

Monday

MAY 2

8:00 AM	Registration	Session Chair: Dr. Boguslaw Kruczek
9:00 AM – 9:15 AM	Official Opening of Conference	
9:15 AM – 10:00 AM	Keynote Lecture I: <i>Use of Adsorbents for Heat and Mass Transfer Applications</i> F. Handan Tezel University of Ottawa, Canada	
10:00 AM – 10:45 AM	Keynote Lecture II: <i>Solute Diffusion in Hydrogels and Polymer Solutions</i> Brian G. Amsden Queen's University, Canada	
10:45 AM – 11:00 AM	Coffee Break	
11:00 AM – 12:20 PM		
Session Name: Fluid Flow, Heat and Mass Transfer Equipment I		Session Chairs: Dr. F. Handan Tezel & Dr. Abdullah Kendoush
11:00 AM – 11:20 AM	122: <i>Multiphase CFD Modelling of Single-Use-Technology Bioreactors for Industrial Biotechnology Applications</i> Richard Maltby , William Lewis, Stephen Wright, Alex Smith, John Chew University of Bath, UK	
11:20 AM – 11:40 AM	127: <i>Numerical Simulation of the Influence of External Insulation By the Mud on the Convection in the Buildings</i> Benachour Elhadj, Draoui Belkacem, Asnune Khadidja, Hasnat Mohamed, Rahmani Lakhdar University of Tahri, Algeria	

11:40 AM – 11:50 AM	<p>113: <i>The Practical Aspects in the Determination of Membrane Properties for Gas Permeation</i> Haoyu Wu, Boguslaw Kruczek and Jules Thibault University of Ottawa, Canada</p>
11:50 AM – 12:00 PM	<p>124: <i>Translational Diffusion of Transient Intermediate Species during Protein Reactions: Phototropin</i> Masahide Terazima, Kimitoshi Takeda, Yusuke Nakasone, Kazunori Zikihara, Satoru Tokutomi Kyoto University, Japan</p>
12:00 PM – 12:20 PM	<p>125: <i>Identification of Indoor Contaminant Source by Inverse Zonal Method</i> Aziz Azimi, Ehsan Daneshgar Shahid Chamran University of Ahvaz, Iran</p>
<p>Group Photo of the Conference will be happening from 12:20 PM – 12:25 PM. Please come to the registration desk to take the photo.</p>	
12:25 PM – 1:25 PM	Lunch
<p>1:25 AM – 2:35 PM</p>	
<p>Session Name: Fluid Flow, Heat and Mass Transfer Equipment II</p>	<p>Session Chairs: Dr. F. Handan Tezel & Dr. Abdullah Kendoush</p>
1:25 PM – 1:40 PM	<p>168: <i>A Comparative Study on the Molecular- and Continuum-Based Simulation Methods for Gas Flow and Mixing in Micro/Nanochannels</i> Masoud Darbandi, Moslem Sabouri, Gerry E. Schneider University of Waterloo, Canada</p>

1:40 PM – 1:55 PM	<p>171: <i>Experimental Study of Ice Accretion on Aerodynamic Performance of FFA-W3-270 Airfoil for HAWT Blade</i> Seyed Reza Jafari Gahraz, Tholudin Bin Hj Mat Lazim, Masoud Darbandi, Gerry Schneider University of Waterloo, Canada</p>
1:55 PM – 2:15 PM	<p>162: <i>Waste Glycerol as New Green Inhibition for Metal Carrion in Acid Medium</i> Isam Al Zubaidi, Hussameldin Ibrahim, Robert John, Mohammed Alzughaibi, Moayed Albayyadhi and Farzad Darzi University of Regina, Canada</p>
2:15 PM – 2:35 PM	<p>163: <i>Remediation of water from waste lubricating oil spill using potato peels</i> Paitoon Tontiwachwuthikul, Isam Al Zubaidi, Eva Rennie, Spencer Schubert, Magda Seitz, Cassandra Selinger-Silva University of Regina, Canada</p>
2:35 PM – 4:05 PM	
Session Name: Two and Multiphase Flow and Heat Transfer	Session Chairs: Dr. Brian G. Amsden & Dr. Roderick Melnik
2:35 PM – 2:55 PM	<p>104: <i>Theory and Indirect Measurements of the Drag Force Acting On a Rising Ellipsoidal Bubble</i> Abdullah A. Kendoush, Kim W. Gaines, Carrie W. White Augusta Technical College, USA</p>
2:55 PM – 3:05 PM	<p>118: <i>Prediction of Particle Size Behaviour near Impingement Wall</i> Eid Alatawi KACST, Saudi Arabia</p>

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3:05 PM – 3:25 PM	119: <i>CFD Analysis of Temperature Distributions in a Slurry Bubble Column with Direct Contact Heat Transfer</i> Mohammed W. Abdulrahman University of Ontario Institute of Technology, Canada
3:25 PM – 3:35 PM	156: <i>Theoretical and Computational Studies on Compression Process of Gas with Water Droplets</i> Palani Kumar Chidambaram , Abhay Mohan, Abhilash Suryan, Heuy Dong Kim FMTRC, Daejoo Machinery Co Ltd., South Korea
3:35 PM – 3:45 PM	157: <i>LES Computation on Spray Behavior of a Pintle Injector Nozzle</i> Palani Kumar Chidambaram , Ja Ye Koo, Heuy Dong Kim FMTRC, Daejoo Machinery Co Ltd., South Korea
3:45 PM – 3:55 PM	172: <i>Dynamic Behaviour of Two-phase Flow through a Flow Restricting Orifice</i> Olufemi Bamidele , Christopher Vines, Wael Ahmed, Marwan Hassan University of Guelph, Canada
3:55 PM – 4:05 PM	173: <i>Understanding of Various Configurations of Ejector Cycles Applied for Refrigeration</i> Sunjae Kim , Yongseok Jeon, Yongchan Kim Korea University, South Korea
4:05 PM – 4:20 PM	Coffee Break
4:20 PM – 6:20 PM	
Session Name: Fluid Flow	Session Chairs: Dr. Palani Kumar Chidambaram & Ms. Kim W. Gaines
4:20 PM – 4:40 PM	116: <i>Development of a Thermographic Imaging Technique for Simultaneous Interfacial Temperature and Velocity Measurements</i> Alexandros Charogiannis , Ivan Zadrazil, Christos N. Markides Imperial College London, UK

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4:40 PM – 5:00 PM	<p>160: <i>Modelling Biological Polymeric Nanostructures in Physiological Fluids: Focus on Ribonucleic Acid Nanotubes</i> Shyam Badu, Roderick Melnik, Sanjay Prabhakar Wilfrid Laurier University, Canada</p>
5:00 PM – 5:20 PM	<p>142: <i>Efflux Time from Vertical Cylindrical Tank Design and Construction</i> Zeiad Algehani, Hatim AlOtaibi, Isam Al Zubaidi, Hussameldin Ibrahim, Robert John University of Regina, Canada</p>
5:20 PM – 5:40 PM	<p>143: <i>Water Droplet Motion on an Inclining Surface</i> Thomas Maurer, Axel Mebus, Uwe Janoske University of Wuppertal, Germany</p>
5:40 AM – 6:00 PM	<p>161: <i>Dynamic Behaviour of Flow through Multi-Stage Restricting Orifices</i> Abdulrazaq A. Araoye¹, Hasan M. Badr¹, Wael H. Ahmed University of Guelph, Canada</p>
6:00 PM – 6:20 PM	<p>176: <i>Assessment of Nitsche's method for Dirichlet boundary conditions treatment</i> Reda Mekhlouf, Abdelkader Baggag, Lakhdar Remaki Laval University, Canada</p>

Tuesday

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9:00 AM – 9:45 AM	Keynote Lecture III: <i>Molecular Dynamics Study of Polymer Diffusion</i> Phillip Choi University of Alberta, Canada	Session Chairs: Dr. F. Handan Tezel
9:45 AM – 10:30 AM	Keynote Lecture IV: <i>Development, Evolution, and Assessment of a Momentum-Variable-Based Procedure for the Prediction of Flow at All Speeds</i> Gerry Schneider University of Waterloo, Canada	
10:30 AM – 10:45 AM	Coffee Break	
10:45 AM – 12:15 PM		
Session Name: Combustion		Session Chairs: Dr. Chelakara S. Subramanian & Dr. Esam Jassim
10:45 AM – 10:55 AM	150: <i>Experimental Measurements of the Volumetric Heat Transfer Coefficient between Forced Air and Sand at Reynold's Numbers Relevant to Smouldering Combustion</i> Marco A. B. Zanoni , Jason I. Gerhard, Jose L. Torero University of Western Ontario, Canada	
10:55 AM – 11:15 AM	115: <i>Study of Instabilities on Laminar-Turbulent Transition in a 4 Lug-Bolt in a Confined Diffusion Flame</i> Mauricio De la Cruz, Eliseo Martínez-Espinosa, Georgiy Polupan Instituto Politécnico Nacional, Mexico	
11:15 AM – 11:25 AM	149: <i>Numerical Analysis for a 870MW Wall-fired Pulverized Coal Boiler: Comparison with Field Test and Simulation</i> Seok-Gi Ahn , Chung-Hwan Jeon Pusan National University, South Korea	

11:25 AM – 11:35 AM	<p>148: <i>Effects of Separated Over-Fire Air angle on the Temperature Deviation of Final Super-Heater in a 500 MW Tangentially Coal-Fired Boiler</i> Kang-Min Kim, Seok-Gi Ahn, Chung-Hwan Jeon Pusan National University, South Korea</p>
11:35 AM – 11:55 AM	<p>165: <i>Numerical Study on Small-Scale Fire Whirl using Large Eddy Simulation</i> A.C.Y. Yuen, G.H. Yeoh, R.K.K. Yuen, S.M. Lo UNSW, Australia</p>
11:55 AM – 12:15 PM	<p>166: <i>Using Hydrogen Influences to Control the Greenhouse Gas Emissions from Methane-Hydrogen Turbulent Flame</i> Majid Ghafourizadeh, Masoud Darbandi, Gerry E. Schneider University of Waterloo, Canada</p>
12:15 PM – 1:15 PM	Lunch
1:15 PM – 2:55 PM	
Session Name: CFD	Session Chairs: Dr. Phillip Choi & Dr. Esam Jassim
1:15 PM – 1:35 PM	<p>130: <i>Large eddy simulation of confined turbulent round jet with annular jets</i> Christian Lagarza, Martín Salinas, Eliseo Martínez, Jorge Ramírez Ciudad Universitaria, Mexico</p>
1:35 PM – 1:55 PM	<p>134: <i>A CFD and Experimental Study of Thin Flexible Wire in Cross Flow</i> Chelakara S. Subramanian, Harika Gurram Florida Institute of Technology, USA</p>
1:55 PM – 2:15 PM	<p>167: <i>Enhancements of the flow solver TAU for internal flows at supercritical pressures</i> Martin Rudolph German Aerospace Center (DLR), Germany</p>

2:15 PM – 2:35 PM	169: <i>Effect of Downstream Flapping Plate on the Flow Field Characteristics behind a Circular Cylinder</i> Roam Simenthy , Vasudevan Raghavan, Shaligram Tiwari Indian Institute of Technology Madras, India
2:35 PM – 2:55 PM	170: <i>Numerical Simulation of Blood Flow through Asymmetric and Symmetric Occlusion in Carotid Artery</i> Sahar Ahsaas , Shaligram Tiwari IIT Madras, India
2:55 PM – 3:10 PM	Coffee Break
3:10 PM – 5:40 PM	
Session Name: Heat Transfer	Session Chairs: Dr. Boguslaw Kruczek & Dr. Gerry Schneider
3:10 PM – 3:30 PM	107: <i>Spiral Coil Heat Exchanger- Experimental Study</i> Esam Jassim Prince Mohammed Bin Fahd University (PMU), Saudi Arabia
3:30 PM – 3:40 PM	112: <i>Fuzzy Based Evaporator Model in Waste Heat Recovery System</i> Jahedul Islam Chowdhury , Bao Kha Nguyen and David Thornhill Queen's University Belfast, UK
3:40 PM – 4:00 PM	123: <i>The Effect of Undulated Wall on Natural Convection Heat Transfer in Vertical Channels</i> Hasnat Mohammed , Abdellah Belkacem, Kaid Noureddine, Bensafi Mohammed, Benachour Elhadj Université Tahri Mohamed, Algeria
4:00 PM – 4:20 PM	145: <i>Natural Convection Simulations of Bingham Fluid within A Square Cavity with Differentially Heated Vertical Walls</i> Oussama Seghier , Lakhdar Rahmani, Belkacem Draoui, Marc Médale, Chérifa Abid Tahri Mohamed University, Algeria

4:20 PM – 4:40 PM	151: <i>Investigation of Opening Positions on the Natural Ventilation in a Low-Rise Building by CFD Analysis</i> Sherzad Hawendi, Shian Gao University of Leicester, UK
4:40 PM – 5:00 PM	155: <i>Numerical Simulations of Al₂O₃ Nanofluid Flows in the Laminar and Turbulent Regimes in a Uniformly Heated Pipe</i> Ghofrane Sekrani , Sébastien Poncet, Mourad Bouterra Université de Sherbrooke, Canada
5:00 PM – 5:20 PM	103: <i>Exergy Losses Relation with Driving Forces for Heat Transfer Process on Hot Plates Using Mathematical Programming</i> S. Ali Ashrafizadeh , M. Amidpour, N. Hedayat Islamic Azad University, Iran
5:20 PM – 5:40 PM	153: <i>Effect of local temperature during service on the mechanical properties of concrete</i> Imane Benoudjafer , Boudjema Labbaci, Ibtissam Benoudjafer, Yacer Labbaci University of Bechar, Algeria