



HAL
open science

Impact of repeated treatments of the pesticides chlorpyrifos or tebuconazole on soil microorganisms using alternative methods

Véronika Storck, Nadine Rouard, Jérémie Béguet, David Bru, Lucio Botteri, Aymé Spor, Marion Devers, Fabrice Martin-Laurent

► To cite this version:

Véronika Storck, Nadine Rouard, Jérémie Béguet, David Bru, Lucio Botteri, et al.. Impact of repeated treatments of the pesticides chlorpyrifos or tebuconazole on soil microorganisms using alternative methods. 67. Annual Meeting of the Canadian Society of Microbiology, Canadian Society of Microbiologists (CSM). CAN., Jun 2017, Waterloo, Canada. hal-02789257

HAL Id: hal-02789257

<https://hal.inrae.fr/hal-02789257>

Submitted on 5 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

**CSM Annual Conference
Scientific Program**


Tuesday – June 20, 2017		
8:15 AM	On-Site Registration Science Teaching Complex (STC) Main Lobby	
9:00 AM – 12:30 PM	<p align="center">PROFESSIONAL DEVELOPMENT WORKSHOP</p> <p align="center"><i>Chairs:</i> Teresa de Kievit & Denice Bay, University of Manitoba, Winnipeg, MB</p> <p align="center"><i>Location:</i> STC 0040</p> <p>9:00 – 9:10 AM: Welcome and introductions</p> <p>9:10 – 10:00 AM: Tips and tools for applying graphic design in science presentation and research Denice Bay, University of Manitoba, Winnipeg, MB</p> <p>10:00 – 10:10 AM: bio-break / leg stretch and mingle</p> <p>10:10 – 11:00 AM: Bench and beyond: identifying skills and career directions for biologists Christine Kampen Robinson, University of Waterloo, Waterloo, ON</p> <p>11:00 – 11:20 AM: Coffee Break 11:20 AM – 12:20 PM: Panel Discussion Q&A 12:20 – 12:30 PM: Closing remarks</p>	<p align="center">9:30 – 11:00 AM CSM Executive Meeting <i>Location:</i> STC 1019</p>
	<p align="center">FORUM FOR MICROBIOLOGY EDUCATION (FOME) WORKSHOP</p> <p align="center"><i>Chairs:</i> Tanya Noel, University of Windsor, Windsor, ON & Josie Libertucci, University of Michigan, MI, USA</p> <p>1:00 – 1:10 PM: Welcome and introductions</p> <p>1:10 – 2:40 PM: Keynote: Re-thinking 21st century education - #microlearning, Karen Smith, University of British Columbia, Vancouver, BC</p> <p>2:40 – 3:10 PM: Break/poster-viewing</p> <p>3:10 – 3:25 PM: CRISPR-Cas for microbiology students Marie Laurence Lemay & Alexander Hynes, Université Laval, Ville de Québec, QC</p> <p>3:25 – 3:55 PM: Identifying and addressing misconceptions in microbiology Jennifer Geddes-McAlister, Max Planck Institute of Biochemistry, Germany</p> <p>3:55 – 4:25 PM: Reimaging the Winogradsky lab: using custom-built columns and case studies to engage students and teach critical thinking Wendy Keenleyside, University of Guelph, Guelph, ON</p> <p>4:25 – 4:30 PM: Wrap up</p>	<p align="center">11:30 AM – 1:00 PM CSM Council Meeting <i>Location:</i> STC 1019</p>
1:00 – 4:30 PM STC 0040	<p align="center">FORUM FOR MICROBIOLOGY EDUCATION (FOME) WORKSHOP</p> <p align="center"><i>Chairs:</i> Tanya Noel, University of Windsor, Windsor, ON & Josie Libertucci, University of Michigan, MI, USA</p> <p>1:00 – 1:10 PM: Welcome and introductions</p> <p>1:10 – 2:40 PM: Keynote: Re-thinking 21st century education - #microlearning, Karen Smith, University of British Columbia, Vancouver, BC</p> <p>2:40 – 3:10 PM: Break/poster-viewing</p> <p>3:10 – 3:25 PM: CRISPR-Cas for microbiology students Marie Laurence Lemay & Alexander Hynes, Université Laval, Ville de Québec, QC</p> <p>3:25 – 3:55 PM: Identifying and addressing misconceptions in microbiology Jennifer Geddes-McAlister, Max Planck Institute of Biochemistry, Germany</p> <p>3:55 – 4:25 PM: Reimaging the Winogradsky lab: using custom-built columns and case studies to engage students and teach critical thinking Wendy Keenleyside, University of Guelph, Guelph, ON</p> <p>4:25 – 4:30 PM: Wrap up</p>	



<p>4:30 – 5:30 PM STC 0040</p>	<p>NSERC GRANTS INFORMATION SESSION</p> <p>This presentation includes the review process of the Discovery Grants Program, the composition of the Genes, Cells and Molecules (1501) Evaluation Group, the 2017 Discovery Grants (DG) and Research Tools & Instruments (RTI) Competition Results, NSERC program updates, and important information for the 2018 DG and RTI Competitions.</p> <p><i>Presenter: Dr. Marie-Pierre Schippers, Program Officer, NSERC</i></p> 
<p>5:30 – 9:30 PM STC Lobby</p> <p>6:30 – 6:40 PM STC 1012</p>	<p>Welcome & Keynote Reception <i>Come join us for the Keynote Reception from 5:30 PM, enjoy the Welcome address and the Keynote talk, stay after to discuss the talk over drinks and snacks!</i></p> <p>Welcome from CSM 2017 Co-Chairs Josh Neufeld and Laura Hug, University of Waterloo, Waterloo, ON</p>
<p>6:40 – 7:30 PM STC 1012</p>	<p>KEYNOTE LECTURE <i>Sponsored by CIHR III</i></p> <p>No one has to read this crap: a guide to telling stories about science Ed Yong, Science Writer for the Atlantic. Author of “I Contain Multitudes: The Microbes Within Us and a Grand View of Life.”</p> 


Wednesday – June 21, 2017

<p>8:00 AM</p>	<p>On-Site Registration Science Teaching Complex (STC) Main Lobby</p>		
<p>8:30 – 10:00 AM</p>	<p>Microbial Diversity (Unified Theme)</p> <p>Chair: Janet Hill, U Sask Vice-Chair: Jen Stearns, McMaster Location: STC 0010</p> <p>8:30 – 9:00 AM Invisible influence: the microbiome in precision medicine <i>Invited speaker: Dr. Jack Gilbert, University of Chicago, Chicago, USA</i></p>	<p>Microorganisms and Ecosystem Services (AEM)</p> <p>Chair: Robin Slawson, WLU Vice-Chair: Barb Butler, Waterloo Location: STC 0020</p> <p>8:30 – 9:00 AM Identifying and quantifying microbial interdependencies that underpin ocean productivity <i>Invited speaker: Dr. Erin Bertrand, Dalhousie University, NS</i></p>	<p>Microbial Systems Biology (MGCM)</p> <p>Chair: Gabriel Moreno-Hagelsieb, WLU Vice-Chair: Geoff Horsman, WLU Location: STC 0040</p> <p>8:30 – 9:00 AM Systematic identification of a class of bacterial effectors with novel regulatory activities <i>Invited speaker: Dr. Alex Ensminger, University of Toronto, Toronto, ON</i></p>

	<p>9:00 – 9:15 AM Structural and functional characterization of environmental antibiotic resistance enzymes reveals new mechanistic diversity <u>Peter Stogios</u>, University of Toronto, Toronto, ON</p> <p>9:15 – 9:30 AM Sand harbours distinct communities of attached and interstitial bacteria and protists <u>Vera Tai</u>, University of Western Ontario, London, ON</p> <p>9:30 – 9:45 AM Culture-enriched metagenomic sequencing of the cystic fibrosis lung microbiota <u>Fiona Whelan</u>, McMaster University, Hamilton, ON</p> <p>9:45 – 10:00 AM When in drought: the root microbiome under water stress <u>Connor Fitzpatrick</u>, University of Toronto, Toronto, ON</p>	<p>9:00 – 9:15 AM Ecological perspectives on the degradation of lignocellulosic polymers by bacteria and fungi in forest soil <u>Roland Wilhelm</u>, University of British Columbia, Vancouver, BC</p> <p>9:15 – 9:30 AM Impact of repeated treatments of the pesticides Chlorpyrifos or Tebuconazole on soil microorganisms using alternative methods <u>Veronika Storck</u>, Institut National de la Recherche Agronomique, Dijon, France</p> <p>9:30 – 9:45 AM The tale of a neglected energy source for soil microbial communities <u>Sarah Piché-Choquette</u>, Armand-Frappier Institute - INRS, Laval, QC</p> <p>9:45 – 10:00 AM Adaptive significance of quorum sensing-dependent regulation of rhamnolipids by integration of growth rate in <i>Burkholderia glumae</i>: a trade-off between survival and efficiency <u>Arvin Nickzad</u>, INRS-Institut Armand Frappier, Laval, QC</p>	<p>9:00 – 9:15 AM <i>Sinorhizobium meliloti</i> PHB cycle mutants display altered metabolite profile in nitrogen limited media <u>Maya D'Alessio</u>, University of Waterloo, Waterloo, ON</p> <p>9:15 – 9:30 AM Comparative metabolic analysis of <i>Komagataeibacter</i> spp. grown in different carbon sources <u>Sierra Dargan</u>, University of Ontario Institute of Technology, Oshawa, ON</p> <p>9:30 – 9:45 AM Differential expression of non-coding RNAs by the pqs quorum sensing system in <i>Pseudomonas aeruginosa</i> <u>François D'Heygere</u>, INRS-Institut Armand Frappier, Laval, QC</p> <p>9:45 – 10:00 AM Studying the role of the AdeIJK RND efflux pump and its unlinked regulator AdeN in resistance and virulence in <i>Acinetobacter baumannii</i> <u>Mark Unger</u>, University of Manitoba, Winnipeg, MB</p>
<p>10:00 – 10:30 AM STC Main Lobby</p>	<p><i>Coffee and Tea Break</i> <i>Refreshments will be served</i></p>		


<p>10:30AM – 12:00 PM</p>	<p style="text-align: center;">Climate Change Microbiology (AEM)</p> <p>Chair: Virginia Walker, Queen's Vice-Chair: Jackson Tsuji, Waterloo Location: STC 0010</p> <p style="text-align: center;">10:30 – 11:00 AM Climate change microbiology: insights from freshwater cyanobacteria <i>Invited speaker:</i> Dr. Kathryn Cottingham, Dartmouth University, NS</p> <p style="text-align: center;">11:00 – 11:15 AM Microbial community development in artificial soil columns as affected by water table fluctuations <u>Geertje Pronk</u>, University of Waterloo, Waterloo, ON</p> <p style="text-align: center;">11:15 – 11:30 AM Playing with fire in the Alaskan boreal forest <u>Virginia Walker</u>, Queen's University, Kingston, ON</p> <p style="text-align: center;">11:30 – 11:45 AM Going beyond the surface: microbial interactions in deeper horizons influence greenhouse gas emissions in a sandy Ontario agricultural soil <u>Lori Phillips</u>, Agriculture and Agri-Food Canada, Harrow, ON</p> <p style="text-align: center;">11:45AM – 12:00 PM Emergence of cyanobacteria in a large macrophyte-dominated lake <u>Tyler Harrow-Lyle</u>, University of Ontario Institute of Technology, Oshawa, ON</p>	<p style="text-align: center;">Epidemiology in a Changing Pathogen Landscape (I&I) <i>Sponsored by CIHR III</i></p>  <p>Chair: Lori Burrows, McMaster Vice-Chair: France Daigle, U de Montreal Location: STC 0020</p> <p style="text-align: center;">10:30 – 11:00 AM Enabling global genomic epidemiology - a key tool for public health and microbiology research <i>Invited speaker:</i> Dr. Fiona Brinkman, Simon Fraser University, BC</p> <p style="text-align: center;">11:00 – 11:15 AM Experimental evolution of <i>Pseudomonas syringae</i> on a novel plant host <u>Marcus Dillon</u>, University of Toronto, Toronto, ON</p> <p style="text-align: center;">11:15 – 11:30 AM Development of a Single Nucleotide Variant (SNV)-based subtyping scheme for the highly clonal <i>Salmonella</i> serovar Heidelberg <u>Geneviève Labbé</u>, Public Health Agency of Canada, Guelph, ON</p>	<p style="text-align: center;">Structural Biology (MGCM)</p> <p>Chair: Brendan McConkey, Waterloo Vice-Chair: Joel Weadge, WLU Location: STC 0040</p> <p style="text-align: center;">10:30 – 11:00 AM Discovery of a novel flagellin family in diverse bacteria that forms enzymatically active flagella <i>Invited speaker:</i> Dr. Andrew Doxey, University of Waterloo, ON</p> <p style="text-align: center;">11:00 – 11:15 AM Phage moron JBD26-61 promotes resistance to phage infection by disrupting cyclic di-GMP mediated type-iv pilus biosynthesis <u>Veronique Taylor</u>, University of Toronto, Toronto, ON</p> <p style="text-align: center;">11:15 – 11:30 AM Bacterial tyrosine phosphorylation of a multicargo chaperone regulates hierarchical type III effector secretion and supports enteric disease <u>Cameron Runte</u>, Dalhousie University, Halifax, NS</p> <p style="text-align: center;">11:30 – 11:45 AM Deciphering the biosynthetic logic of bacterial cell surface phosphonate tailoring: towards pathway-specific inhibitors <u>Geoff Horsman</u>, Wilfrid Laurier University, Waterloo, ON</p>
-------------------------------	---	---	--



		<p>11:30 – 11:45 AM Identification of food-borne pathogens using matrix-assisted laser desorption/ionization time of flight mass spectrometry (MALDI TOF MS) <u>Anli Gao</u>, University of Guelph, Guelph, ON</p> <p>11:45AM – 12:00 PM Screen for Host defence peptide resistance and affiliated mechanisms in clinical associates of inflammatory bowel disease-associated <i>Escherichia coli</i> <u>Youn Hee Cho</u>, Ryerson University, Toronto, ON</p>	<p>11:45AM – 12:00 PM Characterization of FHA domains involved in <i>Saccharomyces Cerevisiae</i> dNTP Regulation and double-strand break repair <u>Geburah Straker</u>, University of Waterloo, Waterloo, ON</p>
<p>12:00 – 2:45 PM</p>	<p>Lunch, Poster Session I, and Exhibitors Location: Physical Activities Complex (PAC)</p>		
<p>1:00 – 2:45 PM Physical Activities Complex (PAC)</p>	<p>WORKSHOPS</p> <p>1:00 – 1:30 PM: GE Healthcare Life Sciences Filtration 101- techniques and advances in filtration <u>Fernand Girard</u>, Bioprocess Specialist, GE Healthcare Life Sciences</p> <p>2:00 – 2:30 PM: Beckman Coulter, Inc Flow cytometric analysis of bacteria samples <u>Melis McHenry</u>, Beckman Coulter Life Sciences</p> <div style="text-align: right;">   </div>		

<p>3:00 – 4:30 PM STC 1012</p>	<p style="text-align: center;">STUDENT SYMPOSIUM I Chairs: Teresa de Kievit & Denice Bay, University of Manitoba, Winnipeg, MB <i>(12 min + 3 min questions each)</i></p> <p>3:00 – 3:15 PM - AEM SSC 01 Neonicotinoid-induced pathogen susceptibility is mitigated by <i>Lactobacillus plantarum</i> immune stimulation in a <i>Drosophila melanogaster</i> model <u>Brendan Daisley</u>, University of Western Ontario, London, ON</p> <p>3:15 – 3:30 PM - II SSC 01 Spontaneous preterm birth and the vaginal microbiome <u>Aline Freitas</u>, University of Saskatchewan, Saskatoon, SK</p> <p>3:30 – 3:45 PM - MGCM SSC 02 Characterization of an anti-CRISPR that can convert a type I-E CRISPR-Cas complex into a transcriptional activator <u>Marios Mejdani</u>, University of Toronto, Toronto, ON</p> <p>3:45 – 4:00 PM - AEM SSC 02 Antimicrobial resistance gene surveillance in the receiving waters of an upgraded wastewater treatment plant <u>Claire Freeman</u>, University of Regina, Regina, SK</p> <p>4:00 – 4:15 PM - II SSC 03 Investigating the role of antibiotics and adherent-invasive <i>Escherichia coli</i> in the pathogenesis of Crohn's disease <u>Alexander Oberc</u>, McMaster University, Hamilton, ON</p> <p>4:15 – 4:30 PM - MGCM SSC 03 A transcriptional regulatory system governs anti-CRISPR expression and phage viability <u>Sabrina Stanley</u>, University of Toronto, Toronto, ON</p>
<p>4:30 – 5:00 PM STC Main Lobby</p>	<p><i>Coffee and Tea Break</i> <i>Refreshments will be served</i></p>
<p>5:00 – 6:00 PM STC 1012</p>	<p>Fisher Award Lecture <i>Sponsored by Fisher Scientific</i></p>  <p>Understanding and manipulating the plant holobiont Dr. Étienne Yergeau, INRS-Institut Armand Frappier, Laval, Quebec</p> <p style="text-align: right;"><small>Part of Thermo Fisher Scientific</small></p>
<p>6:00 – 9:00 PM Federation Hall</p>	<p>Opening Reception</p>


Thursday — June 22, 2017

8:00 AM	<p>On-Site Registration Science Teaching Complex (STC) Main Lobby</p>		
8:30 – 10:00 AM	<p>Computational Methods in Microbiology (Unified Theme)</p> <p>Chair: Andrew Doxey, Waterloo Vice-Chair: Briallen Lobb, Waterloo Location: STC 0010</p> <p>8:30 – 9:00 AM Enterotypes, autism, aliens and the elderly: the microbiome as a composition <i>Invited speaker:</i> Dr. Greg Gloor, University of Western Ontario, ON</p> <p>9:00 – 9:15 AM Data-driven discovery of small molecules from the human microbiota <u>Walaa Mousa</u>, McMaster University, Hamilton, ON</p> <p>9:15 – 9:30 AM Predictive modelling of a batch filter mating process <u>Brian Ingalls</u>, University of Waterloo, Waterloo, ON</p> <p>9:30 – 9:45 AM PhageTerm: a fast and user-friendly software to determine bacteriophage termini and packaging mode using randomly fragmented: NGS Data <u>Julian Garneau</u>, Université de Sherbrooke, Quebec, QC</p>	<p>Microbial Arms Race: Antibiotics and Resistance (I&I) <i>Sponsored by CIHR III</i></p>  <p>Institute of Infection and Immunity Institut des maladies infectieuses et immunitaires</p> <p>Chair: Marie Elliot, McMaster Vice-Chair: Joe McPhee, Ryerson Location: STC 0020</p> <p>8:30 – 9:00 AM A thermosensory diguanylate cyclase that mediates temperature-dependent bacterial biofilm development <i>Invited speaker:</i> Dr. Joe Harrison, University of Calgary, AB</p> <p>9:00 – 9:15 AM Does an epidemic and transmissible cystic fibrosis strain of <i>Pseudomonas aeruginosa</i> employ the type six secretion system in strain replacement? <u>Jenny Nguyen</u>, University of Calgary, Calgary, AB</p> <p>9:15 – 9:30 AM Functional relationships of RND efflux pumps in <i>Staphylococcus aureus</i> <u>Jamie Halucha</u>, University of Western Ontario, London, ON</p>	<p>Microbial Origins and Symbioses (Unified theme)</p> <p>Chair: Kirsten Müller, Waterloo Vice-Chair: Andrew Cameron, Regina Location: STC 0040</p> <p>8:30 – 9:00 AM One plus one equals one: historical and modern perspectives on symbiosis <i>Invited speaker:</i> Dr. John Archibald, Dalhousie University, NS</p> <p>9:00 – 9:15 AM Rapid experimental evolution of antibiotic resistance <u>Brandon Findlay</u>, Concordia University, Montreal, QC</p> <p>9:15 – 9:30 AM Characterization of novel type VI secretion system effectors in a plant commensal bacterium <u>Nathan Bullen</u>, McMaster University, Hamilton, ON</p> <p>9:30 – 9:45 AM The mammalian skin microbiome <u>Ashley Ross</u>, University of Waterloo, Waterloo, ON</p> <p>9:45 – 10:00 AM Drivers behind the selection of core fish gut microbiome <u>Subba Rao Chaganti</u>, University of Windsor, Windsor, ON</p>




	<p>9:45 - 10:00 AM Amplytica: bringing microbial ecology to the cloud <u>Lee Bergstrand</u>, Thompson Rivers University, Kamloops, BC</p>	<p>9:30 – 9:45 AM Functional genomic analysis of echinocandin resistance in <i>Candida albicans</i> <u>Tavia Caplan</u>, University of Toronto, Toronto, ON</p> <p>9:45 – 10:00 AM Discovery of an antibiotic effective against the opportunistic pathogen, <i>Acinetobacter baumannii</i> <u>Ashley Williams</u>, University of Regina, Regina, SK</p>	
<p>10:00 – 10:30 AM STC Main Lobby</p>	<p><i>Coffee and Tea Break</i> <i>Refreshments will be served</i></p>		
<p>10:30 AM – 12:00 PM</p>	<p>Synthetic (Micro)Biology (MGCM) Chair: Trevor Charles, Waterloo Vice-Chair: Brian Ingalls, Waterloo Location: STC 0010</p> <p>10:30 – 11:00 AM Genome engineering: Synthetic genomes Invited Speaker: Dr. Bogumil Karas, University of Western Ontario, London, ON</p> <p>11:00 – 11:15 AM iGEM Showcase Presented by: University of Waterloo iGEM team</p>	<p>Viruses, Vaccination & Health (I&I) Sponsored by CIHR III</p>  <p>Chair: Alexander Hynes, Université Laval Vice-Chair: Marc Aucoin, Waterloo Location: STC 0020</p> <p>10:30 – 11:00 AM Phage morons modulate pathogenesis of <i>Pseudomonas aeruginosa</i> Invited speaker: Dr. Karen Maxwell, University of Toronto, ON</p>	<p>Microbes in Unusual Environments (AEM)</p> <p>Chair: Kim Gilbride, Ryerson Vice-Chair: Kesen Ma, Waterloo Location: STC 0040</p> <p>10:30 – 11:00 AM Something from nothing? The creation of a new microbial ecosystem 2500 meters below the surface Invited speaker: Dr. Kelly Wrighton, Ohio State University, Ohio, USA</p> <p>11:00 – 11:15 AM Soil factors influence archaeal ammonia oxidizers but not methanotrophs in arctic polar desert soils <u>Martin Brummell</u>, University of Waterloo, Waterloo, ON</p>

<p>10:00AM – 12:00 PM</p>	<p>11:15 – 11:30 AM Mutation-based conformational analysis of a new S-Adenosylmethionine Riboswitch structure in <i>Burkholderia thailandensis</i> <u>Vesta Korniakova</u>, INRS-Institut Armand Frappier, Laval, QC</p> <p>11:30 – 11:45 AM The development of a comprehensive CRISPR-Cas9 toolkit for <i>Bacillus subtilis</i>, and its application to strain engineering for biomanufacturing purposes <u>Adam Westbrook</u>, University of Waterloo, Waterloo, ON</p> <p>11:45AM – 12:00 PM Semi-rational evolution of the RhlA Enzyme from <i>Pseudomonas aeruginosa</i> for the synthesis of industrially relevant rhamnolipids <u>Carlos Eduardo Dulcey</u>, INRS-Institut Armand Frappier, Laval, QC</p>	<p>11:00 – 11:15 AM Validation of UV inactivation of enteric viruses in drinking water and wastewater <u>Nicole McLellan</u>, University of Guelph, Guelph, ON</p> <p>11:15 – 11:30 AM <i>In vitro</i> attenuation of a virulent swine isolate of "Brachyspira hampsonii" <u>Janet Hill</u>, University of Saskatchewan, Saskatoon, SK</p> <p>11:15 – 11:30 AM Discovery and development of new host-targeted antiviral drugs <u>Patrick Slaine</u>, Dalhousie University, Halifax, NS</p> <p>11:45AM – 12:00 PM An evolutionary arms race: identification of the first HIV-1 antagonist against the interferon induced antiviral protein, HERC5 <u>Divjyot Kochar</u>, University of Western Ontario, London, ON</p>	<p>11:15 – 11:30 AM The impact of water quality on the root-associated microbial communities of wetland plants <u>Lindsey Clairmont</u>, Wilfrid Laurier University, Waterloo, ON</p> <p>11:30 – 11:45 AM Microbial carbon transformations in the western arctic ocean revealed through analysis of metagenome-assembled genomes <u>David Colatiano</u>, Concordia University, Montreal, QC</p> <p>11:45AM – 12:00 PM Dynamics of under-ice microbial community in freshwater lakes: reconstructing metabolism to gain insight about ecological roles <u>Patricia Tran</u>, Concordia University, Montreal, QC</p>
<p>12:00 – 2:45 PM</p>	<p>Lunch, Poster Session II, and Exhibitors Location: Physical Activities Complex (PAC)</p>		
<p>1:00 – 2:45 PM Physical Activities Complex (PAC)</p>	<p>WORKSHOPS</p> <p>1:00 – 1:30 PM: Illumina Using Illumina's next generation sequencing technology to understand microbes Dr. Michael Smith, Executive Sequencing and Data Analysis Specialist</p> <p>2:00 – 2:30 PM: DNA GenoTek Strategies and performance benchmarks for microbiome sampling & stabilization Dr. Heloise Breton, DNA Genotek, Microbiome product specialist</p>  		

<p>3:00 – 4:30 PM STC 1012</p>	<p style="text-align: center;">STUDENT SYMPOSIUM II <i>Chairs: Teresa de Kievit & Denice Bay, University of Manitoba, Winnipeg, MB</i> <i>(12 min + 3 min questions each)</i></p> <p>3:00 – 3:15 PM - AEM SSC 03 Characterization of Pap-Pit: a broadly distributed bipartite phosphate transport system in Bacteria and Archaea <u>Daniel Hsieh</u>, McMaster University, Hamilton, ON</p> <p>3:15 – 3:30 PM - II SSC 04 Comparative analysis of antimicrobial susceptibility and biofilm formation in <i>Escherichia coli</i> expressing laterally transmitted quaternary ammonium compound efflux pumps <u>Carmine Slipski</u>, University of Manitoba, Winnipeg, MB</p> <p>3:30 – 3:45 PM - MGCM SSC 01 A novel mode of bacterial development is triggered by interkingdom interactions and airborne signals <u>Stephanie Jones</u>, McMaster University, Hamilton, ON</p> <p>3:45 – 4:00 PM - MGCM SSC 04 Structure and molecular basis of catalysis of the peptidoglycan O-acetyltransferase catalytic domain <u>David Sychantha</u>, University of Guelph, Guelph, ON</p> <p>4:00 – 4:15 PM - AEM SSC 04 Forests fueling lake sediments: exploring microbial decomposers responsible for greenhouse gas production <u>Kurt Yakimovich</u>, Laurentian University, Sudbury, ON</p> <p>4:15 – 4:30 PM - II SSC 02 Regulatory evolution drives immune evasion by <i>Salmonella typhimurium</i> <u>Bushra Ilyas</u>, McMaster University, Hamilton, ON</p>
<p>4:30 – 5:00 PM STC Main Lobby</p>	<p><i>Coffee and Tea Break</i> <i>Refreshments will be served</i></p>
<p>5:00 – 6:00 PM STC 1012</p>	<p>KEYNOTE LECTURE <i>Sponsored by CIHR III</i></p> <div style="display: flex; align-items: center;">  <div style="font-size: small;"> <p>CIHR Institute of Infection and Immunity IRSC Institut des maladies infectieuses et immunitaires</p> </div> </div> <p>“Follow the Water”: Exploring the deep hydrogeosphere and the subsurface terrestrial biosphere <u>Dr. Barbara Sherwood Lollar</u>, University of Toronto, Toronto, ON 2016 NSERC John C. Polanyi award recipient; 2016 Companion to the Order of Canada</p>
<p>6:00 – 7:30 PM STC 0010</p>	<p>CSM Annual General Meeting <i>All CSM members welcome.</i></p>
<p>7:30 – 9:00 PM REV - Great Hall</p>	<p>Student Mixer <i>Refreshments, games, door prizes, and connections</i></p>

Friday — June 23, 2017			
8:15 AM	On-Site Registration Science Teaching Complex (STC) Main Lobby		
9:00 – 10:00 AM STC 1012	Armand Frappier Outstanding Student Award Lecture Experimental and in silico guided approaches to engineering the rhizobium – legume symbiosis Dr. George diCenzo , McMaster University, Hamilton, ON 		
10:00 – 10:30 AM STC Main Lobby	Coffee and Tea Break Refreshments will be served		
10:30AM – 12:00 PM	<p style="text-align: center;">Applied & Environmental Microbiology Section Symposium</p> <p><i>Chair:</i> Andrea Kirkwood, UOIT <i>Vice-Chair:</i> Steve Short, UTM Location: STC 0010</p> <p style="text-align: center;">10:30 – 10:45 AM Microbial biogeography of the grand river reveals strong spatial gradients and flow-dependent allochthonous microorganisms <u>Sara Coyotzi Alcaraz</u>, University of Waterloo, Waterloo, ON</p> <p style="text-align: center;">10:45 – 11:00 AM Evidence for rapid adaptation during clonal expansion of the white nose syndrome pathogen, <i>Pseudogymnoascus destructans</i>, in North America <u>Adrian Forsythe</u>, McMaster University, Hamilton, ON</p>	<p style="text-align: center;">Infection & Immunity Section Symposium</p> <p><i>Chair:</i> Charles Dozois, INRS <i>Vice-Chair:</i> Jennifer Geddes-McAlister, Max Planck Institute of Biochemistry Location: STC 0020</p> <p style="text-align: center;">10:30 – 10:45 AM Enzyme immobilization on biomaterial surfaces for prevention of <i>Pseudomonas aeruginosa</i> biofilms <u>Dalal Asker</u>, University of Toronto, Toronto, ON</p> <p style="text-align: center;">10:45 – 11:00 AM Quantitative proteomics of the host-pathogen interplay during <i>Salmonella typhimurium</i> infection <u>Jennifer Geddes-McAlister</u>, Max Planck Institute of Biochemistry, Planegg, Germany</p>	<p style="text-align: center;">Molecular Genetics & Cellular Microbiology Section Symposium</p> <p><i>Chair:</i> Shawn MacLellan, UNB <i>Vice-Chair:</i> Michael Hynes, UCalgary Location: STC 0040</p> <p style="text-align: center;">10:30 – 10:45 AM Cell envelope protein interaction map in <i>Escherichia coli</i> <u>Mohan Babu</u>, University of Regina, Regina, SK</p> <p style="text-align: center;">10:45 – 11:00 AM Conflict can enhance bacterial community survival: the case of cross-feeding and colicins in a defined community of <i>E. coli</i> and <i>Salmonella</i> <u>Andrew Cameron</u>, University of Regina, Regina, SK</p> <p style="text-align: center;">11:00 – 11:15 AM Activation of a cryptic glycopeptide antibiotic-related biosynthetic gene cluster <u>Elizabeth Culp</u>, McMaster University, Hamilton, ON</p>

	<p>11:00 – 11:15 AM Time-series clustering of marker genes reveals ecological dynamics <u>Michael Hall</u>, Dalhousie University, Halifax, NS</p> <p>11:15 – 11:30 AM The ecology of methylophilic bacteria in aquatic environments <u>Arthi Ramachandran</u>, Concordia University, Montreal, QC</p> <p>11:30 – 11:45 AM Probiotic fermented food for 120,000 people in Africa, and counting <u>Gregor Reid</u>, Lawson Health Research Institute, London, ON</p> <p>11:45 AM – 12:00 AM Case study on the impact of antibiotic treatment on gut microbiota of preterm infants with and without NEC <u>Sandi Yen</u>, University of Guelph, Guelph, ON</p>	<p>11:00 – 11:15 AM Denosumab, a monoclonal antibody to receptor activator of nuclear factor-Kappa B ligand, modulates the gut microbiome dysbiosis in the context of experimental colitis <u>Azin Khafipour</u>, University of Manitoba, Winnipeg, MB</p> <p>11:15 – 11:30 AM Investigating the ability of <i>Lactobacillus</i> sp. to reduce <i>Candida albicans</i>-induced immunopathology <u>Jessie MacAlpine</u>, University of Toronto, Toronto, ON</p> <p>11:30 – 11:45 AM Enterohemorrhagic <i>Escherichia coli</i> responds to gut microbiota metabolites by altering metabolism and activating stress responses <u>Stefanie Vogt</u>, University of British Columbia, Vancouver, BC</p> <p>11:45 AM– 12:00 PM Attenuated <i>Salmonella typhimurium</i> as a vector for a novel <i>Clostridium difficile</i> vaccine <u>Kaitlin Winter</u>, McGill University, Montreal, QC</p>	<p>11:15 – 11:30 AM Cell wall stress sensing enables resistance to killing by cell wall acting antibiotics in <i>Vibrio cholerae</i> <u>Tobias Doerr</u>, Cornell University, NY, USA</p> <p>11:30 – 11:45 AM A CRISPR Cas9-Based Gene Drive Platform for Studying Complex Genetic Interactions in <i>Candida albicans</i> <u>Rebecca Shapiro</u>, Broad Institute of MIT & Harvard, MA, USA</p> <p>11:45 AM– 12:00 PM A broadly distributed toxin family mediates contact-dependent antagonism between gram-positive bacteria <u>John Whitney</u>, McMaster University, Hamilton, ON</p>
12:00 – 2:45 PM	<p>Lunch, Poster Session III, and Exhibitors Location: Physical Activities Complex (PAC)</p>		

<p>3:00 – 4:30 PM STC 1012</p>	<p>Postdoctoral Research Symposium <i>Chair:</i> Louise Nelson, UBC Okanagan <i>Vice-Chair:</i> Ed Topp, Agriculture and Agri-Food Canada</p> <p>(12 min + 3 min questions each)</p> <p>3:00 – 3:15 PM - AEM 072 Metatranscriptomic profiles of rhizospheric microorganisms and relationship with canola yield <u>Chih-Ying Lay</u>, Université de Montréal, Montréal, QC</p> <p>3:15 – 3:30 PM - AEM 112 Toward antibiotic stewardship: route of antibiotic administration impacts the microbiota and resistance gene diversity in swine feces <u>Nicole Ricker</u>, USDA-Agricultural Research Service, Ames, USA</p> <p>3:30 – 3:45 PM - II 049 Mechanistic insights into hierarchal effector secretion in enteropathogenic <i>Escherichia coli</i> <u>Dustin Little</u>, McMaster University, Hamilton, ON</p> <p>3:45 – 4:00 PM - II 068 Immunophage synergy is essential for eradicating pathogens that provoke acute respiratory infections <u>Dwayne Roach</u>, Institut Pasteur, Paris, France</p> <p>4:00 – 4:15 PM - MGCM 019 The genome-wide interaction network of nutrient stress genes in <i>Escherichia coli</i> <u>Jean-Philippe Côté</u>, McMaster University, Hamilton, ON</p> <p>4:15 – 4:30 PM - MGCM 046 CRISPR-Cas: limitations of an adaptive immune system <u>Alexander Hynes</u>, Université de Laval, Québec, QC</p>	
<p>4:30 – 5:20 PM STC 1012</p>	<p>CSM MURRAY AWARD FOR CAREER ACHIEVEMENT <i>Sponsored by: Canadian Science Publishing</i></p> <p>CRISPR-Cas systems: from humble beginnings to today's headlines <u>Dr. Sylvain Moineau</u>, Université Laval, Quebec, QC</p>	 <p>Canadian Journal of Microbiology is published by CSP</p>
<p>5:20 – 5:30 PM STC 1012</p>	<p>Invitation to next year's meeting from the CSM 2018 Chair Ivan Oresnik, University of Manitoba, Winnipeg, MB</p>	
<p>7:00 PM</p>	<p>President's Banquet Concordia Club 429 Ottawa Street, Kitchener, ON, N2M 3P6</p> <p><i>Transportation will be provided to and from the banquet. Bus pick up from STC at 6:20 pm</i></p>	



UNIVERSITY OF
WATERLOO