

Sunday, July 26th 2009

12:00 PM

ICLASS - Americas Board Meeting (Blue Sky Room)

5:00 PM

Registration (Registration Desk)

6:00 PM

Opening Reception / Exhibitors / Poster Session (Grand Ballroom A-F)

Monday, July 27th 2009

7:30 AM	Registration				
8:30 AM	ICLASS 2009 Opening Remarks				
8:45 AM	Plenary Lecture: Current progress in atomization and spray technology for medical applications Muh-Rong Wang, Professor INSTITUTE OF AERONAUTICS AND ASTRONAUTICS NATIONAL CHENG KUNG UNIVERSITY Tainan, Taiwan, ROC				
9:45 AM		Mini-Symposium on Cavitation	Mini-Symposium on Diesel Sprays	Mini-Symposium on Simulation & Validation	Droplets & Turbulence I
		Session Chairs: Akira Sou and Sadegh Dabiri	Session Chairs: Scott Parrish and Vince Mc Donnell	Session Chairs: Josette Bellan and Brett Van Poppel	Session Chairs: Madjid Birouk and Antonio Cavaliere
10:00 AM	Paper 1	Paper Number: 235 Paper Title: Modeling of Cavitation Phenomenon inside a Nozzle Under High Fuel Pressure Condition Paper Authors: Y. Moriyoshi and K. Suga Affiliation: Department of Mechanical Engineering Chiba University	Paper Number: 039 Paper Title: Modeling sub-grid scale mixing of vapor in diesel sprays using jet theory Paper Authors: Neerav Abani and Rolf D. Reitz Affiliation: Engine Research Center, University of Wisconsin-Madison	Paper Number: 091 Paper Title: Large Eddy Simulation of Fuel Sprays using the Eulerian Mesoscopic Approach. Validations in realistic engine conditions Paper Authors: L. Martinez ¹ , A. Vie ¹ , S. Jay ¹ , A. Benkenida ¹ and B. Cuenot ² Affiliation: 1. IFP, France 2. CERFACS, France	Paper Number: 110 Paper Title: Effect of Combustion Air Temperature on Combustion Characteristics of New Type Combustor with Upward Swirl Paper Authors: Tomohiko Furuhashi, Toru Sasaki and Masataka Arai Affiliation: Department of Mechanical System Engineering, Gunma University
10:25 AM	Paper 2	Paper Number: 197 Paper Title: Comparison of Flow and Cavitation Processes in Conventional and Group-Hole Diesel Injector Nozzles using Numerical Simulations Paper Authors: W. G. Lee and R. D. Reitz Affiliation: Research Center, University of Wisconsin-Madison	Paper Number: 228 Paper title: Stochastic model of the near-to-injector spray formation in Diesel-like conditions Paper authors: M. Gorokhovskiy ¹ and A. Chtab-Desportes ² Affiliation: 1 Laboratory of Fluid Mechanics and Acoustics, UMR France. CD-Adapco, France	Paper Number: 302 Paper Title: An experimental investigation of spray formation as affected by sprinkler geometry Paper Authors: Xiangyang Zhou and Hong-Zeng Yu Affiliation: FM Global, Norwood, MA	Paper Number: 126 Paper Title: Interactions between evaporating droplets in a monodisperse stream Paper Authors: Bruno Frackowiak ¹ , Gérard Lavergne ² , Cameron Tropea ¹ , Alain Strzelecki ² Affiliation: 1: Technische Universität Darmstadt, Germany. 2: ONERA, DMAE, France
10:50 AM	Paper 3	Paper Number: 112 Paper Title: Effect of Cavitation inside Nozzle on Liquid Jet Paper Authors: M. Daikoku ¹ and S. Ogasawara ² Affiliation: 1. Department of Mechanical Engineering, Hachinohe Institute of Technology, 2. Department of Intelligent Machines and System Engineering, Hirotsuki University	Paper Number: 057 Paper Title: Computed and Measured Fuel Vapor Distribution in a Full-Cone Spray at High Chamber Pressure and Temperature Paper Authors: John Abraham ^{1,2} , Lyle M. Pickett ² Affiliation: 1. Purdue University 2. Sandia National Laboratories, Livermore, CA	Paper Number: 051 Paper Title: Discharge and Dispersion in Water-Mist Sprays: Experimental and Numerical Analysis Paper Authors: Paolo E. Santangelo ¹ , Paolo Tartarini ¹ , Beatrice Pulvirenti ² , Paolo Valdiserri ² Affiliation: 1 Università degli Studi di Modena e Reggio Emilia, Italy, 2. Alma Mater Studiorum – Università di Bologna, Italy	Paper Number: 230 Paper Title: Thermal and Evaporative Spray Plume Characteristics Using Computational Fluid Dynamics Paper Authors: W. Kalata, K. Brown, K. M. Bade and R. J. Schick Affiliation: Spray Analysis and Research Services Spraying Systems Co.
11:15 AM	Paper 4	Paper Number: 180 Paper Title: Investigating the Effect of the Injector Length/Diameter ratio on the Primary Breakup of Liquid Jets using X-ray Diagnostics Paper Authors: Anu R. Osta ¹ , Jaiho Lee ¹ , Khaled A. Sallam ¹ , and Kamel Fezzaa ² Affiliation: Mechanical and Aerospace Engineering, Oklahoma State University, 2 Advanced Photon Source, Argonne National Laboratory, Argonne, Illinois.	Paper Number: 155 Paper Title: Single-Shot Ultra-Fast Phase-Contrast X-ray Imaging of High-Pressure Diesel Fuel Sprays Paper Authors: Zunping Liu ¹ , Kyoung-Su Im ¹ , Xingbin Xie ² , Yujie Wang ¹ , Kamel Fezzaa ¹ , Ming-Chia Lai ² , and Jin Wang ¹ Affiliation: ¹ X-Ray Science Division, Argonne National Laboratory, 9700 South Cass Ave., Argonne, IL 60439-4800; ² Department of Mechanical Engineering, Wayne State University, 5050 Anthony Wayne Dr, Detroit, MI 48202.	Paper Number: 005 Paper title: Validation and Initial Application of a Novel Spray Combustion Chamber Representative of Large Two-Stroke Diesel Engine Combustion Systems Paper authors: K. Herrmann ¹ , A. Kyrtatos ¹ , R. Schulz ¹ and G. Weisser ¹ B. von Rotz ² , B. Schneider ² and K. Boulouchos ² Author affiliation: 1. Wärrsilä Switzerland 2. Aerothermochemistry and Combustion Systems Laboratory Zurich, Switzerland	Paper Number: 090 Paper Title: Validation of the Eulerian Mesoscopic Approach in Particle-Charged Homogeneous Isotropic Decaying Turbulence in the scope of Large Eddy Simulation of Fuel Sprays Paper Authors: A. Vie ¹ , L. Martinez ¹ , S. Jay ¹ , A. Benkenida ¹ and B. Cuenot ² Affiliation: 1 IFP, Cedex – France 2. CERFACS, Cedex 1 - France
11:40 AM	Lunch (Colorado Ballroom) / Exhibitors (Grand Ballroom)				

Monday, July 27th 2009 continued AFTER LUNCH...

		Mini-Symposium on Cavitation	Mini-Symposium on Diesel Sprays	Mini-Symposium on Simulation & Validation	Droplets & Turbulence I
		Session Chairs: Masakaka Arai and Jim Drallmeier	Session Chairs: Terry Parker and Sage Kokjohn	Session Chairs: Olivier Desjardins and Matt Opgenorth	Session Chairs: Eva Gutheil and Kyle Bade
12:40 PM	Paper 5	<p>Paper Number: 086</p> <p>Paper Title: The Performance of a Pressure Atomizer with Upstream Flow Obstructions</p> <p>Paper Authors: P. A. Corber and S. Tavoularis</p> <p>Affiliation: Institute for Aerospace Research, University of Ottawa</p>	<p>Paper Number: 109</p> <p>Paper Title: Spray Development for Low Temperature Combustion in an HSDI Optical Diesel Engine using Multiple Injection Strategies</p> <p>Paper Authors: Tiegang Fang¹, Robert E. Coverdill², Chia-ron Lee², and Robert A. White²</p> <p>Affiliation: 1. North Carolina State University 2. University of Illinois at Urbana-Champaign</p>	<p>Paper Number: 303</p> <p>Paper Title: Lagrangian Spray Drift Ground Exposure Modeling With Wind Tunnel Droplet Size and Flux Source Data</p> <p>Paper Authors: Andrew Hewitt,¹ Rob Connel,¹ Harold Thistle,² Paul Miller,³ Milton Teske,⁴ Ewing, NJ⁵, and Gary Dorr⁵</p> <p>Affiliation: 1. Lincoln Ventures, New Zealand 2. USDA Forest Service, Morgantown, WV 3. TAG, Silsoe, UK 4. Continuum Dynamics, Inc. 5. The University of Queensland, Gatton, Australia</p>	<p>Paper Number: 210</p> <p>Paper title: Binary water droplet collision study under conditions typical for nuclear reactors</p> <p>Paper authors: Christophe Rabe¹, Jeanne Malet¹, François Feuillebois²</p> <p>Author affiliation: 1: IRSN, Institut de Radioprotection et de Sûreté Nucléaire France. 2: *LPMMH - UMR CNRS France</p>
1:05 PM	Paper 6	<p>Paper Number: 019</p> <p>Paper Title: Dimensionless Numbers on Cavitation in a Nozzle of a Plain Orifice Atomizer</p> <p>Paper Authors: Akira Sou, Shigeo Hosokawa and Akio Tomiyama</p> <p>Affiliation: Kobe University</p>	<p>Paper Number: 222</p> <p>Paper Title: Experimental and Numerical Analysis of Marine Diesel Engine Injection Sprays under Cold and Evaporative Conditions</p> <p>Paper Authors: C. Fink, M. Frobenius, E. Meindl, H. Harndorf</p> <p>Affiliation: Rostock University, Deutschland</p>	<p>Paper Number: 028</p> <p>Paper Title: APPROPRIATE DATA FOR VALIDATION OF LARGE EDDY SIMULATION OF FLOWS WITH EVAPORATING DROPS</p> <p>Paper Authors: S. Radhakrishnan¹ and J. Bellan^{1,2}</p> <p>Affiliation: 1. Jet Propulsion Laboratory 2. California Institute of Technology 3. Mechanical Engineering Department 4. California Institute of Technology</p>	<p>Paper Number: 081</p> <p>Paper Title: Dispersion of a fuel spray in a heated channel with controlled turbulence: characterization of droplet temperature and fuel vapour distribution.</p> <p>Paper Authors: V. Deprédurand¹, A. Delcon¹, M. Orain², B. Rossow², F. Grisch², F. Lemoine²</p> <p>Affiliation: 1 LEMTA, CNRS, 2. ONERA, PALAISEAU CEDEX</p>
1:30 PM	Paper 7	<p>Paper Number: 178</p> <p>Paper Title: Cavitation Bubbles in Shear Flow</p> <p>Paper Authors: Dabini¹, William A. Sirignano¹, Daniel D. Joseph^{1,2}</p> <p>Affiliation: 1. University of California, Irvine, 2. University of Minnesota</p>	<p>Paper Number: 006</p> <p>Paper Title: Theoretical and Experimental Analysis of the Fuel Stream in GDI Engine</p> <p>Paper Authors: Mariusz Cygnar¹, Karina Janisz¹, Marek Aleksander¹, Grzegorz Budzik²</p> <p>Affiliation: 1. State Hihger Vocational School, Poland. 2. Rzeszow University of Technology, Poland</p>	<p>Paper Number: 064</p> <p>Paper Title: Improvement of the grid dependency of the momentum coupling and the droplet collision modeling in the Arbitrary Lagrangian-Eulerian method for spray simulations</p> <p>Paper Authors: Sayop Kim and Chang Sik Lee</p> <p>Affiliation: Department of Mechanical Engineering, Graduate School of Hanyang</p>	<p>Paper Number: 209</p> <p>Paper Title: Flow Field and Mass Flux Measurements Near the Exit Plane of Spray Jets</p> <p>Paper Authors: J. D. Gounder and A. R. Masri</p> <p>Affiliation: School of Aerospace, Mechanical and Mechatronic Engineering The University of Sydney Australia</p>
1:55 PM	Paper 8	<p>Paper Number: 083</p> <p>Paper Title: Effects of Cavitation in a Nozzle Hole on Atomization of Spray and Development of High-Efficiency Atomization Enhancement Nozzle</p> <p>Paper Authors: N. Tamaki</p> <p>Affiliation: Department of Mechanical Engineering, Kinki University</p>	<p>Paper Number: 015</p> <p>Paper Title: Investigation of the fuel influence on the injection and mixture process for short injection periods under different diesel engine conditions</p> <p>Paper Authors: Diana Martin, Manuel Reddemann, Reinhold Kneer</p> <p>Affiliation: Institute of Heat and Mass Transfer, RWTH Aachen University, Germany</p>	<p>Paper Number: 053</p> <p>Paper Title: Detailed numerical investigation of turbulent atomization of liquid jets</p> <p>Paper Authors: Olivier Desjardins</p> <p>Affiliation:</p>	<p>Paper number: 134</p> <p>Paper title: Experimental investigation of evaporating bi-component droplets in a turbulent channel flow</p> <p>Paper authors: Virginie Bodoc¹, Florian Moreau², Yves Biscos¹, Rudy Basile² and Gerard Lavergne¹</p> <p>Author affiliation: 1. Département Modèles pour l'Aérodynamique et l'Energétique, ONERA, France 2. Institut de Mecanique des Fluides de Toulouse France</p>
2:20 PM	Break				

Monday, July 27th 2009 continued AFTER BREAK...

		Mini-Symposium on Cavitation	Mini-Symposium on Diesel Sprays	Mini-Symposium on Simulation & Validation	Agricultural Sprays
		Session Chairs: David Schmidt and Andrew Hewitt	Session Chairs: Mikhael Gorokhovski and Chris Powel	Session Chairs: Mario Trujillo and Senthilkumar Radhakrishnan	Session Chairs: Ken Giles and Zbigniew Czaczyk
2:45 PM	Paper 9	Paper Number: 102 Paper Title: Thermal and Inertial Equilibrium in Small, High-Speed, Cavitating Nozzle Simulations Paper Author: David P. Schmidt Sukanta Rakshit, and Kshitij Neroorkar Affiliation: Department of Mechanical and Industrial Engineering, University of Massachusetts	Paper Number: 055 Paper Title: Effect of Extreme Compression on Diesel Spray Penetration and Dispersion Paper Author: M. N. Svrcek, S.L. Miller, and C. F. Edwards Affiliation: Department of Mechanical Engineering, Stanford University	Paper Number: 020 Paper Title: Spray characterization of pneumatic concentric nebulizer used in Inductively Coupled Plasma – Mass Spectrometry (ICP-MS) Paper Authors: A. Kashani, D. Bandura, J. Mostaghimi Affiliation: Department of Mechanical and Industrial Engineering, University of Toronto	Paper Name: 040 Paper Title: Effect of Surfactants and Their Concentrations Against Phalaris Minor Control in Wheat (Triticum aestivum) Paper Authors: A.S.Tomar and V.R.Thakre Affiliations: Division of Bioscience, Institute of Pesticide Formulation Technology
3:10 PM	Paper 10	Paper Number: 132 Paper Title: Experimental Study about internal Cavitating Flow and Primary Atomization of a Large-Scaled VCO Diesel Injector with Eccentric Needle Paper Authors: T. Oda, Y. Goda, S. Kanaike, K. Aoki and K. Ohsawa Affiliation: Tottori University Japan, Mitsubishi Motors Corporation, West Japan Railway Company	Paper Number: 082 Paper Title: A Modeling Study of Charge Preparation in an HCCI Engine Using a Variable Pressure Pulse (VPP) Injection System and Optimized PRF Blends Paper Authors: Sage L. Kokjohn and Rolf D. Reitz Affiliation: Engine Research Center, University of Wisconsin - Madison	Paper Number: 131 Paper Title: Dynamics of Droplets Impulsively Accelerated by Gaseous Flow: A Numerical Investigation Paper Authors: Shaoping Quan Affiliation: Large-Scale Complex Systems, Institute of High Performance Computing, Singapore, 138632	Paper number: 088 Paper title: Development of a Protocol for Characterizing Sprays Generated Under Simulated Aerial Conditions Paper authors: B. R.Collett, J. P. Fife, M. J. Shaw, M. C. Shell, and C. L. Scott Author affiliation: Battelle Memorial Institute, Columbus, Ohio
3:35 PM	Paper 11	Paper Number: 089 Paper Title: Evaluation of New Criteria for Cavitation Inception in Diesel Injectors Paper Authors: S. Som ¹ , A.I. Ramirez ¹ , Alejandro M. Briones ² , and S. K. Aggarwal ¹ Affiliation: 1. Department of Mechanical and Industrial Engineering University of Illinois at Chicago, 2. University of Dayton Research Institute Dayton, OH	Paper Number: 234 Paper Title: Effect of High Ambient Pressure on Behavior and Structure of Diesel Spray Paper Authors: Yuta Manaka, Takayuki Ohta, Masahiro Saito, Tomohiko Furuhashi and Masataka Arai Affiliation: Department of Mechanical System Engineering, Gunma University	Paper Number: 059 Paper Title: Optimization of a 2D Particle Separator – 2009 Paper Authors: M. J. Opgenorth, W. E. McDermott and C. S. Lengsfeld Department of Mechanical and Materials Engineering, University of Denver	Paper Number: 154 Paper Title: Atomization Modeling for an Agricultural Hollow Cone Nozzle Paper Authors: A. Belhadeif, A. Vallet Affiliation: Cemagref, Agricultural and Environmental Engineering Research Centre
4:00 PM	Paper 12	Paper Number: 080 Paper Title: Integrated Computation of Micro-Cavitation in Gasoline Injector Atomization Paper Authors: Jun Ishimoto Affiliation: Institute of Fluid Science, Tohoku University	Paper number: 221 Paper title: Liquid Spray Penetration Under HCCI Conditions Paper authors: S. L. Post ¹ , R. J. Stocker ² and S. Dara ³ Author affiliation: 1. Bradley University, 2. Caterpillar, 3. Bradley University	Paper Number: 114 Paper Title: Numerical Simulations of Spontaneous Ignition of Mono-disperse Fuel Spray in Lean Premixed Gas Paper Authors: O. Morieue, Y. Kawaida, H. Kato and E. Murase Affiliation: Department of Mechanical Engineering, Kyushu University	Paper Number: 256 Paper Title: Vibrational Excitation and Analysis of Fluids to Predict Atomization Characteristics Paper Authors: D.K. Giles and R.L. Stocker Affiliation: Department of Biological and Agricultural Engineering, University of California-Davis
4:25 PM	Paper 13	Paper Number: 168 Paper Title: Effects of Internal Cavitation on Breakup of High-Pressure Diesel Sprays Paper Authors: Kyoungsu IM, Seong-Kyun Cheong, Christopher F. Powell, Xin Liu, and Jin Wang Affiliation:	Paper Number: 118 Paper Title: Investigation on the cavitating flow of biodiesel fuel within the nozzle passage according to the nozzle geometry Paper Authors: Su Han Park ¹ , Bong Woo Ryu ¹ , Hyung Jun Kim ¹ , and Chang Sik Lee ² Affiliation: 1. Department of Mechanical Engineering, Graduate School of Hanyang University 2. Department of Mechanical Engineering, Hanyang University	Paper Number: 218 Paper Title: An algorithm to evaluate interfacial area and sharp surface tension force in unstructured meshes for level-set method in multiphase flow modeling Paper Authors: Amir Pourmousa, Hanif Montazeri, Javad Mostaghimi Affiliation: University of Toronto, Canada	Page Number: 041 Paper Title: Effect of Adjuvant on the Rainfastness and Herbicidal Activity of Glyphosate Against <i>Cynodon dactylon</i> and <i>Cyperus rotundus</i> Weeds Paper Authors: A.S.Tomar and S.P.Singh Affiliations: Division of Bioscience, Institute of Pesticide Formulation Technology
4:50 PM	Paper 14	No Paper Scheduled	No Paper Scheduled	No Paper Scheduled	Paper: 054 Paper Title: Drift reducing nozzle systems for space cultures Paper Authors: Zb. Czaczyk ¹ and G. Bäcker ² Affiliations: 1Institute of Agricultural Engineering, Poznań University of Life Sciences, Wojska Polskiego 28, PL60-637 Poznań, Poland, 2Department of Viticultural Engineering, Geisenheim Research Center, Von-Lade-Str. 1, D65366 Geisenheim, Germany.
6:00 PM	ICLASS International Board Meeting				