org](mailto:RaedAbdullah@ieee.org) or Wahab Almuhtadi [almuhtadi@ieee.org](mailto:almuhtadi@ieee.org).

### Abstract

Photovoltaics have reached grid parity in the sunniest areas of the world and are set to do so next year in Eastern Ontario. This talk will cover photovoltaics basics as well as newer technologies for higher efficiencies. Current panel efficiencies can reach 23% efficiency, while newer technologies can reach up to 40%. How is this obtained and what do you gain in terms of payback including greenhouse gas emission reductions? How are these panels integrated in the grid? How can these photovoltaics be converted to power other devices in locations where power cannot be transported by conducting wires? Answers to these questions and others using examples of research projects being done at the uOttawa SUNLAB will be presented.

### Speaker's Bio

Dr. Karin Hinzer is a Tier II Canada Research Chair in Photonic Nanostructures and Integrated Devices and Associate Professor at the School of Electrical Engineering and Computer Science (EECS) at the University of Ottawa. She has made pioneering contributions to the experimental physics of quantum dots marked by two landmark papers in Science. She gained extensive experience in the design and fabrication of group III-V semiconductor devices while at the National Research Council Canada, Nortel Networks and then Bookham. Cost reduction strategies and liaison with remote fabrication facilities strongly feature in her industry experience. Joining the University of Ottawa in 2007, she has turned her skills towards new challenges in green optoelectronics and has founded the SUNLAB, a modelling and characterization laboratory specializing in the development of high-efficiency solar cells. Since the laboratories inception, she has trained over thirty highly-qualified personnel in the field of photovoltaic material and devices. Starting in 2010, she is the inorganic photovoltaics theme co-leader within the pan-Canadian Photovoltaic Innovation Network.

