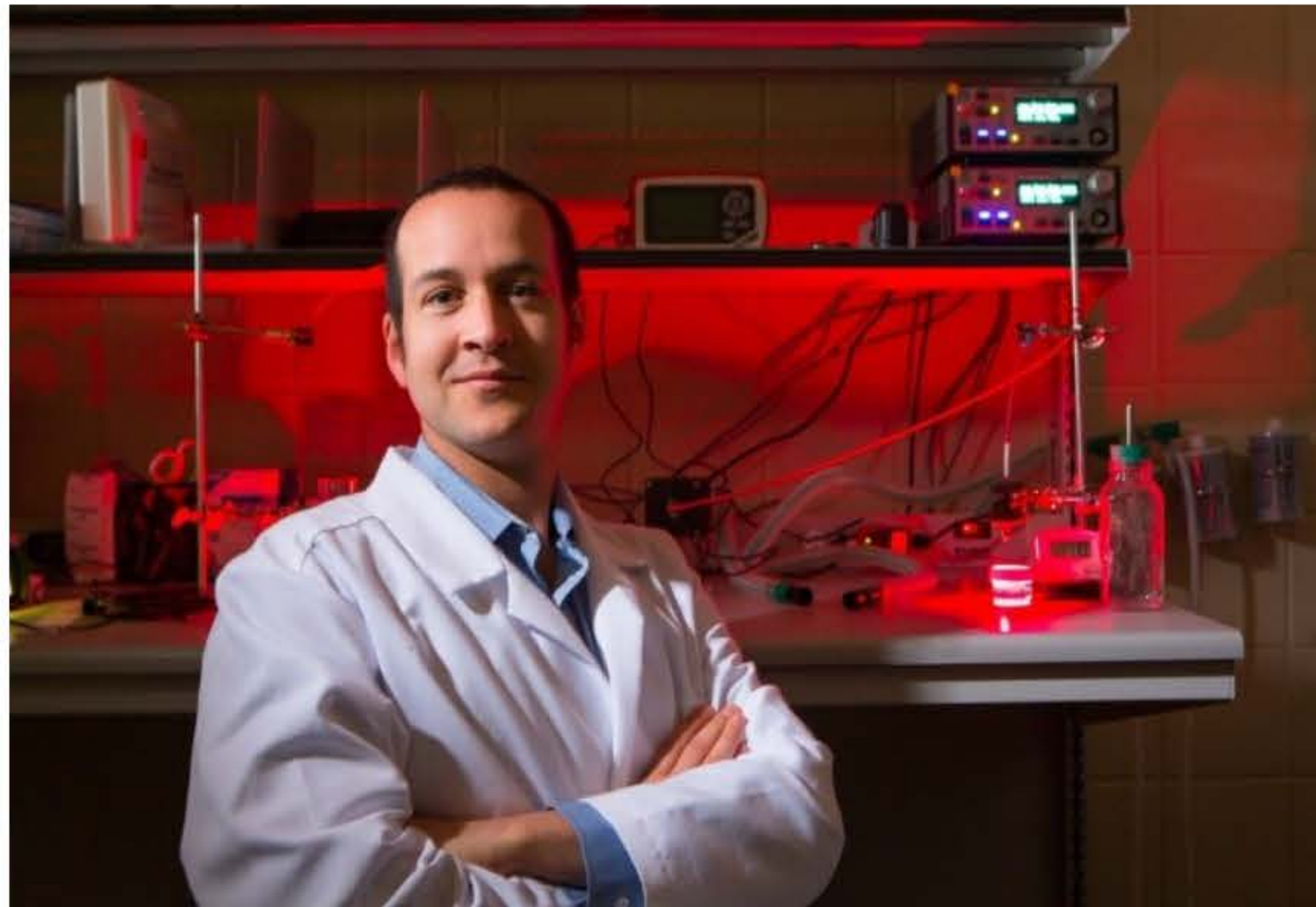


BIOENGINEERING & BIOMEDICAL ENGINEERING RESEARCH SEMINAR



EMERGING ANTI-CANCER APPLICATIONS FOR PORPHYRIN-PHOSPHOLIPID LIPOSOMES

Dr. Jonathan Lovell
Associate Professor,
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BIO

Jonathan F. Lovell is an Associate Professor of Biomedical Engineering at the State University of New York at Buffalo. He completed a MSc in biochemistry at McMaster University and a PhD in biomedical engineering from the University of Toronto in 2012. His work has been recognized with several awards including the NIH Early Independence Award (2013), the Biomedical Engineering Society Young Investigator Award (2015), and a NSF CAREER award (2016). Dr. Lovell's interests focus on research of clinically translatable nanoplatforms to address unmet clinical needs.

ABSTRACT

Porphyrin-phospholipid (PoP) conjugates can be stably incorporated into conventional liposomes and behave like a conventional phospholipids in large part with a few exceptions: (1) Exposure to near infrared (NIR) light can trigger rapid permeabilization of the bilayer, depending on the liposome formulation. (2) PoP inclusion allows straightforward NIR optical fluorescence and PET imaging. (3) Insertion of Cobalt enables seamless particleization of the liposomes with his-tagged peptides and proteins.

We will discuss recent progress to use PoP liposomes for potent tumor ablation using light-triggered drug release and chemophototherapy. We will also discuss recent efforts to develop PoP liposomes as a potent vaccine adjuvant towards applications in personalized cancer vaccines.

June 4, 2018
Goodman Cancer Research Centre
1160 Pine Ave. West - Room 501
4:00PM



McGill

Department of **Biomedical Engineering**
Department of **Bioengineering**