

## Program at a Glance

**May 25 - 29, 2015**

**Monday, May 25, 2015**

2:00-7:00 PM	Registration at Heldrich Hotel
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**Tuesday, May 26, 2015**

8:00 AM	Registration at Fiber Optics Building
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9:00 AM	Opening Ceremony Room A
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9:30 AM	Plenary Lecture 1 - Development of CHT: An Exciting Journey Room A
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10:30 AM	Breakfast Break
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10:50 PM	Plenary Lecture 2: CHT for Heat-Exchanger Design; Past, Present & Future & Plenary Lecture 3: First-Principles Calculations of Electron & Phonon Transport Properties in Single Crystals Room A
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12:20 PM	Lunch
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	Room A	Room B	Room C	Room D
1:40 PM	Session 1-A-3: CFD for Aerodynamics & Cooling in Turbomachinery	Session 1-B-3: Energy Materials for Electrochemical Energy Conversion & Storage	Session 1-C-3: Forced Convection I	Session 1-D-3: Boundary Layers

3:10 PM	Coffee Break
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3:30 PM	Session 1-A-4: Advanced Computational Techniques I	Session 1-B-4: Numerical Modeling of Melting & Solidification	Session 1-C-4: Forced Convection II	Session 1-D-4: Turbulent Transport
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6:30 PM	Reception at the Zimmerli Art Museum
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**Wednesday, May 27, 2015**

8:00 AM	Registration at Fiber Optics Building
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	Room A	Room B	Room C	Room D
9:00 AM	Session 2-A-1: Energy & Environmental Systems I	Session 2-B-1: Modeling & Simulation of Multiphase Flow & Heat Transfer I	Session 2-C-1: Conduction Heat Transfer	Session 2-D-1: Computations in Micro & Nanoscale Heat Transfer I

10:30 AM	Breakfast Break
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10:50 AM	Session 2-A-2: Energy & Environmental Systems II	Session 2-B-2: Modeling & Simulation of Multiphase Flow & Heat Transfer II	Session 2-C-2: Computational Heat & Mass Transport in Biological Systems I	Session 2-D-2: Computations in Micro & Nanoscale Heat Transfer II
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12:20 PM	Lunch
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1:40 PM	Session 2-A-3: Energy & Environmental Systems III	Session 2-B-3: Hybrid Methods	Session 2-C-3: Modeling of Thermal Management Systems	Session 2-D-3: Computations in Micro & Nanoscale Heat Transfer III
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3:10 PM	Coffee Break
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4:00 PM	Buses to Hotel/Harbor
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6:30 PM	Cruise & Gala Dinner			
<b>Thursday, May 28, 2015</b>				
8:00 AM	Registration at Fiber Optics Building			
	<b>Room A</b>	<b>Room B</b>	<b>Room C</b>	<b>Room D</b>
9:00 AM	Session 3-A-1: Advanced Computational Techniques II	Session 3-B-1: Numerical Methods & Simulations for Compact Heat Exchangers I	Session 3-C-1: Radiation I	Session 3-D-1: Numerical Methods for Porous Media I
10:30 AM	Breakfast Break			
10:50 AM	Session 3-A-2: Advanced Computational Techniques III	Session 3-B-2: Numerical Methods & Simulations for Compact Heat Exchangers II	Session 3-C-2: Radiation II	Session 3-D-2: Numerical Methods for Porous Media II
12:20 PM	Lunch			
1:40 PM	Session 3-A-3: Natural Convection I	Session 3-B-3: Nanofluids I	Session 3-C-3: Radiation III	Session 3-D-3: Computations in Micro & Nanoscale Heat Transfer IV
3:10 PM	Coffee Break			
3:30 PM	Session 3-A-4: Natural Convection II	Session 3-B-4: Nanofluids II	Session 3-C-4: Computational Heat & Mass Transport in Biological Systems II	Session 3-D-4: Heat Transfer Enhancement
<b>Friday, May 29, 2015</b>				
	<b>Room A</b>	<b>Room B</b>	<b>Room C</b>	<b>Room D</b>
9:00 AM	Session 4-A-1: Combustion I	Session 4-B-1: Modeling & Simulation of Multiphase Flow & Heat Transfer III	Session 4-C-1: Radiation IV	Session 4-D-1: Numerical Methods for Porous Media III
10:30 AM	Breakfast Break			
10:50 AM	Session 4-A-2: Combustion II	Session 4-B-2: Modeling & Simulation of Multiphase Flow & Heat Transfer IV	Session 4-C-2: Manufacturing & Materials Processing	Session 4-D-2: Computations in Micro & Nanoscale Heat Transfer V
1:00 PM	Free Afternoon			

<b>ROOM A</b>	<b>FIBER OPTICS AUDITORIUM</b>
<b>ROOM B</b>	<b>BIOMEDICAL ENG. BLDG, Room 102 (AUDITORIUM)</b>
<b>ROOM C</b>	<b>BIOMEDICAL ENG. BLDG., ROOM 116</b>
<b>ROOM D</b>	<b>CAIT AUDITORIUM</b>

<b>Conference Program</b>		
<b>Monday, May 25, 2015</b>		
2:00 - 7:00 PM	<b>Registration at Heldrich Hotel</b>	
<b>Tuesday, May 26, 2015</b>		
8:00 - 9:00 AM	<b>Registration at Fiber Optics Building</b>	
9:00 - 9:30 AM	<b>Opening Ceremony Room A</b>	
<b>Session 1-1 Plenary Talk      Chair: <u>George Raithby</u>      Room A</b>		
9:30 - 10:30 AM	<u>Patankar, S.V.</u>	269: Plenary Lecture 1: <u>Development of CHT: An Exciting Journey</u>
10:30 - 10:50 AM	<b>Breakfast Break</b>	
<b>Session 1-2 Plenary Talks      Chair: <u>Akshai Kumar Runchal</u>; Co-Chair: <u>Mona Zebarjadi</u>      Room A</b>		
10:50 - 11:35 AM	<u>Spalding, D.B.</u>	280: Plenary Lecture 2: <u>CHT for Heat-Exchanger Design; Past, Present and Future</u>
11:35 - 12:20 PM	<u>Liao, B.; Lee, S.; Chen, G.; Zhou, J.</u>	288: <u>Plenary Lecture 3: First-Principles Calculations of Electron and Phonon Transport Properties in Single Crystals</u>
12:20 - 1:40 PM	<b>Lunch</b>	
<b>Session 1-A-3 CFD for Aerodynamics and Cooling in Turbomachinery      Chair: <u>Sumanta Acharya</u> Room A</b>		
1:40 - 2:05 PM	<u>Shih, T.I.P.</u>	231: <u>Computing Turbulent Flow and Heat Transfer Past a Wall-Mounted Cube in a Channel</u> (Invited)
2:05 - 2:30 PM	<u>He, L.</u>	212: <u>Multi-Scale Approach to Turbine Heat Transfer and Aerodynamics</u> (Invited)
2:30 - 2:55 PM	<u>Durbin, P.; Ge, J.</u>	202: <u>The Calibrated Intermittency Model for Bypass Transition</u> (Invited)
2:55 - 3:20 PM	<u>Sharma, O.</u>	254: <u>The Role of Physical and Numerical Experiments in the Development of High Performance Axial Flow Turbines</u> (Invited)
<b>Session 1-B-3 Energy Materials for Electrochemical Energy Conversion and Storage      Chair: <u>Wilson Chiu</u> Room B</b>		
1:40 - 2:05 PM	<u>Andersen, C.P.; Hu, H.; Kalra,</u>	159: <u>Pore-Scale Transport Resolved Model for Lithium-Air Batteries</u> (Invited)

	V.; <u>Sun, Y.</u>	
2:05 - 2:30 PM	Liu, Z.; Stein IV, M.; <u>Mukherjee, P.P.</u>	273: <u>Physicochemical Interaction in Electrode Processing for Energy Storage</u> (Invited)
2:30 - 2:55 PM	<u>Chiu, W.K.S.</u>	189: <u>Microstructure-Induced Transport Losses in Electrochemical Electrodes</u> (Invited)
2:55 - 3:20 PM	<u>Nelson, G.J.</u>	267: <u>Multiscale Assessment of Charge and Mass Transfer in Solid Oxide Cells</u> (Invited)
<b>Session 1-C-3 Forced Convection I      Chair: Stephen Tse      Room C</b>		
1:40 - 1:58 PM	Chithrakumar, V.K.; Venugopal, G.; <u>Rajkumar, M.R.</u>	063: <u>Numerical Investigation of Flow and Heat Transfer in Vertical Concentric Annuli with Rotating Outer Wall</u>
1:58 - 2:16 PM	Nasif, G.; <u>Barron, R.</u> ; Balachandar, R.	021: <u>Piston Cooling Simulation Using Jet Impingement</u>
2:16 - 2:34 PM	<u>Sharif, M.</u>	004: <u>Numerical Analysis of Heat Transfer from a Hot Plane Surface due to Turbulent Swirling Round Jet Impingement</u>
2:34 - 2:52 PM	<u>Bentham, E.</u> ; Heggs, P.J.; Mahmud, T.	080: <u>Heat Transfer in a Plain Jacket of a Pilot Scale Stirred Tank Reactor</u>
2:52 - 3:10 PM	Chandra, A.	046: <u>Turbulent Heat Transfer in Agitated Vessel Equipped with Pitch Blade Turbine</u>
<b>Session 1-D-3 Boundary Layers      Chair: Hao Lin      Room D</b>		
1:40 - 1:58 PM	<u>Kumar, H.</u> ; <u>Kumar, S.</u> ; Sagar, K.S.; Gnanasekaran, N.	058: <u>Synergistic Approach for the Simultaneous Estimation of Heat Transfer Coefficient and Heat Flux Using Fin from Steady State Heat Transfer Experiments</u>
1:58 - 2:16 PM	Kadiyala, P.K.; Chattopadhyay, H.	023: <u>Simulation of Array of Round Jets Impinging on a Moving Surface under Laminar, Intermittent and Turbulent Conditions Using a Single Model</u>
2:16 - 2:34 PM	Singh, J.; Rai, K.N.	010: <u>Analytic Approximation for One Phase Space-Time Fractional Moving Boundary Problem with Time Varying Temperature on Surface</u>
3:10 - 3:30 PM	<b>Coffee Break</b>	
<b>Session 1-A-4 Advanced Computational Techniques I      Chair: Darrell Pepper      Room A</b>		
3:30 - 3:48 PM	<u>Chen, K.</u> ; Zeng, M.; <u>Wang, L.</u> ; Wang, Q.	198: <u>Molecular Dynamics Investigation into the Mechanism of Damage of Ni-Ni Tribopair System during High-velocity Sliding</u>
3:48 - 4:06 PM	<u>Diaz, R.</u> ; <u>Guo, Z.</u>	033: <u>A Molecular Dynamics Study of Passive Heat Flux Enhancement in Boiling Liquid Argon</u>
4:06 - 4:24 PM	<u>Wang, Z.</u> ; Xie,	285: <u>Optimized Particle-Based Computational Simulation Method for</u>

	X.-F.	<u>Studying Bubble Nucleation</u>
4:24 - 4:42 PM	<u>Campelo, H.</u> ; <u>Baltazar, J.P.B.</u> ; <u>Oliveira, R.T.</u> ; <u>Fonte, C.M.</u> ; <u>Dias, M.M.</u> ; <u>Lopes, J.C.B</u>	271: <u>Extracting Relevant Transport Properties Using 3D CFD Simulations of Shell-Type Electric Transformers</u>
4:42 - 5:00 PM	<u>Errera, M.P.</u> ; <u>Duchaine, F.</u>	070: <u>Stable and Fast Numerical Schemes for Conjugate Heat Transfer</u>
<b>Session 1-B-4 Numerical Modeling of Melting and Solidification</b>		<b>Chair: <u>Victoria Timchenko</u></b>
<b>Room B</b>		
3:30 - 3:48 PM	<u>Ramanuj, V.</u> ; <u>Tong, A.Y.</u> ; <u>Dheenakumar, V.</u>	056: <u>Numerical Analysis of Non-Isothermal Remelting and Solidification during Molten Droplet Impact on Substrate</u>
3:48 - 4:06 PM	<u>Kheirabadi, A.C.</u> ; <u>Groulx, D.</u>	077: <u>The Effect of The Mushy-Zone Constant on Simulated Phase Change Heat Transfer</u>
4:06 - 4:24 PM	<u>Kozak, Y.</u> ; <u>Ziskind, G.</u>	089: <u>Close-Contact Melting Modeling Combined with the Enthalpy Method</u>
4:24 - 4:42 PM	<u>Faiez, R.</u> ; <u>Mashhoudi, M.</u> ; <u>Ruzbehani, M.</u>	044: <u>Phase Field Simulation of the Crystallization Front Shape in Czochralski Growth of Gadolinium Gallium Garnet Crystal</u>
<b>Session 1-C-4 Forced Convection II</b>		<b>Chair: <u>Mukund Karwe</u></b>
<b>Room C</b>		
3:30 - 3:48 PM	<u>Huang, D.</u> ; <u>Wu, Z.</u> ; <u>Sunden, B.</u>	019: <u>Numerical Investigation on Convective Heat Transfer of Aviation Kerosene in a Vertical Mini-Tube at Supercritical Pressures</u>
3:48 - 4:06 PM	<u>Davaa, G.</u> ; <u>Jambal, O.</u>	045: <u>Numerical Investigation of Internal Flow and Heat Transfer between Cylinder Pipes</u>
4:06 - 4:24 PM	<u>Arifin, N.Md.</u> ; <u>Isa, S.S.P.M.</u> ; <u>Nazar, R.</u> ; <u>Bachok, N.</u> ; <u>Ali, F.Md.</u> ; <u>Pop, I.</u>	111: <u>Unsteady Boundary Layer Flow over a Permeable Curved Stretching/Shrinking Surface</u>
4:24 - 4:42 PM	<u>Meddane, F.</u> ; <u>Yahiaoui, T.</u> ; <u>Imine, O.</u> ; <u>Adjout, L.</u>	205: <u>Numerical Simulation of a Darrieus Turbine</u>
4:42 - 5:00 PM	<u>Tan, X.</u> ; <u>Zhu, X.</u> ; <u>Zhang, J.</u> ; <u>Shan, Y.</u>	059: <u>Numerical Simulation on Pressure Side Film Cooling of a Gas Turbine Blade with Shaped Injection Holes</u>
<b>Session 1-D-4 Turbulent Transport</b>		<b>Chair: <u>Liqiu Wang</u></b>
<b>Room D</b>		
3:30 - 3:48 PM	<u>Babu, H.</u> ; <u>Sarkar, S.</u>	109: <u>LES of Jet-Crossflow Interactions: Flow Structures and Heat Transfer Characteristics</u>
3:48 - 4:06 PM	<u>Wu, T.</u> ; <u>Lei, C.</u>	093: <u>Comparison of Various Rans Turbulence Models for Conjugate Natural Convection with Radiation in a Cavity</u>
4:06 - 4:24 PM	<u>Sarkar, S.</u> ; <u>Babu, H.</u>	139: <u>Effect of Jet Pulsing on Film Cooling near the Leading Edge of a Model Aerofoil by LES</u>
4:24 - 4:42 PM	<u>Date, A.W.</u>	180: <u>Friction and Heat Transfer Characteristics of Turbulent Flow in a Helical Vane Fitted Annulus Rotating about a Parallel Axis</u>

6:30 PM	<b>Reception at the Zimmerli Art Museum</b>	
<b>Wednesday, May 27, 2015</b>		
8:00 - 9:00 AM	<b>Registration at Fiber Optics Building</b>	
<b>Session 2-A-1 Energy and Environmental Systems I      Chair: John Chai      Room A</b>		
9:00 - 9:45 AM	<u>He, Y.-L.; Tao, W.-Q.</u>	204: <u>Keynote Lecture 1: Multiscale Simulation of Energy Transfer in Concentrating Solar Collectors of Solar Power System</u>
9:50 - 10:08 AM	<u>Bilyaz, S.; Ilker, T.</u>	218: <u>Investigation of Various Options for Numerical Modeling of Fluidized Beds for a Solar Thermal Application</u>
10:08 - 10:26 AM	<u>Koyama, Y.-B.; Vinay, G.; Teixeira, D.</u>	038: <u>Direct Numerical Simulation of Heat Transfer in Fluidized Bed for Thermal Energy Storage</u>
<b>Session 2-B-1 Modeling and Simulation of Multiphase Flow and Heat Transfer I      Chair: Bengt Sundén      Room B</b>		
9:00 - 9:45 AM	<u>Tryggvason, G.</u>	251: <u>Keynote Lecture 2: DNS Studies of Multiphase Flows</u>
9:50 - 10:08 AM	<u>Vincent, S.; Estivalvez, J.-L.</u>	290: <u>Direct Numerical Simulation of Turbulent Two-phase Flows: Application to Liquid Sheet Atomization</u>
10:08 - 10:26 AM	<u>Fleau, S.; Mimouni, S.; Merigoux, N.; Vincent, S.</u>	014: <u>Simulations of Two-Phase Flows with a Multifield Approach</u>
<b>Session 2-C-1 Conduction Heat Transfer      Chair: Ligu Wang      Room C</b>		
9:00 - 9:45 AM	<u>Orlande, H.R.B.</u>	263: <u>Keynote Lecture 3: Inverse Problems of State Estimation in the Hyperthermia Treatment of Cancer</u>
9:50 - 10:08 AM	<u>Shin, S.; Kaviany, M.</u>	134: <u>Optical Phonon Production by Phonon Upconversion in Heterostructure</u>
10:08 - 10:26 AM	<u>Guo, Y.; Guo, Z.; Li, H.; Zhou, Z.</u>	135: <u>Numerical Study on the Flow and Heat Transfer for the Inside of a New Diversion-Type LNG Heating Device</u>
<b>Session 2-D-1 Computations in Micro and Nanoscale Heat Transfer I      Chair: Zlatan Aksamija      Room D</b>		
9:00 - 9:45 AM	<u>Allen, P.B.</u>	147: <u>Keynote Lecture 4: Finite-Size and Transient Effects in Thermal Conduction by Phonons</u>
9:50 - 10:08 AM	<u>Wang, X.; Zebarjadi, M.; Esfarjani, K.</u>	281: <u>Thermoelectric Transport across Graphene/Phosphorene/Graphene Heterostructures</u>
10:08 - 10:26 AM	<u>Zebarjadi, M.</u>	287: <u>Thermoelectric Devices for Electronic Cooling Applications</u>
10:30 - 10:50 AM	<b>Coffee Break</b>	

<b>Session 2-A-2 Energy and Environmental Systems II</b>			<b>Chair: Pradeep George</b>	<b>Room A</b>
10:50 - 11:08 AM	<u>Manca, O.</u> ; <u>Tamburrino, S.</u>	196: <u>Heat Transfer Behaviours of Parallel Squared Channel Systems in High Temperature Thermal Storage</u>		
11:08 - 11:26 AM	<u>Kozak, Y.</u> ; <u>Rozenfeld, T.</u> ; <u>Hayat, R.</u> ; <u>Ziskind, G.</u>	088: <u>Modeling of Constrained Melting in a Radially Finned Latent Thermal Energy Storage Unit</u>		
11:26 - 11:44 AM	<u>Karim, L.</u> ; <u>Bessaih, R.</u>	165: <u>Thermal Effects of Kinetic Reaction Models During Hydrogen Absorption in Metal Hydride Tank</u>		
11:44 - 12:02 AM	<u>Calisir, T.</u> ; <u>Baskaya, S.</u> ; <u>Yazar, H.O.</u>	073: <u>Parametric Numerical Investigation of Heat Transfer from Convectors to Improve Efficiency of Panel Radiators</u>		
12:02- 12:20 PM	<u>Boumediene, T.</u> ; <u>Bernard, L.</u> ; <u>Amel, S.</u> ; <u>Asma, A.</u> ; <u>Karima, M</u>	003: <u>Numerical Modeling and Experimental Study of Solar Drying of the Green Mint Leaves (Mentha Viridis)</u>		
12:20 - 12:38 PM	<u>Wu, D.</u> ; <u>Wang, L.</u> ; <u>Wang, W.</u>	084: <u>A New Design of Heat Supply Pipeline Structure</u>		
<b>Session 2-B-2 Modeling and Simulation of Multiphase Flow and Heat Transfer II</b>			<b>Chair: <u>Stephane Vincent</u></b>	<b>Room B</b>
10:50 - 11:15 AM	<u>Estivaleres, J.-L.</u> ; <u>Zuzio, D.</u>	291: <u>A New Adaptive Multiscale Method for Direct Numerical Simulation of Sheared Liquid Sheet (Invited)</u>		
11:15 - 11:33 AM	<u>Lin, P.</u> ; <u>Guo, Z.</u>	275: <u>A Thermodynamically Consistent Phase-Field Model for Two-Phase Flows and Its Computations</u>		
11:33 - 11:51 AM	<u>Pons, A.</u> ; <u>Descamps, C.</u> ; <u>Arquis, E.</u> ; <u>Vincent, S.</u> ; <u>Le Bot, C.</u> ; <u>Valat, M.</u>	114: <u>Simulation of Reactive Melt Infiltration for the Manufacture of Ceramic Matrix Composites</u>		
11:51 - 12:09 PM	<u>Lacanette, D.</u> ; <u>Malaurent, P.</u>	223: <u>Simulation of the Microclimate in an Archaeological Cave (Lascaux, France)</u>		
12:09- 12:27 PM	<u>Hu, X.</u> ; <u>Adams, N.A.</u>	175: <u>A Curvature Boundary Condition for Moving Contact Line</u>		
<b>Session 2-C-2 Computational Heat and Mass Transport in Biological Systems I</b>			<b>Chair: <u>S. Pratap Vanka</u></b>	<b>Room C</b>
10:50 - 11:15 AM	<u>Coccarelli, A.</u> ; <u>Boileau, E.</u> ; <u>Nithiarasu, P.</u>	110: <u>A Novel Bioheat Transfer Model for a Human Body that Includes Heat Convection and Arterial Flow (Invited)</u>		
11:15 - 11:40 AM	<u>Ganguly, M.</u> ; <u>Mitra, K.</u>	055: <u>Analyzing Thermal and Mechanical Effects of Pulsed Laser Irradiation on Tissues (Invited)</u>		
11:40 - 12:05 PM	<u>Vanka, S.P.</u> ; <u>Burdette, C.</u> ; <u>Ghoshal, G.</u>	040: <u>Fast Numerical Simulations of Thermal Therapy for Acoustic Ablation of Cancerous Tumors (Invited)</u>		
12:05 - 12:23 PM	<u>Vyas, D. C.M.</u> ; <u>Kumar, S.</u> ; <u>Srivastava, A.</u>	076: <u>Modeling &amp; Analysis of Porous Media Based Bio-Heat Transfer for Laser Induced Photo Thermal Therapy</u>		

<b>Session 2-D-2 Computations in Micro and Nanoscale Heat Transfer II</b>		<b>Chair: <u>Mona Zebarjadi</u></b>
<b>Room D</b>		
10:50 - 11:15 AM	<u>Shakouri, A.</u> ; Mohammed, A.S.; Koh, Y.; Ziabari, A.; Bahk, J.-H.; Vermeersch, B.	118: <u>Fractional Diffusion for Thermal Transport in Submicron Semiconductors</u> (Invited)
11:15 - 11:40 AM	<u>Mcgaughey, A.J.H.</u> ; Larkin, J.M.	150: <u>Vibrational Mode Properties in Disordered Solids</u> (Invited)
11:40 - 12:05 AM	<u>Henry, A.</u>	296: <u>Thinking Beyond the Phonon Gas Model</u> (Invited)
12:05 - 12:30 PM	<u>Esfarjani, K.</u>	297: <u>Determination of Thermal Transport Properties from First Principles</u> (Invited)
12:20 - 1:40 PM	<b>Lunch</b>	
<b>Session 2-A-3 Energy and Environmental Systems III</b>		<b>Chair: Kunal Mitra</b>
<b>Room A</b>		
1:40 - 1:58 PM	Abdelkrim, M.; Hamadou, A.; Elmir, M.; Belkacem, A.; Draoui, B.; Slimani, O.; Belarbi, R.	127: <u>Parametric Study of Posts of Electricity Energy Transformation the Bechar Country (South West Algeria)</u>
1:58 - 2:16 PM	<u>Zhang, X.</u> ; <u>Jaluria, Y.</u> ; <u>Zebarjadi, M.</u>	094: <u>Numerical Simulation of a Thermosyphon Based Hybrid Solar-Thermoelectric Power Generator</u>
2:16 - 2:34 PM	<u>Aktas, M.K.</u> ; Farnoud, A.	230: <u>Numerical Simulation of Moisture Condensation on Water Droplets in Air Flow</u>
2:34 - 2:52 PM	<u>Lacanette, D.</u> ; Ferrier, C.; Leblanc, J.-C.; Mindeguia, J.-C.	220: <u>Simulation of a Fire in a Gallery of an Archaeological Cave (Chauvet-Pont-d'Arc, France)</u>
2:52 - 3:10 PM	Santiago, F.; Milanez, L.F.; Meyer, J.F.da C.A.	225: <u>Thermal Diffusion and Environmental Impact: A Case Study</u>
<b>Session 2-B-3 Hybrid Methods</b>		<b>Chair: <u>Gretar Tryggvason</u></b>
<b>Room B</b>		
1:40 - 2:05 PM	<u>Chai, J.C.</u>	292: <u>History of Radiation Heat Transfer Solution Procedure Using Finite-Volume Method at the University of Minnesota</u> (Invited)
2:05 - 2:30 PM	<u>Baliga, B.</u>	298: <u>Estimation of Grid-Independent Solutions on Non-Uniform and Unstructured Grids Using Generalized Richardson Extrapolation</u> (Invited)
2:30 - 2:55 PM	<u>Cotta, R.M.</u> , <u>Knupp, D.C.</u> ; <u>Naveira-Cotta, C.P.</u>	166: <u>Integral Transforms for Convection-Diffusion in Multiscale Domains</u> (Invited)
2:55 - 3:20 PM	<u>Acharya, S.</u>	299: <u>The Physics of Film Cooling Flow and Heat Transfer</u> (Invited)



<b>Session 2-C-3 Modeling of Thermal Management Systems</b>		<b>Chair: <u>Michael Modest</u></b>	<b>Room C</b>
1:40 - 1:58 PM	<u>Verma, N.N.; Mazumder, S.</u>	078: <u>Direct Numerical Simulation of Heat Conduction Across Metal-Metal Contacts to Extract Thermal Contact Resistance (TCR)</u>	
1:58 - 2:16 PM	Sen, F.; <u>Tari, I.</u>	224: <u>Numerical Investigation of Thermal Management of Solid Oxide Fuel Cells by Flow Arrangement</u>	
2:16 - 2:34 PM	<u>Sponagle, B.; Groulx, D.</u>	052: <u>Thermal Modeling of Tablets: Temperature Management Using Phase Change Materials</u>	
2:34 - 2:52 PM	<u>Nonino, C., Savino, S.; Del Giudice, S.</u>	126: <u>An Efficient Procedure for the Analysis of Flow Maldistribution in Cross-Flow Micro Heat Exchangers</u>	
2:52 - 3:10 PM	<u>Saini, D.; Balaji, C.; Venkateshan, S.P.</u>	043: <u>Heat Transfer and Optimization Studies on PCM Based Hybrid Heat Sinks with Discrete Protruding Heat Sources</u>	
<b>Session 2-D-3 Computations in Micro and Nanoscale Heat Transfer III</b>		<b>Chair: <u>Keivan Esfarjani</u></b>	<b>Room D</b>
1:40 - 1:58 PM	Ramu, A.T.; Bowers, J.E.	278: <u>A Compact Enhanced Fourier Law for Next-generation Device Thermal Modeling</u>	
1:58 - 2:16 PM	<u>Ding, D.; Minnich, A.J.</u>	284: <u>Active Thermal Extraction for Radiative Heat Transfer</u>	
2:16 - 2:34 PM	<u>Hua, C.; Minnich, A.J.</u>	286: <u>Direct Measurements of Thermal Phonon Transmissivity at Rough Interfaces</u>	
2:34 - 2:52 PM	<u>Aksamija, Z.</u>	193: <u>Full Band Monte Carlo Simulation of Phonon Transport in Semiconductor Nanostructures</u>	
2:52 - 3:10 PM	<u>Ali, S.A.; Mazumder, S.</u>	081: <u>Parallel Computation of the Phonon Boltzmann Transport Equation for the Prediction of Thermal Transport Across Silicon-Germanium Interfaces</u>	
3:10 - 3:28 PM	Chen, L.; <u>Kumar, S.</u>	091: <u>Electron-Phonon Transport in Graphene Devices</u>	
3:10 - 3:30 PM	<b>Coffee Break</b>		
4:00 PM	<b>Buses to Hotel/Harbor</b>		
6:30 PM	<b>Cruise and GALA DINNER</b>		
<b>Thursday, May 28, 2015</b>			
8:00 - 9:00 AM	<b>Registration at Fiber Optics Building</b>		
<b>Session 3-A-1 Advanced Computational Techniques II</b>		<b>Chair: Shahab Shojaei-Zadeh</b>	<b>Room A</b>
9:00 - 9:45 AM	<u>Wang, L.</u>	184: <u>Keynote Lecture 5: Nonlinear Computation: Multiplicity and Stability</u>	
9:50 - 10:08 AM	<u>Rastgarkafshgar kolaei, R.; Zeng, Y.; Khodadadi,</u>	247: <u>Molecular Dynamics Simulation of the Domain Size Effect on the Values of Thermal Conductivity of Long Chain N-Alkanes</u>	

	J.M.	
10:08 - 10:26 AM	<u>Waters, J.</u> , <u>Pepper, D.W.</u>	005: <u>A Comparison Between Global and Localized RBF Meshless Methods for Problems Involving Convective Heat Transfer</u>
<b>Session 3-B-1 Numerical Methods and Simulations for Compact Heat Exchangers I      Chair: <u>Helcio R.B. Orlande</u>      Room B</b>		
9:00 - 9:45 AM	<u>Sunden, B.</u>	188: <u>Keynote Lecture 6: On Computational Procedures of Transport Phenomena in Equipment of Energy Systems</u>
9:50 - 10:08 AM	<u>Woitalka, A.</u> ; <u>Thomas, I.</u> ; <u>Freko, P.</u> ; <u>Lehmacher, A.</u>	001: <u>Dynamic Simulation of Heat Exchangers Using Linde's In-House Process Simulator Optimisim</u>
10:08 - 10:26 AM	<u>John, A.</u> ; <u>Krishnakumar, K.</u>	103: <u>Numerical and Experimental Investigation to Determine the Heat Transfer of Perforated Plate Matrix Heat Exchanger</u>
<b>Session 3-C-1 Radiation I      Chair: <u>John Chai</u>      Room C</b>		
9:00 - 9:45 AM	<u>Menguc, M. P.</u>	206: <u>Keynote Lecture 7: Directional and Spectral Far-/Near-Field Radiative Transfer for Cooling and Energy Harvesting: A Review</u>
9:50 - 10:08 AM	<u>Sundarr, Y.</u> ; <u>Ma, J.</u> ; <u>Li, B.</u> ; <u>Guo, Z.</u>	136: <u>Thermal Analysis of a Convective-Radiative Fin with Temperature-Dependent Properties by the Collocation Spectral Method</u>
10:08 - 10:26 AM	<u>Sasihithlu, K.</u> ; <u>Narayanaswamy, A.</u>	239: <u>Near-Field Radiative Transfer between Two Unequal Sized Spheres with Large Size Disparities</u>
<b>Session 3-D-1 Numerical Methods for Porous Media I      Chair: <u>Leonid Dombrovsky</u>      Room D</b>		
9:00 - 9:45 AM	<u>Baillis, D.</u> ; <u>Coquard, R.</u>	016: <u>Keynote Lecture 8: Computational Modeling of Thermal Properties of Advanced Porous Insulating Materials</u>
9:50 - 10:08 AM	<u>Rees, D.A.S.</u>	222: <u>Three-Dimensional Convection within a Cuboidal Porous Cavity Due to Uniform Volumetric Heating</u>
10:08 - 10:26 AM	<u>Hussain, M.</u> ; <u>He, Y.-L.</u> ; <u>Tao, W.-Q.</u>	119: <u>Numerical Predictions of the Effective Thermal Conductivity for Multiphase Porous Building Materials</u>
10:30 - 10:50 AM	<b>Coffee Break</b>	
<b>Session 3-A-2 Advanced Computational Techniques III      Chair: <u>Darrell Pepper</u>      Room A</b>		
10:50 - 11:15 AM	<u>Divo, E.</u> ; <u>Boetcher, S.</u> ; <u>Brown, J.</u> ; <u>Kassab, A.J.</u>	262: <u>A Robust and Efficient Inverse Meshless Method for Non-Destructive Thermographic Evaluation</u> (Invited)
11:15 - 11:33 AM	<u>Gulak, Y.</u> ; <u>Cuitino, A.</u>	256: <u>Reaction Fronts Propagation Modeling in Heterogeneous Condensed Systems</u>
11:33 - 11:51 AM	<u>Waters, J.</u> ; <u>Carrington, D.B.</u> ; <u>Pepper, D.W.</u>	041: <u>An Adaptive Finite Element Technique with Dynamic LES for Incompressible and Compressible Flows</u>

11:51 - 12:09	Rokkam, S.K.; Desai, T.G	201: <u>Accelerated Molecular Dynamics Methods for Modeling Chemically Reactive Systems</u>
12:09 - 12:27 PM	<u>Moser, D.</u> ; Pannala, S.; Murthy, J.	141: <u>Computation of Effective Thermal Conductivity of Powders for Selective Laser Sintering Simulations</u>
<b>Session 3-B-2 Numerical Methods and Simulations for Compact Heat Exchangers II</b> <b>Chair: <u>Bengt Sunden</u></b> <b>Room B</b>		
10:50 - 11:08 AM	<u>Dezan, D.J.</u> ; Salviano, L.O.; Yanagihara, J.I.	018: <u>Thermal-Hydraulic Optimization of Compact Heat Exchangers with Louvered Fin and Delta-Winglets</u>
11:08 - 11:26 AM	<u>Qian, J.-Y.</u> ; Jin, Z.-J.; Gao, X.-F.; Zhang, Q.-K.; Liu, B.-Z.	100: <u>CFD Analysis on Pressure Drop of Dimple Jacketed Heat Exchanger in Chemical Post-Processing Integrated Equipment</u>
11:26 - 11:44 AM	Khaled, M.; Ramadan, M.; Elmarakbi, A.; Harambat, F.	182: <u>Analytical Determination of Louvered-Fin Heat Exchanger Thermal Performance in Relation with the Air Flow Statistics</u>
11:44 - 12:02 PM	Kim, G.W.; <u>Lim, H.M.</u> ; Kim, S.Y.; <u>Rhee, G.H.</u>	071: <u>Effect of Cross-cut on Heat Transfer Performance and Pressure Drop in Wavy Fin</u>
12:02 - 12:20 PM	<u>Ilori, O.M.</u> ; Jaworski, A.J.; Mao, X.	155: <u>Numerical Analysis of the Heat Transfer in an Oscillatory Flow Around the Heat Exchangers of Thermoacoustic Systems</u>
<b>Session 3-C-2 Radiation II</b> <b>Chair: <u>Sandip Mazumder</u></b> <b>Room C</b>		
10:50 - 11:08 AM	Hunter, B.; <u>Guo, Z.</u>	083: <u>Dependence of Numerical Smearing and Ray Effect in Discrete-Ordinates Method</u>
11:08 - 11:26 AM	<u>Roy, S.P.</u> ; Cai, J.; Ge, W.; <u>Modest, M.F.</u>	234: <u>Computational Cost and Accuracy Comparison of Radiation Solvers with Emphasis on Combustion Simulations</u>
11:26 - 11:44 AM	Reviznikov, D.L.; Sposobin, A.V.; <u>Dombrovsky, L.A.</u>	020: <u>Computational Analysis of Radiative Heat Transfer from Supersonic Flow with Suspended Polydisperse Particles to a Blunt Body</u>
11:44 - 12:02 PM	<u>Chen, S.-S.</u> ; Benwen, L.	006: <u>Chebyshev Collocation Spectral Method for Solving Radiative Transfer in the 2D Enclosures with the Modified Discrete Ordinates Formulations</u>
12:02 - 12:20 PM	<u>Edalatpour, S.</u> ; Cuma, M.; Trueax, T.; Backman, R.; <u>Francoeur, M.</u>	053: <u>Computational Near-Field Radiative Heat Transfer: Convergence Analysis of the Thermal Discrete Dipole Approximation Using the Exact Solution for Two Spheres</u>
12:20 - 12:38 PM	<u>Didari, A.</u> ; <u>Menguc, M.P.</u>	214: <u>Analysis of Near-Field Radiative Heat Transfer for Nano-structured Surfaces by FDTD Method</u>
<b>Session 3-D-2 Numerical Methods for Porous Media II</b> <b>Chair: <u>Pradeep George</u></b> <b>Room D</b>		
10:50 - 11:08 AM	<u>Perraudin, D.</u> ; Haussener, S.	133: <u>Coupled Radiation-Conduction Heat Transfer in Complex Semitransparent Macroporous Media</u>

11:08 - 11:26 AM	<u>Barletta, A.;</u> <u>Rees, D.A.S.</u>	237: <u>Form-Drag Effects in the Convective Instability of Parallel Flow in a Horizontal Porous Layer with Uniform Wall Heating</u>
11:26 - 11:44 AM	<u>Kucuk, G.;</u> <u>Gonzalez, M.;</u> <u>Cuitino, A.M.</u>	025: <u>Cross-Property Connection between Heat and Force Networks in Thermally-Assisted Compaction of Granular Materials</u>
11:44 - 12:02 PM	<u>Celik, H.;</u> <u>Mobedi, M.;</u> <u>Manca, O.;</u> <u>Buonomo, B.</u>	207: <u>Determination of the Interfacial Heat Transfer Coefficient for a Mixed Convection Heat Transfer in a Vertical Channel Filled with Uniformly Heated Blocks</u>
12:02 - 12:20 PM	<u>Mishra, A.K.;</u> <u>Kumar, S.;</u> <u>Sharma, R.V.</u>	149: <u>Non-Darcy Effects on Steady Three-Dimensional Natural Convection in a Rectangular Box Containing Heat Generating Porous Medium</u>
12:20 - 12:38 PM	<u>Khaled, K.;</u> <u>Hachemi, M.</u>	203: <u>Rayleigh-Benard Convection in a Horizontal Porous Cavity Saturated By a Shear-Thinningfluid</u>
12:20 - 1:40 PM	<b>Lunch</b>	
<b>Session 3-A-3 Natural Convection I      Chair: <u>Andrew Rees</u>      Room A</b>		
1:40 - 1:58 PM	<u>Oosthuizen, P.H.</u>	146: <u>Effect of the Distance From the Wall of a Below-Window Hot Air Floor Vent on the Convective Heat Transfer from a Cold Window Fitted with a Top-Down Bottom-Up Plane Blind System</u>
1:58 - 2:16 PM	<u>Tkachenko, O.A.;</u> <u>Timchenko, V.;</u> <u>Yeoh, G.H.;</u> <u>Reizes, J.A.;</u> <u>de Vahl Davis, G.</u>	098: <u>Three-dimensional Study of Natural Convection in Combined Double-skin Façade/Roof configuration</u>
2:16 - 2:34 PM	<u>Takeuchi, S.;</u> <u>Tsutsumi, T.;</u> <u>Kajishima, T.</u>	061: <u>Heat Transfer in Particle-Dispersed Two Phase Flows Considering Temperature Gradient within the Particles</u>
2:34 - 2:52 PM	<u>Cherifi, M.;</u> <u>Benbrik, A.;</u> <u>Lemonnier, D.;</u> <u>Laouar-Meftah, S.</u>	048: <u>Interaction between Double Diffusive Natural Convection with Radiation in a Square Enclosure with Partially Active Vertical Wall</u>
2:52 - 3:10 PM	<u>Yigit, S.;</u> Poole, R.J.;	050: <u>Aspect Ratio Effects on Laminar Rayleigh-Benard Convection of Power-Law Fluids in Rectangular Enclosures: A Numerical Investigation</u>
<b>Session 3-B-3 Nanofluids I      Chair: <u>Oronzio Manca</u>      Room B</b>		
1:40 - 1:58 PM	<u>Bachok, N.;</u> <u>Omar, N.S.;</u> <u>Arifin, N.Md.;</u> <u>Ishak, A.</u>	102: <u>Stagnation-Point Flow over a Stretching/Shrinking Cylinder in a Alumina-Water Nanofluid</u>
1:58 - 2:16 PM	<u>Rezvantalab, H.;</u> <u>Shojaei-Zadeh, S.</u>	200: <u>Shear-Induced Orientation of Janus Nanoparticles at Liquid Interfaces</u>

2:16 - 2:34 PM	Tongkratoke, A.; <u>Pramuanjaroenkij, A.</u> ; Chaengbamrung, A.; Kakac, S.	106: <u>The Permeability Effects of Copper-Nanofluid Flow with Using the Porous Media Model</u>
2:34 - 2:52 PM	Arora, S.; <u>Ghoshdastidar, P.S.</u>	051: <u>A Numerical Study of Heat Transfer and Pressure Drop in Nanofluids Flow between Parallel Plates</u>
2:52 - 3:10 PM	<u>Ham, J.</u> ; Cho, H.	095: <u>Analysis on Characteristics of Bubble Growth About Al<sub>2</sub>O<sub>3</sub> Nanofluid during Pool Boiling</u>
<b>Session 3-C-3 Radiation III      Chair: <u>Wojciech Lipinski</u>      Room C</b>		
1:40 - 1:58 PM	<u>Verma, N.N.</u> ; <u>Mazumder, S.</u>	079: <u>Are Solar Trees a Better Way to Capture Sunlight? A Feasibility Study Using Monte Carlo Simulations of Solar Radiation Transport</u>
1:58 - 2:16 PM	Narayanasamy, A.; Meyappan, P.	241: <u>An Analytic Expression for Radiation View Factors between Two Planar Triangles with Arbitrary Orientations</u>
2:16 - 2:34 PM	<u>Wang, C.</u> ; Ge, W.; <u>Modest, M.F.</u> ; Cai, J.	235: <u>A Full-Spectrum K-Distribution Table for Radiative Transfer in Nonhomogeneous Gaseous Media</u>
2:34 - 2:52 PM	<u>Chen, B.</u> ; Li, N.; Xu, K.	261: <u>Computational Heat Transfer Analysis of an Antenna</u>
2:52 - 3:10 PM	Pereira, P.; Roger, M.; <u>Coelho, P.J.</u>	185: <u>Discrete Ordinates Solution of the Radiative Transfer Equation and Multi-Scale Models for Three-Dimensional Transient Problems</u>
<b>Session 3-D-3 Computations in Micro and Nanoscale Heat Transfer IV      Chair: <u>Keivan Esfarjani</u>      Room D</b>		
1:40 - 2:05 PM	<u>Siakste, J.</u> ; Markov, M.; Kane, G.; Vast, N.; Fugallo, G.; Paulatto, L.; Mauri, F.; Lazzeri, M.; Calandra, M.	279: <u>Electron-Phonon and Phonon-Phonon Coupling in Semiconductors and Bismuth: Theoretical Approaches (Invited)</u>
2:05 - 2:30 PM	<u>Shiomi, J.</u>	295: <u>Exploring Controllability of Thermal Conductivity for High Performance Bulk Silicon Thermoelectric (Invited)</u>
2:30 - 2:48 PM	<u>Sadasivam, S.</u> ; Waghmare, U.V.; Fisher, T.S.	210: <u>Phonon Eigenspectrum-Based Formulation of the Atomistic Green's Function Method</u>
2:48 - 3:06 PM	Mishra, T.N.; Rai, K.N.	009: <u>Thermal Effect in FSPL Heat Conduction Model Irradiated By Laser Heat Source</u>
3:10 - 3:30 PM	<b>Coffee Break</b>	
<b>Session 3-A-4 Natural Convection II      Chair: <u>Bakhtier Farouk</u>      Room A</b>		
3:30 - 3:48 PM	Sangita; Sinha, M.K.; <u>Sharma,</u>	121: <u>Effect of a Diathermal Partition Wall on Natural Convection in a Spherical Porous Annulus</u>

	<u>R.V.</u>	
3:48 - 4:06 PM	<u>Oosthuizen, P.H.</u>	145: <u>Laminar, Transitional, and Turbulent Natural Convective Heat Transfer from a Horizontal Rectangular Isothermal Element Imbedded in a Flat Adiabatic Surrounding Surface</u>
4:06 - 4:24 PM	Mahfoud, B.; Bessaih, R.	027: <u>Magnetohydrodynamic Mixed Convection in a Cylindrical Container with Co-Rotation End Disks</u>
4:24 - 4:42 PM	<u>Tkachenko, S.A.</u> ; <u>Timchenko, V.</u> ; Yeoh, G.H.; Reizes, J.A.	096: <u>Effects of Humidity on Natural Convection in a Differentially Heated Cubic Cavity</u>
4:42 - 5:00 PM	Mohammed, H.; Bekacem, A.; Mustapha, K.; Kaid, N.; Draoui, B.	257: <u>Numerical Simulation of Natural Convection in a Vertical Channel with Irregular Walls</u>
<b>Session 3-B-4 Nanofluids II      Chair: Shahab Sojaei-Zadeh      Room B</b>		
3:30 - 3:48 PM	Buonomo, B.; <u>Manca, O.</u> ; Nardini, S.; Tamburrino, S.	194: <u>Numerical Investigation on Forced Convection in Triangular Cross Section Microchannels with Nanofluids</u>
3:48 - 4:06 PM	Bhardwaj, S.; Dalal, A.; <u>Biswas, G.</u>	259: <u>Natural Convection Flows in a Porous Nanofluid-Filled Triangular Enclosure with Wavy Left Wall</u>
4:06 - 4:24 PM	Shakkarwala, H.A.; <u>Ghoshdastidar, P.S.</u>	066: <u>Computer Simulation of Mixed Convection Flow of Nanofluids Past a Continuously Moving Vertical Plate</u>
4:24 - 4:42 PM	<u>Rezvantalab, H.</u> ; Shojaei-Zadeh, S.	199: <u>Effect of Amphiphilicity on the Interfacial Thermal Motion of Janus Particles</u>
4:42 - 5:00 PM	Yamada, T.; Johansson, E.O.; Yuan, J.; <u>Sunden, B.</u>	068: <u>Simulation of Water-Droplet Flows in a Straight Microchannel under the Sub-Zero Temperature Using Many-Body Dissipative Particle Dynamics</u>
5:00 - 5:18 PM	Poshala, V.	113: <u>Natural Convection over an Inclined Wavy Surface Embedded in a Thermally Stratified Porous Medium Saturated with a Nanofluid</u>
<b>Session 3-C-4 Computational Heat and Mass Transport in Biological Systems II      Chair: <u>Perumal Nithiarasu</u>      Room C</b>		
3:30 - 3:55 PM	Vitoshkin, H.; Yu, H.-Y.; Eckmann, D.M.; Radhakrishnan, R.; <u>Ayyaswamy, P.S.</u>	151: <u>Numerical Modeling of the Motion of Particles in a Blood Vessel: Implications for Targeted Drug Delivery (Invited)</u>
3:55 - 4:13 PM	Figueiredo, A.A.A.; Guimaraes, G.	085: <u>Estimation the Intensity and Location of a Tumor Using Sequential Function Specification Method</u>
4:13 - 4:31 PM	<u>Fan, J.</u> ; <u>Wang, L.</u>	178: <u>Analytical Theory of Bioheat Transport</u>

4:31 - 4:49 PM	<u>Katiyar, V.K.</u> ; Basavarajappa, K.S.; Naik, S.S.; Onkarappa, K.S.; Manjunath, G.	293: <u>Bio-heat Distribution in Reference to Spherical Tumour Using Fisher-Kolmogoroff Equation</u>
4:49 - 5:07 PM	Shashank, P.; <u>Kumar, S.</u> ; Srivastava, A.; Singh, S.	049: <u>Numerical Study of Heat Transfer in Laser Irradiated Biological Tissue within the Framework of Dual-Phase-Lag Heat Conduction Model Using Lattice Boltzmann Method</u>
5:07 - 5:25 PM	<u>Kumar, S.</u> ; Srivastava, A.	047: <u>Numerical Investigation of Thermal Response of Biological Tissues Based on the Dual-Phase- Lag Bio-Heat Transfer Model During Laser-Induced Photo-Thermal Therapy</u>
<b>Session 3-D-4 Heat Transfer Enhancement      Chair: Francisco Javier Diez      Room D</b>		
3:30 - 3:48 PM	<u>Moshfeghi, M.</u> ; <u>Kang, B.H.</u> ; <u>Yoo, J.</u> ; <u>Hur, N.</u>	265: <u>Unsteady Heat Transfer Enhancement in a 3-D Rectangular Duct Using Synthetic Jet Actuator</u>
3:48 - 4:06 PM	Lofti, B.; <u>Sunden, B.</u> ; Wang, Q.	054: <u>Three-Dimensional Fluid-Structure Interaction Numerical Simulation of New Type Vortex Generators in Smooth Wavy Fin-And-Elliptical Tube Heat Exchanger</u>
4:06 - 4:24 PM	Malatesta, V.; <u>de Souza, L.F.</u>	192: <u>Some Effects of Görtler Flow Secondary Instabilities in the Heat Transfer</u>
4:24 - 4:42 PM	<u>Bhattacharyya, S.</u> ; Chattopadhyay, H.	034: <u>Computational Studies of Heat Transfer Enhancement in Turbulent Channel Flow with Twisted Strip Inserts</u>
4:42 - 5:00 PM	Joshi, R.U.; Soti, A.K.; Bhardwaj, R.	252: <u>Convective Heat Transfer Augmentation by Flexible Fins in Laminar Channel Pulsating Flow</u>
<b>Friday, May 29, 2015</b>		
<b>Session 4-A-1 Combustion I      Chair: Francisco Javier Diez      Room A</b>		
9:00 - 9:45 AM	<u>Lipinski, W.</u>	163: Keynote Lecture 9: <u>Advances in Computational Thermal Transport for Solar Thermochemical Applications</u>
9:50 - 10:08 AM	<u>Baum, H.R.</u> ; <u>Atreya, A.</u>	107: <u>The Elliptic Emmons Problem</u>
10:08 - 10:26 AM	<u>Suto, H.</u> ; Hattori, Y.	065: <u>Effects of Flame Structure on Entrainment Characteristics of a Plume With Turbulent Diffusion Flames</u>
<b>Session 4-B-1 Modeling and Simulation of Multiphase Flow and Heat Transfer III      Chair: Arvind Narayanaswamy      Room B</b>		
9:00 - 9:45 AM	<u>Gambaryan-Roisman, T.</u>	260: Keynote Lecture 10: <u>Heat And Mass Transport in Liquid Films: Combining Analytical and Numerical Approaches</u>
9:50 - 10:08 AM	<u>Ljung, A.-L.</u> ; Lundstrom, S.	138: <u>Modelling Evaporation of a Water Droplet in Humid Environment</u>

10:08 - 10:26 AM	<u>Taitel, Y.;</u> <u>Barnea, D.</u>	270: <u>Transient Simulation for Multiple Parallel Mini Channels With Evaporating Fluid</u>
<b>Session 4-C-1 Radiation IV      Chair: <u>Mathieu Francoeur</u>      Room C</b>		
9:00 - 9:45 AM	<u>Farouk, B.;</u> <u>Hasan, N.</u>	250: <u>Keynote Lecture 11: Trans-critical Carbon Dioxide Flow in a Tubular Heat Exchanger: Applications in Waste Heat Recovery</u>
9:50 - 10:08 AM	<u>Ren, Y.-T.;</u> <u>Qi, H.;</u> <u>Lew, Z.-Y.;</u> <u>Ruan, L.-M.;</u> <u>Tan, H.-P.</u>	177: <u>Parametric Investigation of the Transient Radiative Transfer in Participating Media and Rapid Estimation of the Radiative Parameters</u>
10:08 - 10:26 AM	<u>Zhao, Y.;</u> <u>Tang, G.;</u> <u>Du, M.;</u>	154: <u>Numerical Study of Radiative Properties of Opacifier Particles and Fibers Doped Silica Aerogel</u>
<b>Session 4-D-1 Numerical Methods for Porous Media III      Chair: <u>Pedro Coelho</u>      Room D</b>		
9:00 - 9:45 AM	<u>Rees, D.A.S.</u>	221: <u>Keynote Lecture 12: The Numerical Modelling of the Convection of a Bingham Fluid in a Porous Medium</u>
9:50 - 10:08 AM	<u>Bocharova, A.A.;</u> <u>Plaksinab, I.V.</u>	217: <u>Effect of Viscosity on Free Convection Boundary Layer in Porous Media with Newtonian Heating on a Vertical Surface</u>
10:08 - 10:26 AM	<u>Brandao, P.V.;</u> <u>Celli, M.;</u> <u>Barletta, A.;</u> <u>Alves, L.S.de B.</u>	228: <u>Mixed Convection in a Plane Porous Channel with Wall Heating from Below and Internal Heat Generation</u>
10:30 - 10:50 AM	<b>Coffee Break</b>	
<b>Session 4-A-2 Combustion II      Chair: <u>Arvind Narayanaswamy</u>      Room A</b>		
10:50 - 11:08 AM	<u>Atreya, A.;</u> <u>Baum, H.R.</u>	190: <u>A Study of Radiative Flameless Combustion in a Furnace</u>
11:08 - 11:26 AM	<u>Roy, S.P.;</u> <u>Cai, J.;</u> <u>Modest, M.F.</u>	233: <u>Photon Monte Carlo Method for Radiation Calculations in Spray Combustion</u>
11:26 - 11:44 AM	<u>Wang, Y.;</u> <u>Shi, G.;</u> <u>Guo, Z.</u>	137: <u>Coupled Multi-Stage Oxidation and Thermodynamic Process in Coal-Bearing Strata under Spontaneous Combustion Condition</u>
11:44 - 12:02 AM	<u>Im, I.-T.;</u> <u>Abdelmotalib, H.M.;</u> <u>Kim, M.S.;</u> <u>Park, C.W.</u>	156: <u>A Study on Wall to Bed Heat Transfer in a Conical Fluidized Bed Combustor</u>
12:02 - 12:20 PM	<u>Ahmed, N.;</u> <u>Youbi, Z.</u>	092: <u>An Algebraic Model Closure of the Counter Gradient Diffusion for the Turbulent Fluxes in Their Combustion Simulation</u>
12:20 - 12:38 PM	<u>Roger, M.;</u> <u>Crouseilles, N.;</u> <u>Coelho, P.J.</u>	064: <u>Monte Carlo Algorithm Based on the Hybrid-Transport Diffusion Model for Transient Radiative Transfer Calculations</u>
12:38 - 12:56 PM	<u>Singh, R.I.</u>	067: <u>Heat Transfer Analysis of Splash Zone of Short Fluidized Bed Combustor Using Coal And Biomass under Variable Oxygen Conditions</u>
<b>Session 4-B-2 Modeling and Simulation of Multiphase Flow and Heat Transfer IV      Chair: <u>Tatiana Gambaryan-Roisman</u>      Room B</b>		



10:50 -11:08 AM	<u>Kossov, V.</u> ; <u>Zhavrin, Y.</u> ; <u>Fedorenko, O.</u> ; <u>Mukamedenkyz y, V.</u>	069: <u>Occurrence of Convective Flows in Ternary Liquid and Gaseous Mixtures under Isothermal Conditions</u>
11:08 -11:26 AM	<u>Tzevelecos, W.</u> ; Van Vaerenbergh, S.	075: <u>Enhancing Heat Pipe Performances Using Self-Rewetting Fluids in Selene Ground Experiment</u>
11:26 -11:44 AM	<u>Pischke, P.</u> ; <u>Kneer, R.</u>	248: <u>Collisional Transport Phenomena in Dense Sprays</u>
11:44 -12:02 PM	<u>Pandey, V.</u> ; <u>Dalal, A.</u> ; <u>Biswas, G.</u> ; <u>Natarajan, G.</u>	258: <u>Effect of Electrohydrodynamics in Saturated Film Boiling with Varying Superheat</u>
12:02 -12:20 PM	<u>Segal, V.</u> ; <u>Ullmann, A.</u> ; <u>Brauner, N.</u>	181: <u>Modeling of Phase Transition of Partially Miscible Solvent Systems: Hydrodynamics and Heat Transfer Phenomena</u>
12:20 -12:38 PM	<u>Noureddine, K.</u> ; <u>Draoui, B.</u> ; <u>Bensafi, M.</u> ; <u>Hasnat, M.</u> ; <u>Doha, M.</u> ; <u>Hami, O.</u>	246: <u>Study and Simulation of Multiphase Flow with Free Surface</u>
12:38 - 12:56 PM	<u>Esteghamatian, A.</u> ; <u>Bernard, M.</u> ; <u>Wachs, A.</u> ; <u>Lance, M.</u> ; <u>Hammouti, A.</u>	272: <u>Micro/Meso Simulations of Fluidized Beds</u>
<b>Session 4-C-2 Manufacturing and Materials Processing      Chair: <u>D. Baillis Doermann</u>      Room C</b>		
10:50 -11:08 AM	<u>Khurana, M.</u> ; <u>Salvi, D.</u> ; <u>Karwe, M.V.</u>	232: <u>Prediction of Temperature Distribution in a Horizontal High Pressure Food Processing Vessel and Its Impact on Process Uniformity</u>
11:08 -11:26 AM	<u>Epstein, J.</u> ; <u>Birnie III, D.P.</u> ; <u>Shan, J.W.</u>	152: <u>Design of a Chemical Reactor for Investigating the Deposition of Novel Sulfide Semiconductor Coating</u>
11:26 -11:44 AM	<u>George, P.</u> ; <u>Meng, J.</u> ; <u>Jaluria, Y.</u>	140: <u>Optimization of the Chemical Vapor Deposition Process for Gallium Nitride in a Vertical Rotating Disk Reactor</u>
11:44 -12:02 AM	<u>Wong, S.</u> ; <u>Jaluria, Y.</u>	174: <u>Numerical Simulation of a Practical Chemical Vapor Deposition Reactor</u>
12:02 -12:20PM	<u>Svetushkov, N.N.</u>	289: <u>Integral Approach for the Numerical Modeling Quenching Process of Forming Rolls</u>
12:20 -12:38 PM	<u>Jingru Z.</u> ; <u>Panides, E.</u>	294: <u>Numerical and Analytical Study on the Substrate Thickness Effect during the Heating and Cooling Process of Coating</u>
<b>Session 4-D-2 Computations in Micro and Nanoscale Heat Transfer V      Chair: <u>Philip Allen</u>      Room D</b>		
10:50 -11:08 AM	<u>Dennai, B.</u> ; <u>Belboukhari, M.</u> ; <u>Chekifi, T.</u> ; <u>Khelfaoui, R.</u>	179: <u>Theoretical Study and Simulation in 2D and 3D of the Flow in Micro Channels (Case of the Convergent/Divergent Diode)</u>

11:08 -11:26 AM	<u>Lorenzini, D.</u> ; <u>Joshi, Y.K.</u>	030: <u>Effect of Surface Wettability on Flow Boiling in a Microchannel</u>
11:26 -11:44 AM	<u>Knupp, D.C.</u> ; <u>Naveira-Cotta, C.P.</u> ; <u>Cotta, R.M.</u>	167: <u>Theoretical Analysis of Conjugated Heat Transfer in Microchannels with Slip Flow Regime via Single Domain Formulation and Integral Transforms</u>
11:44 -12:02 AM	<u>Naveira-Cotta, C.P.</u> ; Macedo, E.N.; Quaresma, J.N.N.	253: <u>Integral Transforms Analysis of Three-Dimensional Mass Transfer in the Transesterification Process in Micro-Reactors</u>
12:02 -12:20 PM	Huang, H.; Liang, C.; Varshney, V.; Roy, A.K.; <u>Kumar, S.</u>	101: <u>Investigation of Phonon Transport and Thermal Boundary Conductance at Interface of SWCNT and Poly (Ether- Ketone)</u>
12:20 -12:38 PM	Lee, H.-F.; <u>Esfarjani, K.</u> ; Pelegri, A.A.; Kear, B.H.; Tse, S.D.	153: <u>Melting of Cubic Boron Nitride Nanoparticles: A Molecular Dynamics Study</u>
12:38 -12:56	Kabar, Y.; Rebay, M.; Bessaih, R.; Bordja, L.	242: <u>Conjugate Heat Transfer in Microchannel Including Rarefaction and Viscous Dissipation</u>
	<b>Free Afternoon</b>	
	<b>ROOM A</b>	<b>FIBER OPTICS AUDITORIUM</b>
	<b>ROOM B</b>	<b>BIOMEDICAL ENG. BLDG, Room 102 (AUDITORIUM)</b>
	<b>ROOM C</b>	<b>BIOMEDICAL ENG. BLDG., ROOM 116</b>
	<b>ROOM D</b>	<b>CAIT AUDITORIUM</b>