Chair’s Message

Professor Francine Battaglia

Dear Colleagues,

It is with great pleasure that I report to you the events that have transpired during the last year. To begin, the 2013 Fluids Engineering Division Summer Meeting (FEDSM) was held at the Hyatt Regency Lake Tahoe Resort, Spa & Casino in Incline Village, Nevada from July 7-11. The beautiful venue was ideal for the modest-sized meeting. Every four years FED is the sole organizer of the summer meeting and therefore has more flexibility with the conference activities. In my capacity serving as the conference chair, it was exciting to have over 350 attendees, who represented 34 countries! There were a total of 339 abstracts (294 with papers), 15 invited presentations/papers and four plenary speakers. The plenary speakers included Prof. Rodney Fox (Iowa State University), Prof. George Karniadakis (Brown University), Dr. D.R. Reddy (NASA Glenn Research Center), and the 2013 Fluids Engineering Award Recipient, Prof. Ephraim Gutmark (University of Cincinnati).
One of the 2013 FEDSM highlights was the first graduate student paper competition organized by the Graduate Student Steering Committee (GSSC). The GSSC is chaired by Prof. Javid Bayandor, with Prof. Khaled Hammad and Prof. Keith Walters as members. I would like to thank the GSSC for their dedication with selecting the winners. There were ten awardees who each received a $1000 scholarship to attend the conference and present their paper. Each winner was paired with a technical committee for the purposes of mentoring, involving students with organizing future symposia, recruiting future students, and serving as a FED ambassador. The 2013 winners who were recognized at the FED Reception included: Varun Chitta, Andrew Eastman, Artur Giniyatullin, Rodward Hewlin Jr., Todd Kingston, Matthieu Lucas, Tala Moussa, Mahmoud Moeini Sedeh, Ivaylo Nedyalkov, and Matthew Satterwhite. These students will continue to receive mentoring from the technical committees and we hope to see them at future meetings. The FED Executive Committee has expanded the scholarship program by increasing the number of student recipients to twelve for the 2014 FEDSM and financially supporting the winners who return to fulfill their obligations at a future meeting.

The FED Track, Fluids Engineering Systems & Technologies, was chaired and organized by Dr. Bahram Khalighi for the 2013 IMECE. Dr. Khalighi helped organize 12 topics, which included almost 40 sessions. Within the track there were 2 plenary speakers and 4 invited speakers. The annual Young Engineers Paper (YEP) competition, chaired by Prof. Terry Beck, with Prof. James Liburdy and Dr. Malcolm Andrews, included five finalists. We appreciate their time and efforts to make the IMECE FED events successful!

I am pleased to report that Dr. Malcolm Andrews, Editor of the Journal of Fluids Engineering, has agreed to continue his role for another term and has been reappointed by the Executive Committee. Dr. Andrews has been instrumental with expanding the journal content and increasing the journal impact factor. The Executive Committee is also grateful to Prof. Boris Khusid, who is the editor of the Journal of Nanotechnology in Engineering and Medicine, which is co-sponsored by FED along with several other divisions. In addition, FED and the Heat Transfer Division are co-sponsoring a new journal, Verification and Validation, which has been approved by ASME’s Technical Committee on Publications and Communications. Dr. Ashley Emery will serve as Editor, and the submission website (journaltool.asme.org) is expected to open on August 1, 2014.

Looking forward, very soon FED will gather in Chicago, Illinois from August 3-7, 2014 for the 4th Joint US-European Fluids Engineering Division Summer Meeting and the 12th International Conference on Nanochannels, Microchannels, and Minichannels. There will be five international plenary speakers, including the Freeman Scholar, Prof. Steven L. Ceccio, and the FED Awardee, Prof. Efstathios E. Michaelides. The joint meeting is chaired by Dr. Bahram Khalighi, and six international co-chairs. The 2015 summer meeting, AJK2015, will be jointly sponsored with ASME, the Japanese Society of Mechanical Engineering (JSME) and the Korean Society of Mechanical Engineering (KSME) in Kangnam, Seoul, South Korea from July 26–31, 2015. AJK2015 will be chaired by Prof. Keith Walters, Prof. Chisachi Kato (JSME) and hosted by Prof. Nahmkeon Hur (KSME).

I would like to acknowledge the efforts of the Honors & Awards Committee and the Technical Committees for their work and support to keep the division functioning. Without the help of the committees and members, these conferences would not be successful. Finally, FED is grateful to the support of the dedicated staff at ASME Headquarters: Erin Dolan, Technical Unit Program Manager; Robert Powers, Administrator; and Stacey Cooper and Nhora Cortes-Comerer, Publications for their continued support of the Division.

In closing, it has been a privilege to serve on the Fluids Engineering Division Executive Committee and help facilitate FED conferences and activities. As my term ends, I want to thank you for your support, insight and suggestions over the years. It is because of you, the volunteers, members and participants, for which FED continues to thrive.

With kind regards,
Francine Battaglia, Ph.D.
Executive Committee Chair, Fluids Engineering Division
The year of 2013 was a busy year for the ASME Journal of Fluids Engineering (JFE), and so I am pleased to write this report about our progress, and upcoming activities in 2014.

For 2013 I am pleased to report that the impact factor for the JFE increased from 0.747 to 0.886. As in previous years I attribute the increase to a variety of factors that include more accurate citations, excellent work from past and present Technical Editors and Associate Editors, and perhaps we are seeing an improvement in the quality of the manuscripts. It is important that the journal be cited correctly, in particular, the journal cite must read “ASME J. Fluids Eng.” for Thompson Reuter to properly count the cite. If an incorrect cite is given then the author and the journal receive a lower cite count. The editorial office, and the JFE Associate Editors, are all sensitive to the issue, and please do not hesitate to contact the editorial office at JFE.EditorialOffice@gmail.com if you have any questions.

During 2013 the JFE had a total of 708 submissions (up from 633 in 2012), of which ~500 were assigned to Associate Editors after a preliminary review. Of that ~500 some 157 have been accepted, 142 rejected, 126 withdrawn, and 27 are in progress. These statistics compare well with 2012, and indicate that we are on-track to accept about 25% of papers submitted in 2013.

In 2014 we continue to work with the ASME to produce “The Flow” quarterly newsletter from the JFE to all authors, and reviewers. “The Flow” reports JFE activities, upcoming conferences, most highly cited recent (last year) papers, and perhaps a “focus” technical section. This is intended to help center readers on the ASME, provide deadline prompts, and I invite any feedback/suggestions from the membership.

During this last fiscal year a number of Associate Editors finished their terms; Chunill Hah (2010-2013; 2nd term), Hassan Peerhousani (2011-2013; 2nd term), Zvi Rusak (2010-2013; 2nd term), Kendra Sharp (2010-2013) and Ye Zhou (2010-2013; 2nd term) have each moved on to different endeavors and challenges. It has been great interacting with and getting to know each of these Associate Editors over the years. They are indeed experts in the various areas they represented on our behalf, and will be missed by the Journal of Fluids Engineering team.

The journal released three special issues during the last fiscal year. We would like to express gratitude to the many guest editors who assisted with reviewing and tracking the papers for each of these special issues. The first special issue released in April of 2014 was the Immersed Boundary Methods, headed by Charlie Zheng. Guest Editor Elias Balaras from George Washington University helped with papers for this special issue. In June of 2014 the second special issue, honoring M. Yousuff Hussaini was released. This special issue was headed by Ye Zhou. Most recently for September of 2014 the 13th International Workshop on the Physics of Compressible Turbulent Mixing special issue will be released. This special issue was headed by Dimitris Drikakis. Guest editors David Youngs and Robin Williams of Atomic Weapons Establishment, Oleg Schilling from Lawrence Livermore National Laboratory and Stuart Dalziel from University of Cambridge assisted with the review of papers for this special issue. We have also brought Kwang-Young Kim from Inha University to assist us as a guest editor.

We wish to welcome the new Associate Editors to our team: Feng Liu from University of California at Irvine, Daniel Maynes from Brigham Young University, Samuel Paolucci from University of Notre Dame, Satoshi Watanabe from Kyushu University, Shizi Qian from Old Dominion University, Oleg Schilling from Lawrence Livermore National Laboratory, and Alfredo Soldati from Universita di Udine.

As with all fluid systems, the Journal is committed to increase submission, quality, and response to authors. To this end we continue to use a policy of Editor “pre-screening” papers when they are first submitted to give quick feedback about manuscripts that are obviously deficient. Such deficiencies typically include: poor English (if you know of a good editorial service we can suggest, then please do not...
hesitate to contact us); formatting as a conference publication rather than for the Journal
{https://journaltool.asme.org/Help/AuthorHelp/WebHelp/JournalsHelp.htm}; “work-in-progress”
rather than completed; “observational” conclusions rather than careful analysis and discussion; and, use
of commercial software to create a “report” rather than an archival set of results of value/use to the JFE
readership. To help authors with the criteria for use of commercial software the JFE published an article
{Andrews,M., “Guidelines for Use of Commercial Software and Diagnostics in Articles for the Journal of
Fluids Engineering,” ASME J Fluids Eng., vol. 133, iss. 1, pp010201-010202.}, and I strongly encourage
authors to review that article for helpful guidance and to pay attention to the ASME requirement on
reporting numerical uncertainty {Celik, I.B., Ghia, U., Roache, P.J., Freitas, C.J., Coleman, H., et al,
“Procedure for Estimation and Reporting of Uncertainty Due to Discretization in CFD Applications,”
ASME J Fluids Eng., vol. 130, iss. 7, pp0780011-0780014.}. Associate Editors are also encouraged to do
their own prescreen, with more technical depth, prior to sending to reviewers, and to let authors (or the
editorial office) know of any deficiencies that might significantly impact the likelihood of a successful
review. The spirit of these pre-screenings is provide faster feedback to authors, and provide better quality
papers for reviewers to consider (our reviewers are some of our future authors).

We also encourage authors whose conference papers have been ranked “journal quality”, to consider
extending their paper and submitting to the Journal (after formatting to the Journal requirement, and
after the conference has finished so authors may update with any concerns expressed at the conference
presentation). It is my experience that most conference papers report “work-in-progress” and typically
need additional results before they become of archival value. So, the submission of a conference paper
straight to the Journal (after the conference) is likely to be unsuccessful under a pre-screen or review.
However, closer coupling of conferences to the Journal prove beneficial to both. One last significant
change concerns excess page charges, these charges are not currently being assessed, but the (substantial)
color print charges will remain. Thus, the previous limit of 9 journal pages is not currently in effect, but
authors should be careful of excessively long papers where readers might lose interest.

I close by thanking my editorial board of Associate Editors and the editorial office for all their hard work.
Please feel free to contact the editorial office at JFE.EditorialOffice@gmail.com if you have any
questions. If you see me at a conference please do not hesitate to visit.

Best regards,
Malcolm Andrews
Technical Editor

**Fluid Mechanics**

**Technical Committees**

**Fluid Applications and Systems Technical Committee**

*Wayne Strasser, Chair and Judith Bamberger, Vice-Chair*

Fluids Applications and Systems Technical Committee’s (FASTC) mission is to promote the
advancement and dissemination of fluids engineering research and technology in several wide-ranging
single- and multi-disciplinary topic areas. These include such traditional disciplines as fluid power
systems, turbomachinery, automotive flows, and industrial fluid mechanics, and can include less
traditional topics such as environmental engineering, geophysical flows, extra-terrestrial physics, chemical
processing, alternative energy systems, fluid vibrations and acoustics. The primary function of the committee is to coordinate and organize research symposia at two major venues for fluids engineering—the annual ASME Fluids Engineering Division Summer Meeting (FEDSM) and the ASME International Mechanical Engineering Congress and Exposition (IMECE)—as well as other FED sponsored meetings and events. The committee meets at these events, and researchers and engineers from academia, industry and government are encouraged to exchange information on these and other topics through their participation in FASTC.

We will sponsor two recurring symposia at the Fluids Engineering Summer Meeting in Chicago, IL August 3-7, 2014:

- 26th Symposium on Fluid Machinery (lead: Kwang-Yong Kim)
- 21th Symposium on Industrial and Environmental Applications in Fluid Mechanics (lead: Wayne Strasser)

In addition, FASTC will co-sponsor the
- Symposium on Issues and Perspectives in Automotive Flows (lead: Bahram Khalighi), and

FASTC sponsors symposia as a part of Fluids Engineering Systems & Technologies Topic Area at the 2014 IMECE at Montreal, Canada in November 14-20, 2014 will include:

- 23rd Symposium on Industrial Flows (lead: George Chamoun); and
- Co-sponsors the Symposium on Wind Turbines Aero and Controls (lead: Jai Kadambi).

We were pleased to welcome new members at the FASTC meetings at FEDSM and IMECE in 2014. We encourage all interested individuals from academia and industry to participate in the FASTC activities and especially to attend our symposia and technical committee meetings. If you are interested in volunteering with the committee, or if you have any questions or concerns, please don’t hesitate to contact the Chair, Wayne Strasser at Eastman Chemical Company (strasser@eastman.com) or the Vice Chair, Judith Ann Bamberger at Pacific Northwest National Laboratory (Judith.Bamberger@pnnl.gov).

**Micro- and Nano-Scale Fluid Dynamics Technical Committee**

**David Sinton, Chair and Sushanta Mitra, Vice-Chair**

It was another great year for micro- and nano-scale fluid dynamics at the IMECE. This year the micro/nano fluid dynamics sessions had a total of 60 talks. The sessions were well attended and there was excellent discussion following the talks. This year the symposium was also able to attract a number of papers/talks outside of USA. The 2013 Microfluidics forum was organized by with help from Iskander Akhatov of North Dakota State University, Nazmul Islam from The University of Texas at Brownsville, and Shaurya Prakash from The Ohio State University. Nazmul Islam is taking the lead for 2014, with help from Shaurya Prakash and Mina Hoorfar from University of British Columbia.

Invited talks are an important part of the IMECE meeting, and this past year the Forum attracted outstanding researchers, Prof. Carl Meinhart from University of California Santa Barbara (UCSB) and Prof. C. J. Kim from University of California Los Angeles (UCLA). Both researchers gave an interesting and engaging talk and participated in discussions and networking. These speakers were brought in by the keynote committee of Drs. Cullen Buie, Michael Schertzer, and Prashanta Dutta. This coming year’s invited talks will be organized by Drs. Michael Schertzer and Sushanta Mitra.
At the Summer Fluids Engineering Meeting in July 2013, the TC had a student winner from Mahmoud Moeini Sedeh from Auburn University. He is a Ph.D candidate and he is in his final year of Ph.D. program. Student winners are expected to be involved with the TC activities.

The Micro/Nano Society-wide Poster Forum was also a success this year and attended by many Microfluidics Forum participants. This forum has become an important part of the conference experience for the Micro/Nano community. In this coming year, the co-chair, Dr. Sushanta Mitra from York University will become chair of the Micro and Nano Fluid Dynamics technical committee meeting, and a new co-chair will be selected. The committee thanks Dr. David Sinton for his service as co-chair for two years and then chair for the last two years.

In 2014 the IMECE will be held in Montreal and the organizers are currently processing the papers and sessions for this event. The Micro and Nano Fluid Dynamics Technical Committee is looking forward to the meeting and broadening the impact of the division.

This year the Fluids Engineering Summer Meeting is being jointly sponsored with ASME International Conference on Nanochannels, Microchannels, and Minichannels in Chicago, USA. A number of the MNFDTC committee members are participating either by organizing sessions or presenting oral or poster submissions.

Respectfully submitted by David Sinton (MNFDTC chair), and Sushanta Mitra (MNFDTC co-Chair).

Multiphase Flow Technical Committee

*Timothy J. O’Hern, Chair and Deborah Pence, Vice-Chair*

Multiphase flows surround us and can be found in applications ranging from biological to environmental to geological, with many industrial processes involving the flow of multiphase mixtures. The Multiphase Flow Technical Committee (MFTC) focuses on advancing knowledge in all aspects of multiphase flow, including measurements, experiments, simulations, modeling, and applications. We had a productive year that included successful sessions at ASME conferences. Our main vehicle to bring the multiphase community together is to create, sponsor, and organize symposia and forums at engineering conferences: the International Mechanical Engineering Congress & Exposition (IMECE) and the Fluids Engineering Division Summer Meeting (FEDSM). The latter is the principal venue for MFTC activities.

The MFTC is sponsoring numerous sessions at upcoming 2014 meetings, including: ASME 2014 Joint US-European FEDSM and International Conference on Nanochannels, Microchannels, and Minichannels (Chicago)

- Droplet-Surface Interactions
- 49th Forum on Cavitation and Multiphase Flow
- 14th International Symposium on Gas-Solid Flows - Dedicated to the Memory of Professor Clayton T. Crowe
- Open Forum on Multiphase Flows: Work in Progress
- 2nd International Symposium on Multiscale Methods for Multiphase Flow
- Symposium on Noninvasive Measurements in Single and Multiphase Flows
- 14th International Symposium on Numerical Methods for Multiphase Flow
- Fluid Dynamic Behavior of Complex Particles
- Analysis of Elementary Processes in Dispersed Multiphase Flows
- Multiphase Flow with Heat/Mass Transfer in Process Technology
- Open Forum Fluid-Particle Interactions in Turbulence
- Performance of Multiphase Flow systems
Special thanks to our many European colleagues who are leading several of these topics.
IMECE2014 (Montreal)
• Forum on Recent Developments in Multiphase Flows
• Forum on Experimental Validation of CFD Modeling in Heat Exchangers
• Symposium on Applications and Verification of Open Source CFD for Multiphase Flows

Our committee elections will be held at the upcoming FEDSM 2014 meeting in Chicago.
Come join us in 2014 as we are always pleased to welcome new and active members. Membership is open to professionals with interest in multiphase flow research and applications. Please feel free to contact the current chair, Tim O’Hern at tjohern@sandia.gov or the current vice-chair, Deb Pence at deborah.pence@oregonstate.edu for more information.

Computational Fluid Dynamics Technical Committee

Raymond Gordnier, Chair and Ning Zhang, Vice-Chair

The focus of the Computational Fluid Dynamics Technical Committee (CFDTC) is the field of computational fluid dynamics and related areas. Computational fluid dynamics (CFD) is primarily concerned with the numerical solution of the equations that describe fluid dynamics. It also often involves the related area of heat transfer. Areas of interest to the CFDTC include but are not limited to the development of algorithms for use with CFD, advanced techniques for the numerical representation of fluid flow, quantification of numerical error, verification, validation and uncertainty for CFD, practices and procedures for the accurate application of CFD, turbulence modeling and simulation and fundamental research and applications. Membership is open to anyone who is interested in participating in the activities of the CFDTC.

The CFDTC meets twice a year at the summer Fluids Engineering Division (FED) meeting and in the fall at the IMECE meeting. At the summer FED meeting the CFDTC sponsors 5 symposia: Symposium on Applications in CFD, Symposium on Development and Applications of Immersed Boundary Methods, Symposium on DNS, LES, and Hybrid RANS/LES Methods, International Symposium on Fluid-Structure Interaction and Flow-Induced Noise in Industrial Applications, and Symposium on CFD Verification and Validation (co-sponsor). At the IMECE meeting the CFDTC sponsors a Symposium on CFD Algorithms and Applications for Flow Optimization and Controls and a Panel on CFD/EFD Choice- A Dilemma for Industries (co-sponsor). The Symposium and Panel are intended for widening the participation of the CFDTC and cultivating the inter-disciplinary interactions between the CFDTC and the other disciplines at the IMECE. We encourage your participation in these Symposia.

The CFDTC is sponsoring a new Symposium on Algorithms and Applications for High Performance CFD Computation that will have its first meetings at the 2014 FED Summer meeting. The symposium will focus on a) algorithm development for parallel computation in CFD including but not limited to domain decomposition, pre-conditioning, OpenMP, and message passing, b) algorithm development on novel high performance computing platforms such as cloud computing and GPU applications, c) CFD applications exploiting high performance computational methods and comparisons of HPC packages, and d) visualization techniques for large data sets. The CFDTC is also co-sponsoring a new Symposium on Uncertainty Quantification in Flow Measurements and Simulations. This symposium will provide a venue to present the latest advances in all issues and challenges related to the estimation of uncertainty in flow measurements and simulations. We look forward to your participation in these new Symposia.
We welcome you to be part of the CFDTC, by coming to our TC meetings, presenting at our symposia, or volunteering to help in CFDTC activities. If you have questions, comments, or suggestions, please feel free to contact Raymond Gordnier (raymond.gordnier@us.af.mil) CFDTC Chair or Ning Zhang (nzhang@mcneese.edu), CFDTC Vice Chair.

Fluid Measurement and Instrumentation Technical Committee

Hui Hu, Chair and F. Javier Diez, Vice-Chair

The mission of the Fluid Measurement and Instrumentation Technical Committee (FMITC) is to provide a venue for the Fluids Engineering Division (FED) to focus on measurement and instrumentation issues relevant to fluid flows. Modern fluids engineering embraces a complex spectrum of problems from the relatively simple case of isothermal, incompressible, single phase flow of Newtonian fluids to non-Newtonian multiphase flows with heat and mass transfer from the nanoscale to the macroscale. Experimental measurements and instrumentation are required in all cases to verify new theories, to certify the performance of fluid machinery, or to obtain fundamental information on processes to guide and validate the development of analytical and numerical models.

The FMITC was originally organized under the Coordinating Group for Fluid Measurements (CGFM) for the purpose to foster technical and professional development activities in the area of fluid measurements in both laboratory and field measurements. FMITC is responsible to organize, promote, and present symposia, forums, and panel discussions on fluid measurements. The committee meetings of FMITC are held twice a year at the IMECE and the FED Summer Meeting. The time and date of these meetings are announced in the conference program.

FMITC will organize following symposium and forums as an integral part of the 2014 ASME FED Summer Meeting (i.e., 4th Joint US-European Fluids Engineering Summer Meeting) will be held on August 3-7, 2014 at Chicago, Illinois, USA:

- Forum on Fluid Measurements and Instrumentation
- Symposium on Non-Invasive Measurements in Single and Multiphase Flow
- Symposium on the Fluid Dynamics of Wind Energy
- Symposium on Uncertainty Quantification in Flow Measurements and Simulations

Further information about the symposium and forums is available at http://www.asmeconferences.org/FEDSM2014/CallForPapersDetail.cfm

FMITC will also be active at IMECE2014 to be held on Nov. 15-21, 2013 at Montreal, Canada to organize or co-sponsor following forums and symposium:

- Fluid Measurements and Instrumentation
- 14th International Symposium on Measurement and Modeling of Environmental Flows

Further information about the symposiums and forums is available at http://www.asmeconferences.org/congress2014/

The membership of FMITC is open to all professionals from Academia, Government, Industry and Private Sector interested in fluid measurement and instrumentation. If you are interested in joining FMITC or receiving announcements and/or notification of FMITC sponsored meetings and symposia, please write to the FMITC chair, Prof. Hui Hu at huhui@iastate.edu; or the vice chair Prof. F. Javier Diez at diez@jove.rutgers.edu.
Fluid Mechanics
Technical Committee

Kamran Siddiqui, Chair and David Davis, Vice-Chair

The Fluid Mechanics Technical Committee (FMTC) promotes fundamental and applied fluid mechanics related professional activities within the Division and the Society. The Committee has a membership of over 60, involved in various activities related to the fluid engineering profession. The committee organizes symposia at the annual summer meeting of Fluids Engineering Division (FEDSM) and the ASME International Mechanical Engineering Congress and Exposition (IMECE). These symposia cover different fundamental and applied aspects of fluid mechanics important to fluid engineering community.

In 2013, FMTC organized 11 symposia at FEDSM in Lake Tahoe, Incline Village and 4 symposia at IMECE in San Diego. At FEDSM 2013, FMTC co-sponsored two plenary talks. The plenary talk by Dr. D.R. Reddy from NASA Glenn Research Center with the title “Flow Control Research at NASA Glenn for Advanced Gas Turbine Engines” was co-sponsored by FMTC and CFDTC.

At FEDSM 2014 in Chicago, in addition to its regular 11 symposia, FMTC is also co-sponsoring two symposia; Urban Fluid Mechanics and Fluid Mechanics of Aircraft and Rocket Emissions and their Environmental Impact. FMTC is also sponsoring a Workshop on the Measurement Uncertainty at FEDSM 2014. The aim of this Workshop is to guide the participants to measurement uncertainty that is practical and useful.

The aim of FMTC is to foster professional activities that can contribute to the advancement of scientific knowledge in the field of fluid mechanics. We encourage and welcome membership and participation from professionals, academics and students with interest in fluids engineering. Such involvement is the key to achieve our mission. We therefore invite you to join us during either or both of our bi-annual committee meetings at FEDSM or IMECE. Please contact us at ksiddiqui@eng.uwo.ca (Kamran Siddiqui) or david.o.davis@nasa.gov (David Davis) with your questions or comments concerning FMTC.

Honors and Awards

Khaled J. Hammad, Chair

The Honors and Awards Committee consists of six members, typically past chairs of the Fluids Engineering Division technical committees. The 2013 Committee members include Professor Theodore J. Heindel (FMITC) of Iowa State University, Dr. Miguel Visbal (CFDTC) of Air Force Research Laboratory, Professor Deborah V. Pence (MNFDTC) of Oregon State University, Mr. Wayne Strasser (FSTC) of Eastman Chemical Company, Dr. Mark R. Duigman (MFTC) of Savannah River National Laboratory, and the Committee Chair Professor Khaled J. Hammad (FMTC) of Central Connecticut State University. More details can be found at https://community.asme.org/fluids_engineering_division/w/wiki/3750.honors-awards.aspx . The following is a brief description of the awards offered and the 2013 recipients.

Fluids Engineering Award

The Fluids Engineering Award is the highest award presented by the FED. It is conferred upon an individual for outstanding contributions over a period of years to the engineering profession and in particular to the field of fluids engineering through research, practice or teaching. The deadline for nominations is August 30th. More details can be found at https://www.asme.org/about-asme/get-
involved/honors-awards/achievement-awards/fluids-engineering-award. The recipient of the 2013 Fluids Engineering Award was Professor Ephraim Gutmark. Professor Gutmark joined the University of Cincinnati (UC) in 2000 as the Ohio Regents Eminent Scholar and Professor of Aerospace Engineering. Later he was promoted to Distinguished Professor. He is also a Professor of Otolaryngology at the UC Medical Center. He is an Affiliated Professor at the Royal Institute of Technology, Sweden. He was Chairman and chaired Professor of Mechanical Engineering at Louisiana State University (1995-2000). He worked as a Senior Research Scientist at the Naval Air Warfare Center in California (1986-1995) where he co-initiated a national program on flow based combustion control. His research interests include jet noise characterization and suppression, flow-structure interactions, advanced propulsion systems, combustion control, scramjet propulsion, Pulse Detonation Engines (PDE), afterburners, turbochargers, turbine blades heat transfer and aerodynamics, flight control using fluidic actuators, biomedical fluid dynamics and aeroacoustics, and hydrodynamics for oil explorations. Since 2000, 7 postdocs, 29 PhD, 30 MS students, and 52 Research Associates were or are currently part of his research team. His voice research was featured on the Discovery series of BBC International. He is an Associate Editor of AIAA Journal. He published 164 archival journal papers, over 450 conference papers, and is a co-inventor of 56 US and EU patents.

**Fluids Machinery Design Award**

The award, presented biennially in even-numbered years, honors excellence in the design of fluid machinery involving significant fluid mechanics principles, which benefits mankind as exemplified by product use within the past decade. The deadline for nominations is December 31st, 2015. More details can be found at https://www.asme.org/about-asme/get-involved/honors-awards/unit-awards/fluids-machinery-design-award.

**Robert T. Knapp Award**

The Robert T. Knapp Award is given for the best paper presented at the Fluids Engineering Division sponsored sessions dealing with analytical, numerical and laboratory research. The deadline for nominations is December 31st, 2014. More details can be found at https://www.asme.org/about-asme/get-involved/honors-awards/unit-awards/robert-t-knapp-award. The 2013 Knapp Award was presented to Andrew J. Cihonski, Justin R. Finn, and Sourabh V. Apte for their paper entitled: “Modeling and Simulation of Multiple Bubble Entrainment and Interactions With a Traveling Vortex Ring,” (FEDSM2012-72378). Andrew Cihonski received an M.S. and Ph.D. in Mechanical Engineering from Oregon State University and previously received an M.S. in Computational Mathematics from Texas A&M University and a B.S. in Applied Mathematics from California State University at Chico. He grew up in San Jose, California and attended Bellarmine College Prepatory High School. Andrew investigated a discrete element approach for particle/bubble-laden flows and developed a subgrid model to account for volume displacement effects in point-particle approaches. Andrew is currently a Postdoctoral Research Associate at Los Alamos National Laboratory working on turbulent mixing of reacting flows. Justin Finn received a MS (2009) and Ph.D. (2013) in Mechanical Engineering from Oregon State University (OSU). He grew up in New England area and got his BS (2007) from University of Massachusetts, Amherst in Mechanical Engineering. He is recipient of several awards and fellowships during his career at OSU including the ARCS fellowship, Lundstrom fellowship, Rickert fellowship, APS student travel award and NRECS fellow for summer research at Naval Research Laboratory. His PhD work involved Direct Numerical Simulation of flow and scalar transport in porous media and developed a fictitious domain approach as new algorithms to obtain Lagrangian Coherent Structures LCS in three-dimensions on the fly in a direct numerical simulation. He is currently a post-doctoral fellow at the University of Liverpool, UK. Sourabh Apte received his BS from University of Pune (1994), his MS from Indian Institute of Science (1996), Bangalore and his PhD in Mechanical Engineering from Pennsylvania State University (2000). He was an Engineering Research Associate at Stanford University from 2000-2005 before joining the Oregon State University (OSU) as an Assistant Professor (2005-2011). He is currently Associate Professor of Mechanical Engineering. His present research interests are in modeling of single and two-phase flows using high fidelity LES/DNS approaches with applications in porous media, bubbly cavitating flows,
particle-laden flows such as sediment transport and coal combustion, as well as concentrated solar energy. He has graduated 7 MS and 3 PhD students at OSU and is currently advising 2 PhD and 2 MS students. He is recipient of the ASEE-AFOSR summer faculty fellowship in 2010 and 2011 from Wright Patterson Air Force Base, and Englebrecht Young Faculty Award (2011) from Oregon State.

Lewis F. Moody Award

The Lewis F. Moody Award is given for the best paper presented at the Fluids Engineering Division sponsored sessions dealing with a topic useful in mechanical engineering practice. The deadline for nominations is December 31st, 2014. More details can be found at https://www.asme.org/about-asme/get-involved/honors-awards/unit-awards/lewis-f-moody-award. The 2013 Moody Award was presented to Akram Ghanem, Thierry Lemenand, Dominique Della Valle, and Hassan Peerhossaini for their paper entitled “Assessment of Mixing by Chemical Probe in Swirl Flow Hex Reactors,” (FEDSM2012-72035). Akram Ghanem, Ph.D. student at “École Centrale of Nantes” (France), graduated as a Mechanical Engineer from the “Lebanese University”, Beirut, Lebanon. In 2010, he received his M.S. in Mechanical Engineering - Heat Transfer and Energy from the “University of Nantes”. He currently pursues his graduate studies at “Laboratoire de Thermocinétique de Nantes” in the fields of mixing and heat transfer under the supervision of Dr. Hassan Peerhossaini. Mainly applied to multifunctional heat exchangers/reactors and static mixers, his experimental and numerical research work involves artificial vorticity production, chaotic advection, Split-and-Recombine mechanisms in creeping flows, mixing assessment by chemical probe, mass transfer enhancement by tube inserts and modified geometries, and numerical simulations of fluid-structure interaction. Thierry Lemenand is an Assistant Professor at the University of Angers (France) and Researcher at “Laboratoire de Thermocinétique de Nantes” (CNRS) in Thermofluids, Complex Flows and Energy Research Group. He obtained a Master’s Degree in Engineering at “École Normale Supérieure” (ENS) and a Ph.D. in Fluid Mechanics and Energy (2002) at the University of Nantes. He has been involved in fundamental and applied research in mixing and heat transfer intensification, complex turbulent and laminar flows, two-phase flows, vorticity generator in static mixers, chemical probe to characterize mixing, laminar chaotic advection, pulsating flows, and multifunctional heat exchangers/reactors. Dominique Della Valle is an assistant professor at the National College of Veterinary medicine, Food Science and Engineering (ONIRIS) and member of the LTN (Laboratoire de Thermocinétique de Nantes). She is involved in research programs in the field of energy efficiency in fluid processes, especially in multifunctional heat exchangers-reactors and multiphase flows. She is tenured in research supervision authorization since March 2012. Hassan Peerhossaini is a Distinguished Professor of Fluid Mechanics and Heat Transfer at the University of Paris Diderot (France). He has been Deputy Director of the interdisciplinary energy program of CNRS, Director of “Laboratoire de Thermocinétique” (CNRS), Head of “Thermofluids, Complex Flows and Energy Research Group” of this laboratory, and also Dean of “Heat Transfer and Energy” Masters Program at the University of Nantes and École Centrale of Nantes. His research interests lie with physics of turbulence in reactive flows, hydrodynamic instability and transition to turbulence and in particular with chaotic advection and its technological applications. His publications exceed 400 including refereed archival papers, full length proceeding papers and technical reports. Dr. Peerhossaini is “Délégué Scientifique” of AERES, and member of several national and international scientific committees. Currently he is Director of “Institut des Energies de Demain” (IED) of University Paris Diderot - Sorbonne Paris Cité. hassan.peerhossaini@univ-paris-diderot.fr.

Sankaraiyer Gopalakrishnan-Flowserve Pump Technology Award

This award was established in July 2006, with funding provided by the Flowserve Corporation, in honor of the late Dr. Sankaraiyer Gopalakrishnan, “Gopal”. The award is presented biennially, in odd-numbered years, in recognition of outstanding achievement in pump technology, documented through publications and testimonials of peers and coworkers and in keeping with Gopal’s dedication to the education of the next generation of expert pump engineers. It recognizes an individual with the potential of being the next generation’s expert pump engineer biennially in odd-numbered years. The deadline for nominations is
December 31st, 2014. More details can be found at https://www.asme.org/about-asme/get-involved/honors-awards/unit-awards/sankaraiyer-gopalakrishnanflowserve-pump. The recipient of the 2013 Sankaraiyer Gopalakrishnan-Flowserve Pump Technology Award was Dr. Ashvin Hosangadi. Dr. Hosangadi received his Ph.D. from The Pennsylvania State University in 1990 and subsequently worked as a Senior Research Scientist in the Propulsive Sciences Division of SAIC. He is one of the founding and principal members of CRAFT Tech, a small business that was started in 1994, which specializes in high-fidelity CFD software development and simulations for propulsion and aero-acoustics problems. Dr. Hosangadi is a key developer of the multi-element, unstructured code, CRUNCH CFD®. For the past 20 years he has been actively involved in the development of CFD models for complex flows, specializing in multi-phase extensions for gas-liquid as well as gas-solid flows. Much of his recent work has involved the development of cavitation models for cryogenic fluids, the prediction of cavitation instabilities, and the development of cavitation suppression techniques for cryogenic inducers. Dr. Hosangadi has also worked extensively in providing design support for high-energy, industrial pump systems for varied problems including pump instabilities, acoustics and cavitation performance. He co-authored a chapter with Dr. Paul Cooper on “CFD Analysis of Flow and Performance” for the Pump Handbook. He is a former chairman of the Propulsion Technical Committee of ASME and has refereed for numerous prestigious technical journals. Dr. Hosangadi has over 100 publications and has been program manager/principal investigator on over 25 R&D programs.

**Freeman Scholar Awards**

The Freeman Scholar Award is given every two years to an eminent contributor to Fluids Engineering. The Committee selects, based on review of submitted proposal packets, an expert in an area of current interest who will then deliver the Freeman Scholar Plenary Lecture during the FED annual summer meeting and who will write an extensive review paper to be published in the Journal of Fluids Engineering. The 2014 recipient of the Freeman Scholar Award is Professor Steven Ceccio of the University of Michigan for the topic “Skin-Friction Drag Reduction in External Flows”. Professor Ceccio is a Professor of Mechanical Engineering as well as Director of the Naval Engineering Education Center. His research focuses on the fluid mechanics of multiphase flows and high Reynolds number flows, including flow in propulsors and turbomachinery, cavitating flows, vortical flows, friction drag reduction, the dynamics of liquid-gas, gas-solid, and three-phase disperse flows, and the development of flow diagnostics. Professor Ceccio’s Freeman Scholar plenary presentation will take place at the upcoming ASME 2014 Joint US-European FEDSM and International Conference on Nanochannels, Microchannels, and Minichannels in Chicago, IL. Hope to see you there!

The Freeman Scholar Award is biennial and is awarded in even years. Proposals for the 2016 competition will be due on September 1, 2015. More details may be found at: http://www.asme.org/about-asme/hold2/about-asme/honors-awards/freeman-scholar-award. The 2014 members of the Freeman Scholar Award committee are Stathis Michaelides of Texas Christian University, Dave Stock of Washington State University, and Tim O’Hern of Sandia National Laboratories (chair).

**IMECE2013 Track 8 Fluids Engineering Systems & Technologies**

**Bahram Khalighi**

The 2013 International Mechanical Engineering Congress & Exposition was held at Manchester Grand Hyatt San Diego, CA from November 15-21. This year was the first time that the Fluids Engineering and the Heat Transfer Divisions had their own separate tracks. Track 8 entitled “Fluids Engineering Systems & Technologies” included 12 recurring topics for which there were approximately 150 presentations. The track included presentations related to the advances in the areas such as: Rheology of Non-linear Materials and Complex Fluids, Electric, Magnetic and Thermal Phenomena in Micro and

Finally, as mentioned in the previous FED newsletter, the “FED Towne Hall Assembly” serves as a conduit to disseminate general information related to our division outside of the regular technical committee meetings. This meeting enhances communication and interactions between the EC and the FED members, and provides a venue to bring the entire community together to discuss technical matters. The meeting is open to all FED participants during the IMECE and the FEDSM meetings. Approximately 60 people attended the assembly during 2013 IMECE and provided feedback to the FED Executive Committee. We will continue to hold the assembly at the winter and summer conferences.

IMECE2014 Track 9

Keith Walters

The 2014 International Mechanical Engineering Congress and Exposition will be held November 14-20 at the Palais des Congres in Montreal, Canada. The Fluids Engineering Division is sponsoring and organizing Track 9, entitled "Fluids Engineering Systems and Technologies". As of July 15, there are 145 draft papers and presentations in Track 9 that have been accepted or are pending acceptance. The track includes the following 15 topics:

9-1 21st Symposium on Fluid Mechanics and Rheology of Non-Linear Materials and Complex Fluids
9-2 15th Symposium on Advances in Materials Processing Science and Manufacturing
9-3 12th Symposium on Electric, Magnetic and Thermal Phenomena in Micro and Nano-Scale Systems
9-4 10th Forum on Recent Developments in Multiphase Flow
9-5 15th Symposium on Fundamental Issues and Perspectives in Fluid Mechanics
9-6 Symposium on CFD Applications for Optimization and Controls
9-7 Symposium on Wind Turbines: Aerodynamics and Control
9-8 23rd Symposium on Industrial Flows
9-9 Microfluidics 2014 - Fluid Engineering in Micro and Nano Systems
9-10 Symposium on Fluid Measurements and Instrumentation
9-11 CFD / EFD Choice – A Dilemma for Industries
9-12 Young Engineer Paper (YEP) Contest Fluids Engineering Division
9-13 Forum on Experimental Validation of CFD Modeling in Heat Exchangers (Co-sponsored by HTC K10 Committee and FED)
9-14 Symposium on Applications and Verification of Open Source CFD for Multiphase Flows

Best regards,
Keith Walters
FED Secretary
Events Photographs

Event Photos taken during FEDSM2013 at Lake Tahoe, Nevada

Moody Award Recipient, Prof. Peerhossaini, center, Dr. Jinkook Lee, FED Division Chair, left and Prof. Khaled Hammad, Chair of H&A, right

Robert Knapps Award Recipients
Dr. Andrew Chihonski and Prof. Sourabh Apte, center, Dr. Jinkook Lee, FED Chair, left and Prof. Khaled Hammad, Chair of H&A, right
Fluids Engineering Award Recipient, Prof. Ephraim Gutmark, center, Dr. Jinkook Lee, FED Division Chair, left and Prof. Khaled Hammad, Chair of H&A, right

One of Plenary Speaker, Dr. D.R. Reddy at NASA Glenn Research Center, center, Mrs. Reddy at left and Dr. Jinkook Lee, FED Chair, right
Recognition of Conference Chair, Prof. Francine Battaglia, center, Prof. Khaled Hammad, Chair of H&A, left, and Dr. Jinkook Lee, FED Chair, right

Recognition of outgoing FED Division Chair, Dr. Jinkook Lee, center, Prof. Khaled Hammad, Chair of H&A, left, and Prof. Francine Battaglia, Conference Chair, right
A group of Graduate Student Scholarship Recipient selected by FED Graduate Student Steering Committee (GSSC) headed by Prof. Javid Bayandor

The Graduate Student Paper Competition

The Fluids Engineering Division Graduate Student Steering Committee (GSSC) invites graduate students to apply for one of several Division scholarships to attend the Fluids Engineering Division Summer Meeting (FEDSM). To be eligible for consideration, applicants must be full time masters or PhD students as well as ASME student members. Applicants are required to submit a full draft paper to the FEDSM Graduate Student Paper Competition track. Joint authorship with other graduate students or the student's thesis advisor is acceptable. The advisors however are requested to provide a statement confirming that the work reported in the paper is solely that of the student or the students collaborating, and that the paper is strictly drafted by the student (first author on the paper).

Scholarship winners will be notified approximately two months before the conference. The winners will be acknowledged during the FEDSM Welcome Reception the opening day of the Conference. The presenting student author of each selected paper will be awarded a $1500 check and will be provided with an invitation to join one of the six Division Technical Committees (TC) relevant to their area of research. The scholarship holders will then be required to attend their respective TC meetings during the conference, where they will be introduced to professional mentors, which over the following 12 months, will provide them with opportunities to work and contribute to the objectives of the TCs.