

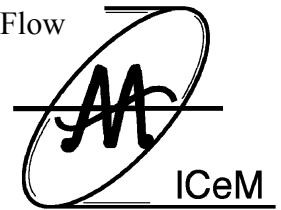


The International Information Center for Multiphase Flow

# NEWSLETTER

No. 34, June 2010

The Japanese Society for Multiphase Flow



## ICMF-2010 Conference Report May 30 – June 4, 2010, Tampa, Florida, USA

by Jennifer Sinclair Curtis and Sivaramakrishnan Balachandar

The International Conference on Multiphase Flow (ICMF-2010) was held in Tampa, Florida and was hosted by the University of Florida. The conference took place at the Marriott Waterside Hotel and Marina from May 30 to June 4, 2010. The conference was co-sponsored by the American Institute of Chemical Engineers, the American Society of Mechanical Engineers, the Japanese Society for Multiphase Flow and the University of Florida.

This conference, the premier international one for multiphase flows, brought together researchers from many countries, disciplines and applications. There were 651 attendees in total. The conference facilitated the communication of new ideas and initiated new collaborations. ICMF-2010 was the 7th in a series that was first initiated in Tsukuba, Japan in 1991. During the second conference, held in Kyoto, Japan, an International Governing Board was established. In addition, the decision to hold the conference every three years was made - with the conference location rotating between Asia, America and Europe.

New features of ICMF-2010 included the Gallery of Multiphase Flow and multiphase flow awards for best Gallery posters and videos and best paper awards for junior researchers. In addition, the conference featured 5 plenary lectures and 15 keynote lectures by top researchers in the field - including this year's recipients of the ICMF Senior and Junior Awards, Professor Gad Hetsroni and Professor Neelesh Patankar, respectively. The other four plenary lectures were given by Professors John Brady, John Eaton, Robert Mudde and Kazuyoshi Takayama. The other fourteen keynote lectures were given by Professors Jos Derksen, Rodney Fox, Elisabeth Guazzelli, Yoshimichi Hagiwara, Koichi Hishida, Shigeo Hosokawa, Stathis Michaelides, Jeffrey Morris, Koji Okamoto, Gary Parker, Hayley Shen, Olivier Simonin, Alfredo Soldati, and Martin Sommerfeld.

The conference included sessions on the following topics: Bio-Fluid Dynamics, Boiling, Bubbly Flows, Cavitation, Colloidal and Suspension Dynamics, Collision, Agglomeration and Breakup, Computa-

### To Join ICeM:

Everybody, who is interested in Multiphase flow, is welcome to join ICeM. Please contact one of the following board members to register in ICeM member.

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tional Techniques for Multiphase Flows, Droplet Flows, Environmental and Geophysical Flows, Experimental Methods for Multiphase Flows, Fluidized and Circulating Fluidized Beds, Fluid Structure Interactions, Granular Media, Industrial Applications, Instabilities, Interfacial Flows, Micro and Nano-Scale Multiphase Flows, Microgravity in Two-Phase Flow, Multiphase Flows with Heat and Mass Transfer, Non-Newtonian Multiphase Flows, Particle-Laden Flows, Particle, Bubble and Drop Dynamics, and Reactive Multiphase Flows. These topics were organized in seven parallel sessions starting on Monday morning and ending on Friday at noon. There were 476 oral presentations in all.

Poster sessions occurred on Monday, Tuesday and Thursday evening from 6:30pm to 8:00pm. There were approximately 270 posters in all. On Wednesday evening, the conference reception/dinner was held at the Florida Aquarium in Tampa, Florida. The Florida Aquarium is one of the top ten in the United States, and conference participants were able to view sharks, alligators, stingrays and penguins while enjoying delicious food. On Friday morning, the Senior and Junior ICMF Awards were announced, along with six ICMF-2010 conference awards (2 for the Gallery of

Multiphase Flow videos, 2 for the Gallery of Multiphase Flow posters, and 2 for the best paper awards). In addition, the new location for ICMF 2013 was announced. The next meeting will take place during the last week of May in Jeju Island in South Korea. Professor Moo Hwan Kim of the Pohang University of Science and Technology will be the conference chair.

The conference was organized with the great help of many individuals. The International Scientific Organizing Committee reviewed all the submitted abstracts, helped to publicize the conference, and assisted in the selection of keynote and plenary speakers. In addition, the Local Organizing Committee organized the Gallery of Multiphase Flow, technical sessions, student assistants, and judging for the conference awards. In addition, the conference manager, Ann Koralewski, as well as the Conference Department at the University of Florida, did an outstanding job in the conference management.

Prof. Jennifer Sinclair Curtis  
Prof. Sivaramakrishnan Balachandar  
Conference Co-Chairs  
University of Florida  
Gainesville, Florida, USA

### **18th International Conference on Nuclear Engineering (ICONE-18) May 17 – 21, 2010, Xi'an, China**

by Tomio Okawa

It is my great pleasure to report the successful conference, the 18th International Conference on Nuclear Engineering (ICONE-18), which was held in Xi'an, China on May 17–21, 2010. The conference was attended by about 880 participants from 23 countries (it may be interesting to note that the banquet hall was forced to be changed on short notice since the number of participants was greater than expected), and 802 presentations were made in the following 15 technical tracks: TRK 1 Plant Operations, Maintenance, Engineering, Modifications, Life Cycle and Balance of Plant, TRK 2 Component Reliability and Materials Issues, TRK 3 Structural Integrity, TRK 4 Nuclear Technology Applications and Innovations, TRK 5 Advanced Reactors, TRK 6 Safety And Security, TRK 7 Codes, Standards,

Licensing and Regulatory Issues, TRK 8 Fuel Cycle and Decommissioning, TRK 9 Thermal Hydraulics, TRK 10 Reactor Physics and Transport Theory, TRK 11 Nuclear Education, Public Acceptance and Related Issues, TRK 12 Instrumentation & Controls (I&C), TRK 13 Fusion Engineering, TRK 14 Panel Sessions, TRK 15 Student Paper Competition. Only from the track names, it may be obvious that the conference covered almost all the aspects of nuclear engineering that is indispensable to achieve sustainable development. Furthermore, 2 workshops (1. CFD workshop, 2. Codes and Standards Workshop), 5 panel sessions (1. Regulation, Codes and Standards, 2. Training, education and workforce for nuclear power development, 3. Sharing of best plant's operation and maintenance experiences, 4. Newly designed plants:

Issues and challenges during construction, 5. Gen-IV Program), and 3 plenary sessions were held. The conference sponsors were the Chinese Nuclear Society (CNS), the American Society of Mechanical Engineers (ASME), The Japan Society of Mechanical Engineers (JSME), the China National Nuclear Corporation (CNNC), the China Guangdong Nuclear Power Group (CGN), Westinghouse, Toshiba, the Atomic Energy of Canada Limited (AECL), and the Mitsubishi Heavy Industries (MHI), and the conference was mainly organized by the School of Nuclear Science & Technology, Xi'an Jiaotong University.

It is clearly not possible to report everything about this large and significant conference. Therefore, I would like to focus on TRK 15 Student Paper Competition, which was the highlight of the conference and contributed to the development of young researchers in the field of nuclear engineering as in the previous conferences. The 61 selected students were participated in the competition. They attended one of the two workshops on the first day, made poster and oral presentations, and visited Beijing together after the conference. They also served as chairpersons of the student session. In spite of the tight schedule, the quality of their presentations was very high and 12 outstanding students received the student competition awards (4 best paper awards, 4 best presentation awards, and 4 best poster awards). In addition, the Akiyama Medal was awarded to the Chinese student who received the best paper award. The award ceremony was held during the banquet, and the award winners received generous applause

from all the participants (unfortunately, only the silhouettes of award winners can be seen in Photo 1). It is believed that the competition was a good chance for the students not only to improve their technical skills but also to develop good relationships with foreign students, and that they will contribute to the future development of the nuclear engineering.

The next ICONE (ICONE-19) will be held in Makuhari, Chiba, Japan on May 16–19, 2011 (The best season in Japan and the conference place is very close to the Tokyo Disney Resort). It is believed that the next conference will also be successful.

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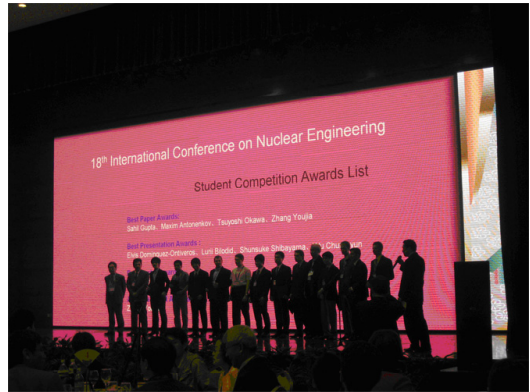


Photo 1 Award ceremony of student paper competition held during the banquet.

## **ICOPE-09, International Conference on Power Engineering 2009 November, 16 – 20, 2009, Kobe, Japan**

by Hitoshi Asano

International Conference on Power Engineering 2009 (ICOPE-09) was successfully held in Kobe, Japan, November 16 – 19, 2009. The ICOPE is an international conference jointly organized by Japan Society of Mechanical Engineers (JSME), the American Society of Mechanical Engineers (ASME), and the Chinese Society of Power Engineering (CSPE) to discuss

on power, energy, and environmental problems except nuclear engineering. The meeting has been chaired by Mamoru Ozawa of Kansai University, and co-chaired by Kefa Cen of Zhejiang University and William C. Stenzel of Sargent & Lundy, LLC.

More than 370 researchers, scientists and engineers from 13 countries participated this conference.

About 36 percent of the participants were from companies, and about 52 percent were from universities.

The first ICOPE had been held in Tokyo, Japan in 1993 as JSME-ASME Joint International Conference on Power Engineering. The next ICOPE had been held in Shanghai in 1995 jointly organized by JSME, ASME, and CSPE. After that, ICOPE was biyearly held in Tokyo (1997), San Francisco (1999), Xian (2001), Kobe (2003), Chicago (2005), and Hangzhou (2007). This ICOPE was the 9th one.

The ICOPE covers both fundamental and applied topics categorized as follows, 1. Power Systems including IPP, PPS, deregulation, Stirling engine, internal combustion engine, 2. Distributed Energy Systems including micro grid, co-/tri- generation system, 3. Fuel Production and Utilization including coal, DME, methanol, GTL, 4. Advanced Combustion Technology, 5. Boilers, 6. Steam Turbines, 7. Gas Turbines, 8. Generators, 9. Components, Equipment and Auxiliaries, 10. Operations and Maintenance, 11. New Materials for Energy Systems, 12. Environmental Protection including carbon capture, emission regulation, 13. Renewable Energy including solar, wind, hydro, geothermal, ocean, biomass, 14. Energy Storage and Load Leveling, 15. Heat Pump Systems, 16. Hydrogen and Fuel Cells, 17. Economic and Environmental Aspect, 18. Safety and Security, 19. Experimental and Measuring Technique, 20. Other power-related topics. These topics are basically classified on kinds of system and equipment.

A total of 222 papers and 3 plenary lectures had been presented in 67 technical sessions.

After the opening, three plenary lectures from JSME, CSPE and ASME were presented. These titles are as follows.

**Teruo Nagai**, "IGCC Development in Japan -The Way to Demonstration Plant and Future Perspective-"

**Xiang Gao**, "Development of Multi-Pollutants Control Technology for Flue Gas from Power Plants in China"

**William Stenzel**, "The US Electrical Power Industry – A 2009 Perspective"

In the general presentations, relatively many papers were on equipment and system development, and were presented by researchers and engineers in industrial field. As shown in a breakdown of participants, ICOPE is characterized by discussions among government, industry and academia. In the recent trend, a number of papers related to renewable energy and environmental protection is increasing, while main object is thermal power plant. In ICOPE-09, 55 papers, about 20 percent of the total, were on fuel cells and hydrogen, renewable energy, and environmental protection. In the papers from CSPE, there were a lot of papers on coal-fired power plant.

The next ICOPE will be held in the next year 2011 in USA, hosted by ASME. Since basic research on multiphase flow phenomena must be needed for development in power and energy systems, and ICOPE will provide good opportunity for promoting collaborations among professional societies and enhancing technical exchanges, I would like you to consider attending the conference.

Prof. Hitoshi Asano  
Secretary general of ICOPE-09  
Kobe University  
E-mail: asano@mech.kobe-u.ac.jp



## Future Meetings

Following list includes Conference Name, Place, Date and Contact.

### 40th Fluid Dynamics Conference and Exhibit

Chicago, Illinois, June 28 - July 1, 2010

<http://www.aiaa.org/>

### 15th International Symposium on Application of Laser Techniques to Fluid Mechanics (LISBON 2010)

Lisbon, Portugal, July 5 - 8, 2010

Prof. António Moreira

Instituto Superior Técnico

Av. Rovisco Pais 1049 Lisboa, Portugal

Phone: +351 21 841 97 24

Fax: +351 21 849 61 56

E-mail: [llaser.editions@dem.ist.utl.pt](mailto:llaser.editions@dem.ist.utl.pt)

<http://lces.dem.ist.utl.pt/lx1laser/lx1laser2010/>

### 11th International Conference on Advanced Computational Methods and Experimental Measurements in Heat Transfer

Tallinn, Estonia, July 14 - 16, 2010

<http://www.wessex.ac.uk/10-conferences/heat-transfer-2010.html>

### 7th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics (HEFAT2010)

Antalya, Turkey, July 19 - 21, 2010

Prof. Josua P Meyer

Department of Mechanical and Aeronautical Engineering, University of Pretoria

Pretoria, South Africa

E-mail: [josua.meyer@up.ac.za](mailto:josua.meyer@up.ac.za)

<http://www.hefat.net>

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T. Kunugi (Kyoto University)

T. Saito (Shizuoka University)

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K. Michioku (Kobe University)

Chair of Planning Division

F. Takemura (National Institute of Advanced Industrial Science and Technology)

Chair of International Intercourse Division

K. Tsuchiya (Doshisha University)

Chair of General Affairs Division

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WWW homepage : <http://www.jsmf.gr.jp/>

**12th International Conference on Magnetic Fluids**

Sendai, Japan, August 1 - 5, 2010  
E-mail: [icmf12@senkyo.co.jp](mailto:icmf12@senkyo.co.jp)  
<http://www.senkyo.co.jp/icmf12/>

**International Heat Transfer Conference (IHTC-14)**

Washington D.C., USA, August 8 -10, 2010  
<http://www.asmeconferences.org/IHTC14/>

**23rd European Conference on Liquid Atomization and Spray Systems (ILASS-Europe 2010)**

Brno, Czech, September 6 - 8, 2010  
Dr. Matej Forman  
Energy Institute  
Faculty of Mechanical Engineering  
Brno University of Technology  
Technická 2896/2  
616 69 Brno, Czech Republic  
E-mail: [info@ilasseurope2010.org](mailto:info@ilasseurope2010.org)  
<http://www.ilasseurope2010.org/>

**6th World Congress on Industrial Process Tomography (WCIPT6)**

Beijing, China, September 6 - 9, 2010  
E-mail: [wcipt6@ncepu.edu.cn](mailto:wcipt6@ncepu.edu.cn)  
<http://www.isipt.org/wcipt/>

**Eighth International Conference on Advances in Fluid Mechanics**

**(Advances in Fluid Mechanics 2010)**  
Algarve, Portugal, September 15 - 17, 2010  
Conference Secretariat:  
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<http://www.wessex.ac.uk/10-conferences/afm-2010.html>

**5th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer**

Rhodes, Greece, September 19 - 25, 2010  
<http://web.ift.uib.no/~pawel/icnaam.html>

**Fifth International Topical Team Workshop on Two-Phase Systems for Ground and Space Applications**

Kyoto, Japan, September 26 - 29, 2010  
Dr. Yulia Kabova

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<http://hti.ulb.ac.be/workshop-10/index.html>

**The 3rd International Conference on Jets, Wakes and Separated Flows (ICJWSF-2010)**

Cincinnati, USA  
September 27 - 30, 2010  
Marriott Kingsgate Conference Hotel  
<http://www.icjwsfcinci2010.com/>

**The 8th International Topical Meeting on Nuclear Thermal-Hydraulics, Operation and Safety (NUTHOS-8)**

Shanghai, China, October 10 - 14, 2010  
NUTHOS-8 Office  
School of Nuclear Science and Engineering  
Shanghai Jiao Tong University  
800 Dongchuan Road, 200240 Shanghai, China  
Phone: +86 21 3420 5056  
Fax: + 86 21 34205182  
Email: [nuthos-8@sjtu.edu.cn](mailto:nuthos-8@sjtu.edu.cn)  
<http://www.nuthos-8.org>

**2010 ANS Winter Meeting and Nuclear Technology Expo**

Las Vegas, USA, November 7 - 11, 2010  
Technical Program Chair:  
Dr. Charles R. (Chip) Martin  
Senior Engineer,  
Defense Nuclear Facilities Safety Board  
[http://www.new.ans.org/meetings/c\\_1](http://www.new.ans.org/meetings/c_1)

**Experimental fluid mechanics 2010**

Liberec, Czech Republic, November 24 - 26, 2010  
KEZ/EFM-10  
TU Liberec  
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<http://orion.kez.tul.cz/efm/>

**2nd European Conference on Microfluidics ( $\mu$ Flu $\tilde{O}$ 10)**

Toulouse, France, December 8 - 10 2010  
<http://www.microfluidique.insa-toulouse.fr/mf10.htm>

----- 2011 -----

**ICFMHTT 2011: "International Conference on Fluid Mechanics, Heat Transfer and Thermodynamics"**

Dubai, United Arab Emirates, January 25 - 27, 2011  
<http://www.waset.org/conferences/2011/dubai/icfmhtt>

**The 8th ASME-JSME Thermal Engineering Joint Conference (AJTEC2011)**

Honolulu, Hawaii, USA, March 13 - 17, 2011  
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Prof. Isao Satoh, Tokyo Institute of Technology,  
E-mail: [satohi@mep.titech.ac.jp](mailto:satohi@mep.titech.ac.jp)  
<https://www.asmeconferences.org/AJTEC2011/>

**2011 International Conference on Fluid Dynamics and Thermodynamics Technologies (FDTT 2011)**

Bali, Indonesia, April 1 - 3, 2011  
<http://www.iacsit.org/fdtt/cfp.htm>

**6th Subrata Chakrabarti International Conference on Fluid Structure Interaction**

Orlando, USA, May 9 - 11, 2011  
<http://www.wessex.ac.uk/11-conferences/fluidstructureinteraction-2011.html>

**19th International Conference On Nuclear Engineering (ICONE19)**

Makuhari, Chiba, Japan, May 16 - 19, 2011  
<http://www.icone19.org/>

**6th International Conference on Computational and Experimental Methods in Multiphase and Complex Flow**

Kos, Greece, June 15 - 17, 2011  
<http://www.wessex.ac.uk/11-conferences/multiphaseflow-2011/page-2.html>

**2011 ANS Annual Meeting**

Hollywood, USA, June 26 - 30, 2011  
Program Chair:  
Dr. Charlotta E. Sanders  
Principal Nuclear Engineer, Holtec Center  
[http://www.new.ans.org/meetings/c\\_1](http://www.new.ans.org/meetings/c_1)

**ASME-JSME-KSME Fluids Engineering Conference 2011 (AJK2011)**

Hamamatsu, Japan, July 24 -29, 2011  
Executive committee  
E-mail: [dajk2011@ipc.shizuoka.ac.jp](mailto:dajk2011@ipc.shizuoka.ac.jp)

**7th International Symposium on Turbulent and Shear Flow Phenomena (TSFP-7)**

Ottawa, Canada, July 28 - 31, 2011  
<http://www.tsfp7.org/>

**14th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-14)**

Toronto, Ontario, Canada, September 25 - 29, 2011  
Technical Program Chair:  
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280 Slater, Ottawa, Ontario K1P 5S9, Canada  
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<http://cns-snc.ca/events/nureth-14/>

**The 8th JFPS international Symposium on Fluid Power**

Okinawa, Japan, October 25 - 28, 2011.  
<http://www.jfps.jp/net/8thjfps/>

**2011ANS/ENS International Winter Meeting and Nuclear Technology Expo**

Washington, DC, USA, October 30 - December 3, 2011  
Program Chair:  
David R. Anderson  
Electric Boat Corporation  
[http://www.new.ans.org/meetings/c\\_1](http://www.new.ans.org/meetings/c_1)

**7th Korea-Japan Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS7)**

Chuncheon, Korea, November 14 - 17, 2010  
<http://www.nthas7.org/>

----- 2012 -----

**11th World Filtration Congress (WFC11)**

Graz, Austria, April 14 - 18, 2012  
Prof. Wilhelm Höflinger, Vienna University of Technology  
Prof. Gerd Mauschitz, Vienna University of Technology  
E-mail: [info@wfc11.at](mailto:info@wfc11.at)  
<http://www.wfc11.at>

**2012 ANS Annual Meeting**

Chicago, USA, June 24 - 28, 2012  
Program Chair:  
Ray Klann  
Argonne National Laboratory  
[http://www.new.ans.org/meetings/c\\_1](http://www.new.ans.org/meetings/c_1)

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