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

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## CSM Annual Conference Scientific Program


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



<p>4:30 – 5:30 PM <b>STC 0040</b></p>	<p><b>NSERC GRANTS INFORMATION SESSION</b></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 &amp; 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 <b>STC Lobby</b></p> <p>6:30 – 6:40 PM <b>STC 1012</b></p>	<p><b>Welcome &amp; Keynote Reception</b> <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><b>Welcome from CSM 2017 Co-Chairs</b> <b>Josh Neufeld and Laura Hug, University of Waterloo, Waterloo, ON</b></p>
<p>6:40 – 7:30 PM <b>STC 1012</b></p>	<p><b>KEYNOTE LECTURE</b> <i>Sponsored by CIHR III</i></p> <p><b>No one has to read this crap: a guide to telling stories about science</b> <b>Ed Yong</b>, 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 <b>Science Teaching Complex (STC) Main Lobby</b></p>		
<p>8:30 – 10:00 AM</p>	<p><b>Microbial Diversity</b> (Unified Theme)</p> <p><b>Chair:</b> Janet Hill, U Sask <b>Vice-Chair:</b> Jen Stearns, McMaster <b>Location:</b> STC 0010</p> <p><b>8:30 – 9:00 AM</b> <b>Invisible influence: the microbiome in precision medicine</b> <i>Invited speaker: Dr. Jack Gilbert, University of Chicago, Chicago, USA</i></p>	<p><b>Microorganisms and Ecosystem Services</b> (AEM)</p> <p><b>Chair:</b> Robin Slawson, WLU <b>Vice-Chair:</b> Barb Butler, Waterloo <b>Location:</b> STC 0020</p> <p><b>8:30 – 9:00 AM</b> <b>Identifying and quantifying microbial interdependencies that underpin ocean productivity</b> <i>Invited speaker: Dr. Erin Bertrand, Dalhousie University, NS</i></p>	<p><b>Microbial Systems Biology</b> (MGCM)</p> <p><b>Chair:</b> Gabriel Moreno-Hagelsieb, WLU <b>Vice-Chair:</b> Geoff Horsman, WLU <b>Location:</b> STC 0040</p> <p><b>8:30 – 9:00 AM</b> <b>Systematic identification of a class of bacterial effectors with novel regulatory activities</b> <i>Invited speaker: Dr. Alex Ensminger, University of Toronto, Toronto, ON</i></p>


	<p><b>9:00 – 9:15 AM</b> <b>Structural and functional characterization of environmental antibiotic resistance enzymes reveals new mechanistic diversity</b> <u>Peter Stogios</u>, University of Toronto, Toronto, ON</p> <p><b>9:15 – 9:30 AM</b> <b>Sand harbours distinct communities of attached and interstitial bacteria and protists</b> <u>Vera Tai</u>, University of Western Ontario, London, ON</p> <p><b>9:30 – 9:45 AM</b> <b>Culture-enriched metagenomic sequencing of the cystic fibrosis lung microbiota</b> <u>Fiona Whelan</u>, McMaster University, Hamilton, ON</p> <p><b>9:45 – 10:00 AM</b> <b>When in drought: the root microbiome under water stress</b> <u>Connor Fitzpatrick</u>, University of Toronto, Toronto, ON</p>	<p><b>9:00 – 9:15 AM</b> <b>Ecological perspectives on the degradation of lignocellulosic polymers by bacteria and fungi in forest soil</b> <u>Roland Wilhelm</u>, University of British Columbia, Vancouver, BC</p> <p><b>9:15 – 9:30 AM</b> <b>Impact of repeated treatments of the pesticides Chlorpyrifos or Tebuconazole on soil microorganisms using alternative methods</b> <u>Veronika Storck</u>, Institut National de la Recherche Agronomique, Dijon, France</p> <p><b>9:30 – 9:45 AM</b> <b>The tale of a neglected energy source for soil microbial communities</b> <u>Sarah Piché-Choquette</u>, Armand-Frappier Institute - INRS, Laval, QC</p> <p><b>9:45 – 10:00 AM</b> <b>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</b> <u>Arvin Nickzad</u>, INRS-Institut Armand Frappier, Laval, QC</p>	<p><b>9:00 – 9:15 AM</b> <b><i>Sinorhizobium meliloti</i> PHB cycle mutants display altered metabolite profile in nitrogen limited media</b> <u>Maya D'Alessio</u>, University of Waterloo, Waterloo, ON</p> <p><b>9:15 – 9:30 AM</b> <b>Comparative metabolic analysis of <i>Komagataeibacter</i> spp. grown in different carbon sources</b> <u>Sierra Dargan</u>, University of Ontario Institute of Technology, Oshawa, ON</p> <p><b>9:30 – 9:45 AM</b> <b>Differential expression of non-coding RNAs by the pqs quorum sensing system in <i>Pseudomonas aeruginosa</i></b> <u>François D'Heygere</u>, INRS-Institut Armand Frappier, Laval, QC</p> <p><b>9:45 – 10:00 AM</b> <b>Studying the role of the AdeIJK RND efflux pump and its unlinked regulator AdeN in resistance and virulence in <i>Acinetobacter baumannii</i></b> <u>Mark Unger</u>, University of Manitoba, Winnipeg, MB</p>
<p>10:00 – 10:30 AM <b>STC Main Lobby</b></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;"><b>Climate Change Microbiology (AEM)</b></p> <p><b>Chair:</b> Virginia Walker, Queen's <b>Vice-Chair:</b> Jackson Tsuji, Waterloo <b>Location:</b> STC 0010</p> <p style="text-align: center;"><b>10:30 – 11:00 AM</b> <b>Climate change microbiology: insights from freshwater cyanobacteria</b> <i>Invited speaker:</i> <b>Dr. Kathryn Cottingham</b>, Dartmouth University, NS</p> <p style="text-align: center;"><b>11:00 – 11:15 AM</b> <b>Microbial community development in artificial soil columns as affected by water table fluctuations</b> <u>Geertje Pronk</u>, University of Waterloo, Waterloo, ON</p> <p style="text-align: center;"><b>11:15 – 11:30 AM</b> <b>Playing with fire in the Alaskan boreal forest</b> <u>Virginia Walker</u>, Queen's University, Kingston, ON</p> <p style="text-align: center;"><b>11:30 – 11:45 AM</b> <b>Going beyond the surface: microbial interactions in deeper horizons influence greenhouse gas emissions in a sandy Ontario agricultural soil</b> <u>Lori Phillips</u>, Agriculture and Agri-Food Canada, Harrow, ON</p> <p style="text-align: center;"><b>11:45AM – 12:00 PM</b> <b>Emergence of cyanobacteria in a large macrophyte-dominated lake</b> <u>Tyler Harrow-Lyle</u>, University of Ontario Institute of Technology, Oshawa, ON</p>	<p style="text-align: center;"><b>Epidemiology in a Changing Pathogen Landscape (I&amp;I)</b> <i>Sponsored by CIHR III</i></p>  <p><b>Chair:</b> Lori Burrows, McMaster <b>Vice-Chair:</b> France Daigle, U de Montreal <b>Location:</b> STC 0020</p> <p style="text-align: center;"><b>10:30 – 11:00 AM</b> <b>Enabling global genomic epidemiology - a key tool for public health and microbiology research</b> <i>Invited speaker:</i> <b>Dr. Fiona Brinkman</b>, Simon Fraser University, BC</p> <p style="text-align: center;"><b>11:00 – 11:15 AM</b> <b>Experimental evolution of <i>Pseudomonas syringae</i> on a novel plant host</b> <u>Marcus Dillon</u>, University of Toronto, Toronto, ON</p> <p style="text-align: center;"><b>11:15 – 11:30 AM</b> <b>Development of a Single Nucleotide Variant (SNV)-based subtyping scheme for the highly clonal <i>Salmonella</i> serovar Heidelberg</b> <u>Geneviève Labbé</u>, Public Health Agency of Canada, Guelph, ON</p>	<p style="text-align: center;"><b>Structural Biology (MGCM)</b></p> <p><b>Chair:</b> Brendan McConkey, Waterloo <b>Vice-Chair:</b> Joel Weadge, WLU <b>Location:</b> STC 0040</p> <p style="text-align: center;"><b>10:30 – 11:00 AM</b> <b>Discovery of a novel flagellin family in diverse bacteria that forms enzymatically active flagella</b> <i>Invited speaker:</i> <b>Dr. Andrew Doxey</b>, University of Waterloo, ON</p> <p style="text-align: center;"><b>11:00 – 11:15 AM</b> <b>Phage moron JBD26-61 promotes resistance to phage infection by disrupting cyclic di-GMP mediated type-iv pilus biosynthesis</b> <u>Veronique Taylor</u>, University of Toronto, Toronto, ON</p> <p style="text-align: center;"><b>11:15 – 11:30 AM</b> <b>Bacterial tyrosine phosphorylation of a multicargo chaperone regulates hierarchical type III effector secretion and supports enteric disease</b> <u>Cameron Runte</u>, Dalhousie University, Halifax, NS</p> <p style="text-align: center;"><b>11:30 – 11:45 AM</b> <b>Deciphering the biosynthetic logic of bacterial cell surface phosphonate tailoring: towards pathway-specific inhibitors</b> <u>Geoff Horsman</u>, Wilfrid Laurier University, Waterloo, ON</p>
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<p>12:00 – 2:45 PM</p>	<p><b>Lunch, Poster Session I, and Exhibitors</b>  <b>Location:</b> Physical Activities Complex (PAC)</p>		
<p>1:00 – 2:45 PM  <b>Physical Activities Complex (PAC)</b></p>	<p><b>WORKSHOPS</b></p> <p><b>1:00 – 1:30 PM: GE Healthcare Life Sciences</b>  <b>Filtration 101- techniques and advances in filtration</b>  <u>Fernand Girard</u>, Bioprocess Specialist, GE Healthcare Life Sciences</p> <p><b>2:00 – 2:30 PM: Beckman Coulter, Inc</b>  <b>Flow cytometric analysis of bacteria samples</b>  <u>Melis McHenry</u>, Beckman Coulter Life Sciences</p>		 



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

Thursday — June 22, 2017


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






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

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

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

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

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

<p>3:00 – 4:30 PM STC 1012</p>	<p><b>Postdoctoral Research Symposium</b> <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><b>3:00 – 3:15 PM - AEM 072</b> <b>Metatranscriptomic profiles of rhizospheric microorganisms and relationship with canola yield</b> <u>Chih-Ying Lay</u>, Université de Montréal, Montréal, QC</p> <p><b>3:15 – 3:30 PM - AEM 112</b> <b>Toward antibiotic stewardship: route of antibiotic administration impacts the microbiota and resistance gene diversity in swine feces</b> <u>Nicole Ricker</u>, USDA-Agricultural Research Service, Ames, USA</p> <p><b>3:30 – 3:45 PM - II 049</b> <b>Mechanistic insights into hierarchal effector secretion in enteropathogenic <i>Escherichia coli</i></b> <u>Dustin Little</u>, McMaster University, Hamilton, ON</p> <p><b>3:45 – 4:00 PM - II 068</b> <b>Immunophage synergy is essential for eradicating pathogens that provoke acute respiratory infections</b> <u>Dwayne Roach</u>, Institut Pasteur, Paris, France</p> <p><b>4:00 – 4:15 PM - MGCM 019</b> <b>The genome-wide interaction network of nutrient stress genes in <i>Escherichia coli</i></b> <u>Jean-Philippe Côté</u>, McMaster University, Hamilton, ON</p> <p><b>4:15 – 4:30 PM - MGCM 046</b> <b>CRISPR-Cas: limitations of an adaptive immune system</b> <u>Alexander Hynes</u>, Université de Laval, Québec, QC</p>	
<p>4:30 – 5:20 PM STC 1012</p>	<p><b>CSM MURRAY AWARD FOR CAREER ACHIEVEMENT</b> <i>Sponsored by: Canadian Science Publishing</i></p> <p><b>CRISPR-Cas systems: from humble beginnings to today's headlines</b> <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 <b>Ivan Oresnik</b>, University of Manitoba, Winnipeg, MB</p>	
<p>7:00 PM</p>	<p><b>President's Banquet</b> 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>	



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