



The IEEE Montreal Section and Concordia University are inviting all interested IEEE Montreal members and other engineers and students to a technical seminar on:

“High-speed molecular communication: a solution for 6G?”



By: Dr. Andrew Eckford

**Associate Professor in the Department of Electrical Engineering & Computer Science
at York University, Toronto**

DATE: Wednesday May 08, 2024
Seminar Time: 6:00 p.m. – 8:00 p.m.
PLACE: 1515 Ste. Catherine West (corner with Guy St.), Concordia University, Electrical & Computer Engineering Department, Room EV003-309

For info, please contact **Dr. Anader Benyamin-Seeyar** at anader.benyamin@ieee.org or <http://montreal.ieee.ca/en/com-it/contact>.

Abstract :

6G wireless systems are expected to offer ubiquitous connectivity in presently under-served areas, potentially provided by satellite- and space-based internet-of-things applications. In the search for enabling technologies to achieve these expectations, molecular communication is an important alternative to conventional electromagnetic-based wireless communication. In this talk, we give a brief introduction to molecular communication, and discuss how it may be used to communicate in "wave-denied" environments, where connectivity is desired, but wireless cannot be used. We also show that molecular communication can achieve surprisingly high information rates, theoretically unlimited and practically in the gigabit-per-second range, making it a compelling technology for 6G. We finish with a discussion of the current state of the field and propose some experimental next steps.

Short Bio:

Dr. Andrew Eckford is an Associate Professor in the Department of Electrical Engineering and Computer Science at York University, Toronto, Ontario. His research interests include the application of information theory to biology, and the design of communication systems using molecular and biological techniques. His research has been covered in media

including The Economist, The Wall Street Journal, and IEEE Spectrum. His research received the 2015 IET Communications Innovation Award and was a finalist for the 2014 Bell Labs Prize. He is also a co-author of the textbook Molecular Communication, published by Cambridge University Press.