

9<sup>th</sup> Annual Symposium – July 25<sup>th</sup> and 26<sup>th</sup>, University of Western Ontario  
(Physics & Astronomy Building: Room 148)

<b>Thursday July 25, 2019</b>		<b>Chair</b>
<b>9:30 – 9:40</b>	<b>Welcoming Remarks</b>	<b>Joseph Turnbull</b>
<b>9:40 – 10:20</b>	<b>Keynote: Presentation from Shawcor</b> <b>Dr. Kaveh Sarikhani</b> Shawcor, Toronto, ON, Canada	
<b>10:20 – 10:40</b>	<b>Comparative Corrosion Evaluation of Ferritic Stainless Steels for Automotive Exhaust Applications</b> <b>Yoel Emun, J.R. Kish, H.S. Zurob</b> Department of Materials Science and Engineering, McMaster University, Hamilton, ON, Canada	
<b>10:40 – 11:00</b>	<b>Coffee Break</b>	
<b>11:00 – 11:20</b>	<b>Synchrotron-Based Micro-CT Investigation of the Galvanic Corrosion of Cu-Coated Carbon Steel</b> <b>Thalia E. Standish<sup>1</sup>, D. Zagidulin<sup>1</sup>, S. Ramamurthy<sup>2</sup>, D.W. Shoesmith<sup>1,2</sup>, J.J. Noël<sup>1,2</sup></b> <sup>1</sup> Department of Chemistry, Western University, London, ON, Canada <sup>2</sup> Surface Science Western, Western University, London, ON, Canada	<b>Amir Foroozan</b>
<b>11:20 – 11:40</b>	<b>The Role of the Copper-to-Steel Area Ratio in the Galvanic Corrosion of Steel in the Presence of Chloride</b> <b>Lindsay J. Braithwaite<sup>1</sup>, T.E. Standish<sup>1</sup>, J.J. Noël<sup>1,2</sup>, D.W. Shoesmith<sup>1,2</sup></b> <sup>1</sup> Department of Chemistry, Western University, London, ON, Canada <sup>2</sup> Surface Science Western, Western University, London, ON, Canada	
<b>11:40 – 12:00</b>	<b>Determination of Corrosion Rate Using Dual-Electrochemical Cell Measurement for Galvanic Corrosion System</b> <b>Mi Li<sup>1</sup>, J.M. Joseph<sup>1</sup>, O. Yong<sup>2</sup>, J.C. Wren<sup>1</sup></b> <sup>1</sup> Department of Chemistry, Western University, London, ON, Canada <sup>2</sup> Chemistry, Metallurgy & Welding Department, Components Engineering Division – Ontario Power Generation, Toronto, ON, Canada	
<b>12:00 – 13:30</b>	<b>Lunch- Provided - Sponsored by Shawcor</b>	
<b>13:30 – 13:50</b>	<b>Reaction-Transport Model in a One-dimensional Corrosion Pit</b> <b>Van Anh Nguyen, A.G. Carcea, R.C. Newman</b> Department of Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, ON, Canada	<b>Sara Filice</b>
<b>13:50 – 14:10</b>	<b>Investigating the Effect of Chloride Concentration on the Pitting Probability of Copper Using Coupled Multielectrode Arrays</b> <b>Sina Matin<sup>1</sup>, M. Momeni<sup>1</sup>, D. Zagidulin, M. Behazin<sup>2</sup>, J.J. Noël<sup>1,3</sup></b> <sup>1</sup> Department of Chemistry, Western University, London, ON, Canada <sup>2</sup> Nuclear Waste Management Organization, Toronto, ON, Canada <sup>3</sup> Surface Science Western, Western University, London, ON, Canada	
<b>14:10 – 14:30</b>	<b>Internal and External Oxidation of Ag-xIn Alloys</b> <b>Yasaman Ghaffari, K. Daub, S.Y. Persaud</b> Department of Mechanical and Materials Engineering, Queen's University, Kingston, ON, Canada	
<b>14:30 – 16:30</b>	<b>Student Poster Session</b>	

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<b>Friday July 26, 2019</b>		<b>Chair</b>
<b>9:40 – 10:00</b>	<p style="text-align: center;"><b>An Electrochemical Study of the Integrated Effect of Temperature, Solution pH, and Sulphide Concentration on the Corrosion of Copper Nuclear Waste Containers in Aqueous Chloride and Sulphide Solutions</b></p> <p style="text-align: center;">Mengnan Guo<sup>1</sup>, K. Zein<sup>1</sup>, J. Chen<sup>1</sup>, T. Martino<sup>2</sup>, J.J. Noël<sup>1,3</sup>, D.W. Shoesmith<sup>1,3</sup>  <sup>1</sup>Department of Chemistry, Western University, London, ON, Canada  <sup>2</sup>CanmetMATERIALS, Natural Resources Canada, Hamilton, ON, Canada  <sup>3</sup>Surface Science Western, Western University, London, ON, Canada</p>	<b>Masoud Zakeri</b>
<b>10:00 – 10:20</b>	<p style="text-align: center;"><b>Failure Analysis of Alloy C-276 by Modern Characterization Techniques</b></p> <p style="text-align: center;">Desmond Williams<sup>1</sup>, J. Smith<sup>2</sup>, K. Daub<sup>1</sup>, F. Long<sup>1</sup>, M. Topping<sup>1</sup>, S.Y. Persaud<sup>1</sup>  <sup>1</sup> Department of Mechanical and Materials Engineering, Queen’s University, Kingston, ON, Canada  <sup>2</sup>Canadian Nuclear Laboratories, Chalk River, ON, Canada</p>	
<b>10:20 – 10:30</b>	<b>Coffee Break</b>	
<b>10:30 – 10:50</b>	<p style="text-align: center;"><b>Evolution of Carbon Steel Corrosion Dynamics as a Function of Polarization Potential and pH</b></p> <p style="text-align: center;">Brianna Rector, K. O’Donnell, D. Guo, J.M. Joseph, J.C. Wren            Department of Chemistry, Western University, London, ON, Canada</p>	<b>Yoel Emmun</b>
<b>10:50 – 11:10</b>	<p style="text-align: center;"><b>Effects of pH, Temperature, Aeration on Corrosion of Inconel X-750</b></p> <p style="text-align: center;">Mohsen Bahrami, R. KarimiHaghighi, J.M. Joseph, J.C. Wren            Department of Chemistry, Western University, London, ON, Canada</p>	
<b>11:10 – 11:20</b>	<b>Coffee Break</b>	
<b>11:20 – 11:40</b>	<p style="text-align: center;"><b>Atomic Emission Spectroelectrochemistry (AESEC) in the Investigation of the Behaviour of Alloying Elements</b></p> <p style="text-align: center;">Jeffrey D. Henderson<sup>1</sup>, X. Li<sup>2</sup>, David W. Shoesmith<sup>1,3</sup>, and James J. Noël<sup>1,3</sup>, K. Ogle<sup>2</sup>  <sup>1</sup>Department of Chemistry, Western University, London, ON, Canada  <sup>2</sup>Chimie-ParisTech, PSL Research University, Paris, France  <sup>3</sup>Surface Science Western, Western University, London, ON, Canada</p>	<b>Anh Nguyen</b>
<b>11:40 – 12:00</b>	<p style="text-align: center;"><b>Alloying Effects and Porosity Formation in Molten Salt Corrosion</b></p> <p style="text-align: center;">Touraj Ghaznavi, R.C. Newman            Department of Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, ON, Canada</p>	
<b>12:00 – 13:30</b>	<b>Lunch- Provided - Sponsored by Shawcor, SSW, and The Noël Lab</b>	
<b>13:30 – 14:10</b>	<p style="text-align: center;"><b>Keynote: The Application of Surface Analytical Techniques in the Field of Corrosion</b></p> <p style="text-align: center;">Dr. Sridhar Ramamurthy            Surface Science Western, Western University, London, ON, Canada</p>	<b>Sara Filice</b>
<b>14:10 – 14:30</b>	<p style="text-align: center;"><b>Closing Remarks and Awards Ceremony</b>  <b>Awards Sponsored by Corrosion Service</b></p>	
<b>14:30 – 16:00</b>	<b>Tour of The Noël Lab and Surface Science Western</b>	

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