

UNIVERSITY
of GUELPH

COLLEGE of
BIOLOGICAL SCIENCE

DEPARTMENT OF MOLECULAR
AND CELLULAR BIOLOGY

Seminar SPEAKER SERIES

2019 - 2020

JAN **WED**
08 **10**³⁰
AM

Summerlee
Science Complex
SSC 2315

iGEM GUELPH

Developing an Antibiotic Biosensor as a Diagnostic Tool to Detect Tetracycline

The International Genetically Engineered Machine (iGEM) competition involves undergraduate students from all around the world and challenges them to solve a real-world problem using synthetic biology. The 2019 iGEM Guelph team developed 3 projects this year and chose to focus on the use of antibiotics in agriculture that has resulted in a sharp increase of drug-resistant bacteria. These resistant bacteria pose risks to human and livestock health, as commonly used antibiotics become less effective for treating infections. Additionally, if animal products contaminated with antibiotics are consumed by humans, there is a risk that the consumer's intestinal microbiota will be damaged or select for resistant bacteria. In light of this, careful monitoring of the environment and animal products is needed to detect antibiotic residues. In iGEM Guelph's gold winning project, they used synthetic biology to modify *E. coli* cells to be able to sense tetracycline and respond to its presence by producing a coloured pigment. This lays the groundwork for the development of affordable and sustainable biosensors that can detect other antibiotics.



All welcome to attend
Light refreshments will be served

More information on MCB's website:
www.uoguelph.ca/MCB