

*En collaboration avec la série de colloques du département de physique*  
*In collaboration with the Department of Physics Colloquium Series*

## Séminaire

Le jeudi 14 avril 2022, 14h30

[MS Teams](#)

\*Le séminaire se déroulera en anglais.\*

## Seminar

Thursday, April 14, 2022, 2:30 p.m.

[MS Teams](#)

### Photovoltaics for emerging energy systems

Karin Hinzer, Université d'Ottawa

**Abstract:** Ubiquitous photovoltaic systems are essential to the world's transition to net-zero emissions by 2050. I will discuss our recent research results in energy yield calculations to improve power plant predictions as well as metrological tools for nowcasting. I will present our work on high-efficiency bifacial photovoltaic cell and system design, and new advances in multijunction solar cells. These devices can be adapted to transfer photonic power using lasers, either through fibres or free space; this technology enables lightweight low-noise DC electrification. I will present our recent work on GaAs and InP based photonic power converter designs and give examples of applications.

**Bio:** Karin Hinzer is a Professor at the School of Electrical Engineering and Computer Science with a cross-appointment in the department of Physics at the University of Ottawa, and the University Research Chair in Photonic Devices for Energy. She joined the University of Ottawa in 2007 where she founded the SUNLAB, the premier Canadian modeling and characterization laboratory for next generation multijunction solar devices and concentrator systems. Professor Hinzer's research involves developing new ways to harness the sun's energy. She has authored or coauthored more than 190 refereed papers, trained over 160 highly qualified personnel, and her laboratory has spun off three Canadian companies in the energy sector. Her research interests include new materials, high-efficiency light sources and light detectors, solar cells, solar modules, new electrical grid architectures, and voltage converters. She is a Member of the College of New Scholars, Artists and Scientists of the Royal Society of Canada and an IEEE Senior Member.



**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.

Pour de plus amples renseignements sur TOP-SET, veuillez consulter [create-topset.eecs.uottawa.ca/fr](http://create-topset.eecs.uottawa.ca/fr).

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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