

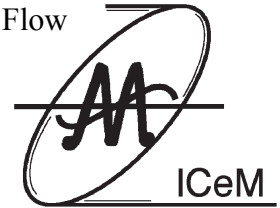


The International Information Center for Multiphase Flow

# NEWSLETTER

No. 44, September 2015

The Japanese Society for Multiphase Flow



## Japan-U.S. Seminar on Two-Phase Flow Dynamics May 10-15, 2015, West Lafayette, Indiana, USA

by Tetsuya Kanagawa

The Japan-U.S. Seminar on Two-Phase Flow Dynamics was held at Purdue University (Photo 1), West Lafayette, Indiana, USA from May 10 to 15, 2015. It was chaired by Prof. Mamoru Ishii (Purdue Univ.), in cooperation with Prof. Martin Bertodano (Purdue Univ.) and Prof. Yutaka Abe (Univ. Tsukuba), and was sponsored the National Science Foundation, supported by Purdue University.

The participants in this seminar were 58 researchers (37 from USA and 21 from Japan). The keynote lectures were given by the following speakers: Prof. Tomoaki Kunugi (Kyoto Univ.), Prof. Gretar Tryggvason (Norte Dame Univ.), Prof. Michitsugu Mori (Hokkaido Univ.), Prof. Michio Sadatomi (Kumamoto Univ.), Prof. Seungjin Kim (Pennsylvania State Univ.), and Prof. Tomoji Takamasa (Tokyo Univ. Marine Science and Technology). They made memorial presentations in this seminar. The technical sessions were composed of the following topics: (i) Dynamic changes to the

inter-facial structure or flow regime, (ii) Local three-dimensional phenomena near the interface and detailed CFD of two-phase flow, (iii) Dynamic system behaviors and instabilities, (iv) Detailed local instrumentation and experiments, (v) Ongoing Ph.D.



Photo 1 Purdue University

### 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.

#### Chairperson (Editor):

Prof. Kenji Katoh  
Faculty of Engineering  
Osaka City University  
Sugimoto, Sumiyoshi-ku, Osaka 558-8585  
Tel: +81-6-6605-2665  
Fax: +81-6-6605-2663  
E-mail:  
katoh@mech.eng.osaka-cu.ac.jp

#### Members:

Prof. Shu Takagi  
The University of Tokyo  
E-mail:  
takagi@mech.t.u-tokyo.ac.jp

Prof. Daisuke Ito  
Kyoto University Research Reactor Institute  
E-mail:  
itod@rri.kyoto-u.ac.jp

Prof. Tatsuro Wakimoto  
Osaka City University  
E-mail:  
wakimoto@mech.eng.osaka-cu.ac.jp

Prof. Yasutaka Yamaguchi  
Osaka University  
E-mail:  
yamaguchi@mech.eng.osaka-u.ac.jp

research.

One of the main topics of this seminar was two-phase thermo-hydraulics toward nuclear engineering. In fact, the third day was devoted to



Photo 2 Memorial photo at Nuclear Lab Tour

“NRC Embedded Workshop on Fukushima” that was composed of eight speakers and panel discussions. Furthermore, “Thermal-Hydraulics and Reactor Safety Lab Tour (Photo 2)” was held at the end of the first day.

Besides, three banquets were held during this seminar. All the participants enjoyed through the barbeque party at the house of Prof. Ishii, dinner at steak house, and original banquet.

The next Japan-U.S. Seminar on Two-Phase Flow Dynamics will be held at Sapporo, Japan in 2018.

Tetsuya Kanagawa, Assistant Professor  
Department of Engineering Mechanics and Energy,  
University of Tsukuba, Japan  
E-mail: kanagawa@kz.tsukuba.ac.jp

## **International Conference on Jets, Wakes and Separated Flows 2015 (ICJWSF 2015) June 15-18, 2015, Stockholm, Sweden**

by Tomomi Uchiyama

The International Conference on Jets, Wakes and Separated Flows 2015 (ICJWSF 2015) was held at KTH Royal Institute of Technology, Stockholm, Sweden from June 15th to 18th, 2015 (Photo 1). The conference was chaired by Professor Laszlo Fuchs (KTH). It takes over the tradition established by the successful meetings commenced in Toba (2005) chaired by Prof. Shakouchi (Mie University, Japan) and continued in Berlin (2008) chaired by Prof. Paschereit (TU Berlin, Germany), Cin-cinnati (2010) chaired by Prof. Gutmark (University of Cincinnati, U.S.A.) and Nagoya (2013) chaired by Prof. Sakai (Nagoya University, Japan). The ICJWSF 2015 was partially cooperated by the Japanese Society for Multiphase Flow.

The objective of this conference is to explore jets, wakes and separated flows by discussing the new developments in the mechanics, the physical models, and the engineering applications. More than 160



Photo 1 KTH Royal Institute of Technology

researchers participated in the conference and seven plenary lectures were invited; Prof. Schroeder (RWTH Aachen University), Prof. Hanningson (KTH), Prof. Hermanson (University of Washington), Prof. Amano (University of Wisconsin Milwaukee), Prof. Plesniak (The George Washington University), Prof. Uchiyama (Nagoya University) and Prof. Gutmark (University of Cincinnati).

Table 1 lists the topics and the corresponding number of papers.

The ICJWSF 2015 was successfully completed by the cooperation with many persons. The next conference is scheduled to be held in September 2017 in Washington, D.C., U.S.A.

Tomomi Uchiyama  
Co-chair of ICJWSF 2015  
Nagoya University, Japan  
E-mail: uchiyama@is.nagoya-u.ac.jp

Table 1 Topics and number of papers

Jet	21
Flow control	11
Turbomachinery	11
Wake	10
Wall-bounded flow	8
Noise	8
Separation	6
Multiphase flow	4
Reacting and rarefied flow	4
Unsteady aerodynamics	4
Confined flow	4
Vehicle aerodynamics	4
Synthetic jet	4
Wind energy	4
Energy-related problem	3
Buoyancy effect	3
Analytical and numerical analyses	3
Particle	3
Vortex dynamics	3
Total	118

## Future Meetings

Following list includes conference name, place, date and contact information.

### 11th International Symposium on Particle Image Velocimetry (PIV 2015)

Santa Barbara, USA, September 14-16, 2015  
<http://www.piv2015.org>

### 8th International Symposium on Turbulence Heat and Mass Transfer (THMT-15)

Sarajevo, Bosnia and Herzegovina, September 15-18, 2015  
Chair : Kemal Hanjalic  
Co-Chair : Toshio Miyauchi  
<http://www.thmt-15.org/>

### International Symposium on Rheology

Kobe, Japan, September 23-25, 2015  
<http://www2.kobe-u.ac.jp/~hidema/istr/>

### 9th International Symposium on Measurement Techniques for Multiphase Flows (9th ISMTMF)

Sapporo, Hokkaido, Japan, September 23-25, 2015  
Chair: Y. Murai (Hokkaido Univ.)  
Co-Chair: S. Hosokawa (Kobe Univ.)  
<http://ring-me.eng.hokudai.ac.jp/ismtmf2015>

### 26th International Symposium on Transport Phenomena

Leoben, Austria, September 27-October 1, 2015  
Chair: Prof. H. Raupenstrauch (Montanuniversitaet Leoben)  
<http://www.istp26.at>

### International Conference on Advanced Technology in Experimental Mechanics 2015 (ATEM'15)

Toyohashi, Japan, October 4-8, 2015  
Chair: Shinichi Suzuki (Toyohashi University of Technology)  
<http://solid.me.tut.ac.jp/atem15/>

**2015 European-Japanese Two-Phase Flow Group Meeting (7th-EUJPTPFGM 2015)**

Zermatt, Switzerland, October 11-15, 2015

Chair: J. R. Thome (EPFL)

<http://eurojp2phase2015.epfl.ch>

**3rd International Workshop on Heat Transfer Advances for Energy Conservation and Pollution Control**

Taipei, Taiwan, October 16-19, 2015

<http://iwht.ntut.edu.tw/>

**3rd European Workshop on Thermoacoustics**

Twente, The Netherlands, October 26 - 27, 2015

Chair: T. van der Meer (Univ. Twente)

<http://www.utwente.nl/ctw/thermoacoustics/>

**12th International Conference on Flow Dynamics (ICFD2015)**

Sendai, Japan, October 27-29, 2015

Chair: Shigenao Maruyama (Tohoku Univ.)

<http://www.ifs.tohoku.ac.jp/icfd2015/index.html>

**10th International Symposium on Advanced Science and Technology in Experimental Mechanics (10th ISEM '15-Matsue).**

Matsue, Japan, November 1-4, 2015

Chair: Satoru Okamoto (Shimane Univ.)

<http://www.jsem.jp/ISEM10/index.html>

**International Gas Turbine Congress 2015 Tokyo (IGTC2015 Tokyo)**

Tokyo, Japan, November 15-20, 2015

Chair: T. Watanabe (Univ. Tokyo)

<http://www.gtsj.org/english/igtcc/IGTC2015>

**Experimental Fluid Mechanics 2015(EFM 2015)**

Prague, Czech Republic, November 17 - 20, 2015

<http://efm.kez.tul.cz>

**The World Engineering Conference and Convention (WECC2015)**

Kyoto, Japan, November 29 - December 2, 2015

Chair: Jun'ichi Sato

Chair: Mari Inoki

<http://www.wecc2015.info/index.html>

**International Conference on Computational Heat and Mass Transfer-2015**

Warangal, India, November 30 - December 2, 2015

Chair: Krishna M. Ella

[http://nitw.ac.in/icchmt\\_2015/index.php](http://nitw.ac.in/icchmt_2015/index.php)

**12th International Conference on Power Engineering 2015(ICOPE-15)**

Yokohama, Japan, November 30 - December 3, 2015

Chair: M. Osakabe (Tokyo Univ. Marine Science and Tech.)

<http://www.jsme.or.jp/pes/ICOPE-15>

**23rd National and 1st International ISHMT-ASTFE Heat and Mass Transfer Conference**

Trivandrum, Kerala, India, December 17-20, 2015

<http://www.ihmtc2015.com/>

----- 2016 -----

**The First Pacific Rim Thermal Engineering Conference**

Waikoloa, USA, March 13-17, 2016

Chair: Yasuyuki Takata (Kyushu Univ.)

Co-Chair: Sung Jin Kim (KAIST)

Co-Chair: Yong X. Tao (University of North Texas)

<http://www.jsme.or.jp/ed/PRTEC2016/index.html>

**9th International Conference on Multiphase Flow (ICMF 2016)**

Firenze, Italy, May 22 - 27, 2016

Chair: Jacques Magnaudet (Institut de Mecanique des Fluides de Toulouse)

Chair: Alfredo Soldati (University of Udine)

<http://www.aidic.it/icmf2016/index.html>

**9th International Conference on Computational Heat and Mass Transfer**

Cracow, Poland, May 23 - 26, 2016

Chair: A. A. Mohamad

Chair: J.Taler

Chair: A. C. Benim

<http://icchmt.pk.edu.pl/>

**4th IAHR Europe Congress**

Liege, Belgium, July 27 - 29, 2016

Chair: Benjamin Dewals (University of Liege)

<http://www.iahr2016.ulg.ac.be/>

**The Fourth International Forum on Heat Transfer (IFHT2016)**

Sendai, Japan, November 2-4, 2016

Chair: Taku Ohara (Tohoku University)

<http://ifht2016.org/index.html>



## International Conference on Multiphase Flow 2016

Firenze, Italy, May 22 - 27, 2016

[www.aidic.it/icmf2016/index.html](http://www.aidic.it/icmf2016/index.html)

### Conference Overview

The first edition of ICMF was held in Tsukuba (Japan) in 1991. The second edition took place in Kyoto (Japan) in 1995. During this conference, it was decided to establish an International Governing Board which oversees the major aspects of the conference and makes decisions about future conference locations. Due to the great importance of the field, it was furthermore decided to hold the conference every three years successively in Asia including Australia, Europe including Africa, Russia and the Near East and America. Since the first edition ICMF has grown into the largest conference in the field of multiphase flow.

The 9th conference will be held in Firenze (Italy) and will be devoted to all aspects of Multiphase Flow. We are expecting more than 900 experts and professional researchers from all over the world will attend and make presentations of their research results and recent advancements. It will be a great opportunity to share and promote the exchange of new ideas, results and techniques, but also to extend social networking.

List of past ICMF:

- 2013: Jeju (Korea) - M.H. Kim (Chairman)
- 2010: Tampa (USA) - J. Sinclair Curtis and S. Balachandar (co-Chairmen)
- 2007: Leipzig (Germany) - M. Sommerfeld (Chairman)
- 2004: Yokohama (Japan) - Y. Matsumoto (Chairman)
- 2001: New Orleans (USA) - E. Michaelides (Chairman)
- 1998: Lyon (France) - J. Bataille and R.J. Perkins (co-Chairmen)
- 1995: Yokohama (Japan) - A. Serizawa, T. Fukano and J. Bataille (co-Chairmen)
- 1991: Tsukuba (Japan) - G. Matsui and A. Serizawa (co-Chairmen)

### Scientific Topics

- |   |   |
|---|---|
| Bio-Fluids                                    | Fluidization                              |
| Bubbly Flows                                  | Fluid-Structure Interactions              |
| Boiling, Condensation, Evaporation            | Granular Media                            |
| Cavitation/Nucleation                         | Industrial Applications                   |
| Collision, Agglomeration and Breakup          | Interfacial Flows                         |
| Colloidal and Suspension Dynamics             | Instabilities                             |
| Computational Techniques for Multiphase Flows | Micro- and Nano-Scale Multiphase Flows    |
| Droplet Flows                                 | Mixing                                    |
| Environmental and Geophysical Flows           | Modelling of Multiphase Flows             |
| Experimental Methods for Multiphase Flows     | Multiphase Flow in Heat and Mass Transfer |

Non-Newtonian Multiphase Flows  
Particle, Bubble and Drop Dynamics  
Particle-Laden Flows

Reactive Multiphase Flows  
Turbulence in Multiphase Flows

## Venue

Firenze Fiera - Palazzo dei Congressi  
Piazza Adua 1, 50123 Firenze, Italy.  
<http://www.firenzefiera.it>

The congress facilities of Firenze Fiera spa are among the most important and best equipped in Italy and they are located in the historical center of Firenze.

## Key Dates

Abstract submission: September 30, 2015  
Notification of abstract acceptance: November 30, 2015  
Early registration rate: on or before February 28, 2016  
Regular registration rate: March 01 - April 30, 2016  
Late registration rate: May 01 - May 20, 2016

## Contact Address

ICMF 2016 Secretariat c/o AIDIC  
Attn. Raffaella DAMERIO  
Via Giuseppe Colombo 81/A - 20133 Milano (Italy)  
e-mail: [icmf2016@aidic.it](mailto:icmf2016@aidic.it)  
Phone: +39-02-70608276  
Fax: +39-02-70639402

ICMF 2016 Chairman  
Prof. Alfredo SOLDATI  
Via delle scienze 206 - 33100 Udine (Italy)  
e-mail: [soldati@uniud.it](mailto:soldati@uniud.it)  
Phone: +39-0432-558020  
Fax: +39-0432-558027

## Governing Board Members

Jacques Magnaudet (Institut de Mecanique des Fluides de Toulouse, France), **CHAIR**  
Rodney Fox (Iowa State University, USA), **AWARD COMMITTEE CHAIR**  
Steven Ceccio (University of Michigan, USA), **VICE CHAIR**  
Sergey Alekseenko (Russian Academy of Sciences, Russia)  
Haecheon Choi (Seoul National University, South Korea)  
Jungho Kim (University of Maryland, USA)  
Takeo Kajishima (Osaka University, Japan)  
Hans Kuipers (Eindhoven University of Technology, The Netherlands)  
Melany Hunt (California Institute of Technology, USA)  
Shu Takagi (The University of Tokyo, Japan)  
Tomoji Takamasa (Tokyo University of Marine Science and Technology, Japan)  
Markus Uhlmann (Karlsruhe Institute of Technology, Germany)

## Organizing Committee Members

Alfredo Soldati (University of Udine), **CHAIR**  
Cristian Marchioli (University of Udine), **SECRETARY**  
Maurizio Brocchini (Universita' Politecnica delle Marche)  
Alberto Brucato (University of Palermo)  
Carlo Massimo Casciola (University of Rome "La Sapienza")  
Renzo Di Felice (University of Genova)

Paolo Di Marco (University of Pisa)  
Pier Luca Maffettone (University of Napoli "Federico II")  
Daniele Marchisio (Politecnico di Torino)  
Antonio Marzocchella (University of Napoli "Federico II")  
Roberto Mauri (University of Pisa)  
Sauro Pierucci (Politecnico di Milano)  
Pietro Poesio (University of Brescia)  
Ruben Scardovelli (University of Bologna)  
Marco Vanni (Politecnico di Torino)  
Roberto Verzicco (University of Rome "Tor Vergata")

## **Scientific Committee Members**

Andersson Helge	Geurts Bernard	Luo Kun	Spelt Peter
Angeli Panagiota	Goodarz Ahmadi	Matsumoto Yoichiro	Sun Chao
Balachandar Sivarama-krishnan	Guazzelli Elisabeth	Mehlig Bernhard	Sundaresan Sankaran
Bazán Carlos Martínez	Guo Liejin	Meiburg Eckart	Sundén Bengt
Bontozoglu Vasilis	Gylfason Armann	Michaelides Efstathios	Tomiyama Akio
Bothe Dieter	Hagiwara Yoshimichi	Mito Yoichi	Toschi Federico
Bourgoin Mickael	Hassan Yassin A.	O'Hern Timothy	Tryggvason Gretar
Brandt Luca	Haugen Nils Erland	Olson James	Tsamopoulos John
Brauner Neima	Hishida Koichi	Papavassiliou Dimitrios	Van Hout Renè
Butler Jason	Kassinis Stavros	Portela Luis	Van Wachem Berend
Choi Haecheon	Kim Ki Han	Pouliquen Olivier	Von Rohr Philippe
Climent Eric	Kim Moo Hwan	Pozorski Jacek	Rudolf
Collins Lance	Komori Satoru	Prosperetti Andrea	Voth Gregory
Desjardins Olivier	Kuerten J.G.M.	Reeks Mike W.	Wang Lian-Ping
Drahos Jiri	Kuhlmann Hendrik	Reveillon Julien	Zaleski Stéphane
Eames Ian	Kuipers J.A.M.	Ribatski Gherhardt	Zenit Roberto
Elgobashi Said	Kumaran V.	Risso Frederic	Zhou Lixing
Ferrante Antonino	Lance Michel	Rodriguez Oscar	Zun Iztok
Fritsching Udo	Leal Gary	Schlueter Michael	
Froehlich Jochen	Lucas Dirk	Simonin Olivier	
	Lundell Fredrik	Sommerfeld Martin	

**Executive Division of The Japanese Society for Multiphase Flow (2015)**

President T. Takamasa (Tokyo University of Marine Science and Technology)

Vice Presidents Y. Abe (University of Tsukuba)

C. Iwaki (Toshiba Corporation)

A. Tomiyama (Kobe University)

Chair of Informatics Division

K. Katoh (Osaka City University)

Chair of Planning Division

M. Watanabe (Hokkaido University)

Chair of International Intercourse Division

M. Kawaji (The City College of New York)

Chair of General Affairs Division

T. Hazuku (Tokyo University of Marine Science and Technology)

Executive Office of JSMF

Academic Publication & Printings Co.

2-14-9 Kasugadenaka, Konohana-ku, Osaka, 554-0022, JAPAN

Tel : +81-6-6466-1588 Fax : +81-6-6463-2522

E-mail : [office@jsmf.gr.jp](mailto:office@jsmf.gr.jp)

URL: <http://www.jsmf.gr.jp/>



## Corresponding Members

### AUSTRALIA

**Hubert Chanson** University of Queensland  
**Jiyuan Tu** RMIT University  
**Aibing Yu** University of New South Wales

### AUSTRIA

**Stefan Pirker** Johannes Kepler University

### BRAZIL

**Gherhardt Ribatski** Universidade de São Paulo  
**Oscar M. H. Rodriguez** Universidade de São Paulo

### CANADA

**Jos Derksen** University of Alberta  
**Jovica Riznic** Canadian Nuclear Safety Commission

### CHINA

**Xu Cheng** Shanghai Jiao Tong University  
**Liejin Guo** Xi'an Jiaotong University  
**Jinghai Li** Chinese Academy of Sciences  
**Lixing Zhou** Tsinghua University

### CZECH REPUBLIC

**Jiří Drahoš** Academy of Science of the Czech Republic

### FRANCE

**Alain Cartellier** LEGI,  
CNRS and University Grenoble Alpes  
**Catherine Colin** IMFT, University of Toulouse, CNRS  
**Michel Lance** École Centrale de Lyon  
**Jacques Magnaudet** IMFT, University of Toulouse, CNRS  
**Olivier Simonin** IMFT, University of Toulouse, CNRS  
**Anne Tanière** LEMTA, Nancy University  
**Stéphane Zaleski** University Pierre et Marie Curie

### GERMANY

**Dirk Lucas** HZDR  
**Michael Schlüter** TU Hamburg-Harburg  
**Martin Sommerfeld** Martin-Luther-Universität  
Halle-Wittenberg  
**Peter Stephan** Darmstadt University of Technology  
**Markus Uhlmann** Karlsruhe Institute of Technology

### GREECE

**Vasilis Bontozoglou** University of Thessaly

### INDIA

**Gargi Das** Indian Institute of Technology  
Kharagpur

### ISRAEL

**Neima Brauner** Tel Aviv University  
**Yehuda Taitel** Tel Aviv University

### ITALY

**Gian Piero Celata** ENEA  
**Paolo di Marco** University of Pisa  
**Alfredo Soldati** Università di Udine

### KOREA

**Moo Hwan Kim** KINS  
**Sang Yong Lee** KAIST  
**Chul-Hwa Song** KAERI

### NETHERLAND

**J.A.M. (Hans) Kuipers** Eindhoven University of  
Technology  
Delft University of Technology

**Robert Mudde**

### NORWAY

**Ole Nydal** NTNU

### RUSSIA

**Sergey V. Alekseenko** Novosibirsk State University

### SLOVENIA

**Iztok Žun** University of Ljubljana

### SPAIN

**Carlos Martinez-Bazan** University of Jaén

### SWEDEN

**Henryk Anglart** Royal Institute of Technology

### SWITZERLAND

**Horst-Michael Prasser** ETH Zürich

**John R. Thome** EPFL

### TAIWAN

**Chih-Chen Chen** National Tsing Hua University

### TURKEY

**Can Fuat Delale** Isik University

### UK

**Panagiota Angeli** University College London  
**Barry Azzopardi** University of Nottingham  
**Tassos G. Karayiannis** Brunel University  
**Omar K. Matar** Imperial College London  
**Mike Reeks** Newcastle University

### USA

**Steven L. Ceccio** University of Michigan  
**Jennifer Sinclair Curtis** University of Florida  
**Vijay K. Dhir** University of California, Los  
Angeles  
**John K. Eaton** Stanford University  
**Rodney O. Fox** Iowa State University  
**Dimitri Gidaspow** Illinois Institute of Technology  
**Yassin A. Hassan** Texas A & M University  
**Takashi Hibiki** Purdue University  
**Melany Hunt** California Institute of Technology  
**Satish Kandlikar** Rochester Institute of Technology  
**Masahiro Kawaji** City College of Newyork City  
**Jungho Kim** University of Maryland  
**Ellen K. Longmire** University of Minnesota  
**Efstathios E. (Stathis) Michaelides** Texas Christian University  
**Michael Podowski** Rensselaer Polytechnic Institute  
**Gretar Tryggvason** University of Notre Dame