

Séminaire

Le lundi 5 février 2024, 13h

ARC 233, [MS Teams](#)

Le séminaire se déroulera en anglais.

Seminar

Monday, February 5, 2024, 1 p.m.

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Energizing the future : Unleashing the power of betavoltaics

Marie-Josée Gour, Université de Sherbrooke

Abstract: The North is cold, far from the rest of the country and its people are spread out over an area that makes up half of Canada. There are 358 remote communities across Canada, most of which rely exclusively on diesel for electricity and/or heat. Astonishingly, for many of these communities, diesel remains their sole source of energy. The sun and the wind have enormous intermittent energy, especially in our northern climate where polar days and nights are often a reality. What if there existed a self-sustaining power source that could run for decades at $-50\text{ }^{\circ}\text{C}$ and in total darkness? It already does! Batteries powered by radioactive materials have been around for more than a century, nevertheless their use is limited by radioisotope accessibility, cost, but more importantly, the low output power. Research on the subject is scarce and limited to a few research teams across the world.

Bio: Marie-Josée Gour received a B.Sc. as well as an M.Sc. from the department of physics at the Université de Sherbrooke, where she studied nonlinear optical properties of III-V based heterostructures. She worked 8 years at Nortel Networks where she developed and deployed optical line systems modules (EDFAs, MUX/DEMUX, OSA). In 2008, she joined the 3IT's (Université de Sherbrooke) technical staff as a research professional. She was responsible for all plasma related process development as well as external services requests (academic and industrial). She worked on a broad spectrum of projects such as open gate transistors, MOEMS, microfluidic devices, lasers, gamma ray detector, betavoltaic batteries. She was appointed assistant professor at the Université de Sherbrooke, at the electrical and software engineering department in January 2023. Her research interests are microfabrication focused and include interposer with passive components, laser fabrication on thin film substrates as well as betavoltaic devices.



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 rejoindre les rangs d'équipes de recherche et développement.

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