Chair’s Message

Bahram Khalighi

Dear Colleagues,

Serving as the Chair of the Fluids Engineering Division (FED) this year has been an honor and pleasure for me. The FED is fortunate to have many dedicated members who have selflessly donated many hours of their precious time to serve the Division in different capacities. The Division has a history of being one of the most vibrant technical divisions of ASME and has enjoyed strong leadership of past and present leaders who served and continue to serve as chairs of six technical committees, honors and awards committee, Freeman scholar award committee young engineer paper contest committee, editor and associate editors of the Journal of Fluids Engineering, newsletter editor, and members of the executive committee.

The primary conference activities of the Division are its participation in the International Mechanical Engineering Congress and Exposition (IMECE) and the Fluids Engineering Summer Meeting (FEDSM). The FEDSM is currently on a four year cycle as follows: year 1 solely sponsored by FED,
year 2 co-sponsored with the European societies, year 3 co-sponsored with Japan (JSME), and year 4 cosponsored with the ASME Heat Transfer Division.

The 2014 summer meeting was held in Chicago on August 3–7. This conference was co-sponsored by the European Mechanical Engineering Societies with the support and leadership of Drs. Michel Lance of France, Javad Mostaghimi of Canada, Martin Sommerfeld of Germany, Alfredo Soldati of Italy, Harry Hoeijmakers of the Netherlands, and Michael Reeks of UK. In addition, the International Conference on Nano-Micro- and Mini-Channels chaired by Prof. Daniel Attinger of Iowa State University was collocated with the Chicago meeting. This collaborative conference attracted considerable interest with over 750 technical presentations from over 2200 coauthors representing 47 countries. The conference had seven plenary lectures delivered by outstanding speakers including Prof. John Thome, of Ecole Polytechnique Fédérale de Lausanne, Prof. Annie Colin of University of Bordeaux, France, Prof. Christos Vassilicos of Imperial College, UK, Prof. Neelesh Patankar of Northwestern University, USA, and Dr. Sushanta Mitra of University of Alberta, Canada. Furthermore, Prof. Steven Ceccio of University of Michigan, delivered the Freeman Scholar Lecture and Prof Efstathios Michaelides was the FED award winner.

This year’s conference is hosted by our Korean colleagues, through the Korean Society of Mechanical Engineers (KSME) with collaborations from our Japanese colleagues of JSME. The conference will be held in Seoul, Korea, in July 26–31, 2015. Prof. Nahmkeon Hur (KSME), Prof. Keith Walters (FED-ASME) and Prof. Chisachi Kato (JSME) are the Conference Co-Chairs. The abbreviated conference name is AJK2015 and the conference website link is at: http://www.ajk2015-fed.org/

The 2016 summer conference will be held in Washington DC in conjunction with the Heat Transfer Division. The Conference will be Co-Chaired by Dr. Yu-Tai Lee from FED, Prof. Sumanta Acharya from HTD, and Prof. Ali Beskok of ICNMM.

I am grateful to the technical committee chairs and administrative committee chairs that are providing excellent leadership for the Division. This year’s technical committee chairs are Prof. Ning Zhang (Computational Fluid Dynamics), Judith Bamberger (Fluid Applications and Systems), Prof. Javier Diez (Fluid Measurements and Instrumentation), Dr. Sushanta Mitra (Fluid Mechanics), Prof. David Sinton (Micro and Nano Fluid Dynamics), and Prof. Deborah Pence (Multiphase Flow). Prof. Khaled Hammad is the chair of the Honors and Awards committee, Prof. Michaelides is the Chair of the Freeman Scholar Standing Committee, and Dr. Andrews is the Technical Editor of the Journal of Fluids Engineering.

The Fluids Engineering Division is indebted to highly dedicated staff at ASME Headquarters. Many thanks to Erin Dolan, FEDSM Conference Manager, Jacinta McComie-Cates, Administrator, Lee Hawkins, Senior Program Manager, and Stacey Cooper, Nhora Cortes-Comerer, and Angeline Mendez, Publications for their continued support of the Division.

We invite and welcome all members including student members to become engaged in the FED activities. More information on the Fluids Engineering Division and past newsletters are located on the Division website at: http://divisions.asme.org/FED/ Once again, I thank you very much for your interest and support.

Best Regards,
Bahram Khalighi, Ph.D.
Executive Committee Chair
Fluids Engineering Division

Report on ASME Journal of Fluids Engineering

Malcolm Andrews

The year of 2014 was another busy year for the ASME Journal of Fluids Engineering (JFE), and I am pleased to write this report about our progress and
upcoming activities in 2015.

For 2014 I am pleased to report that the impact factor for the JFE increased from 0.886 to 0.939. 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 and Associate Editors, and perhaps we are continuing to see an improvement in the quality of manuscripts. My mission to ensure accurate cites for the journal continues, and I remind you 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 offices, and the JFE Associate Editors, are all sensitive to the issue; please do not hesitate to contact the editorial office at JFE.EditorialOffice@gmail.com if you have any questions.

During 2014 the JFE had a total of 774 submissions (up from 708 in 2013), of which about 500 were assigned to Associate Editors after a preliminary review. At the time of this writing (February 2015) of that 500 some 96 have been accepted, 96 rejected, 145 withdrawn, and 129 are in progress. These statistics compare well with 2014 at this time, and indicate that we are again on-track to accept about 25% of papers submitted in 2014.

In 2014 we took a short hiatus from publishing "The Flow" to resolve some editorial issues, I fully expect us to shortly resume this valuable quarterly newsletter from the JFE. “The Flow” is intended to help center readers on the ASME, and provide deadline prompts. I invite any feedback/suggestions from the membership.

During this last fiscal year a number of Associate Editors finished their terms; Edward Bennett (2009-2015; 2nd term), Ali Beskok (2009-2015; 2nd term), Pavlos Vlachos (2009-2015; 2nd term), Meng Wang (2008-2014; 2nd term), Dimitris Drikikas (2008-2014; 2nd term), and Michael Olsen (2011-2014) have each moved on to different endeavors and challenges, and we greatly thank each one for their contributions and work for the JFE. 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 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 for 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 the 70th birthday of M. Yousuff Hussaini, was released. This special issue was headed by Ye Zhou. Most recently, in September of 2014, a special issue for the 13th International Workshop on the Physics of Compressible Turbulent Mixing was released. This special issue was headed by Dimitris Drikakis, with guest editors David Youngs and Robin Williams of the Atomic Weapons Establishment, Oleg Schilling from Lawrence Livermore National Laboratory, and Stuart Dalziel from University of Cambridge. Upcoming special issues include one honoring Clayton Crowe headed by Efstathios Michaelides.

We wish to welcome the new Associate Editors to our team Oleg Schilling from Lawrence Livermore National Laboratory, Kwang-Young Kim from Inha University, South Korea, and Alfredo Soldati from University di Udine, Italy.

As with all fluid systems, the Journal is committed to increase submissions, 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 (the responsibility of the author); formatting as a conference publication rather than for the Journal [https://journaltool.asme.org/Help/AuthorHelp/WebHelp/JournalsHelp.html]; “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 requirements, 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 JFE is beneficial to both. One last significant item 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 Applications and Systems
Technical Committee

Judith Bamberger, Chair and
George Chamoun, Vice-Chair

Fluid 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 four recurring symposia at the AJK Fluids Engineering Summer Meeting in Seoul, South Korea July 26-31, 2015:

i. 27th Symposium on Fluid Machinery (organizers: KwangYong Kim)
ii. 22nd Symposium on Industrial and Environmental Applications of Fluid Mechanics (Lead organizer: George Chamoun with Judith Bamberger and Angel Wileman)
iii. Symposium on Issues and Perspectives on Automotive Flows (Lead organizer: Bahram Khalighi)
iv. 16th International Symposium on Turbomachinery Flow Predictions and Optimization (Lead organizer: Yu-Tai Lee)
FASTC sponsors symposia as a part of Fluids Engineering Systems & Technologies Topic Area at the 2015 IMECE at Houston, TX in November 13-19, 2015 will include:

i. 24th Symposium on Industrial Flows (Lead organizer: George Chamoun)
ii. Symposium on Wind Turbines Aero and Control (Majid Rashidi and Jinkook Lee)

We were pleased to welcome new members at the FASTC meetings at FEDSM and IMECE in 2015. 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, Judith Ann Bamberger at Pacific Northwest National Laboratory (Judith.Bamberger@pnnl.gov) or the vice chair, George Chamoun at Eastman Chemical Company (gchamoun@eastman.com).

Micro- and Nano-Scale Fluid Dynamics Technical Committee

Sushanta Mitra, Chair and Jiang Zhe, 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 31 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 2014 Microfluidics forum was organized by Nazmul Islam from The University of Texas at Brownsville, with help from Shaurya Prakash from The Ohio State University and Mina Hoorfar from University of British Columbia. Debjyoti Banerjee from Texas A&M University is taking the lead for 2015, with help from Scott Thompson from Mississippi State University and Michael Schertzer from Rochester Institute of Technology.

Invited talk is an important part of the IMECE meeting, and this past year the Forum attracted an outstanding researcher, Prof. David Juncker from McGill University. Prof. Juncker gave an interesting and engaging talk and participated in discussions and networking. The speaker was brought in by the keynote committee of Drs. Sushanta Mitra and Michael Schertzer. This coming year's invited talks will be organized by Hongwei Sun from University of Massachusetts at Lowell, and Prodip K Das from Newcastle University, United Kingdom.

The Microfluidics forum also has two awards: a Best Paper Award and a Best Student Presentation Award. P. Song, W. Zhang, A. Sobolevski, K. Bernard, S. Hekimi, X. Liu were awarded the Best Paper Award for their work on the “A Microfluidic Device for Caenorhabditis Elegans Based Chemical Testing”. Prashant Agrawal was awarded the Best Student Presentation Award. To select the best presentations and papers, feedback from session chairs was collected and compiled by the awards committee including Nazmul Islam, Sushanta Mitra and Prashanta Dutta. This coming year’s awards committee will consist of Jie Xu from (Univ. of Illinois Chicago) and Nazmul Islam (Univ. Texas, Brownsville).

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 the technical meeting at Montreal, the Dr. Sushanta Mitra from York University was elected chair of the Micro and Nano Fluid Dynamics Technical Committee (MNFDTC), and Dr. Jiang Zhe from University of Akron was elected vice chair. The committee thanks Dr. David Sinton for his leadership and service as co-chair for two years and then chair for the past two years.
In 2015 the IMECE will be held in Houston, Texas 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.

The 2014 Fluids Engineering Summer Meeting was held in Chicago, August 3-7, 2014. We organized our regular Microfluidics Summer Forum and also had our TC meeting. Dr. Sushanta Mitra delivered a plenary talk at the conference.

In 2015, the Fluids Engineering Summer Meeting is being jointly sponsored with Japan Society of Mechanical Engineers and Korean Society of Mechanical Engineers in Coex, Seoul, South Korea. A number of the MNFDTTC committee members are participating either by organizing sessions or presenting oral or poster submissions.

Respectfully submitted by Sushanta Mitra (MNFDTTC chair), and Jiang Zhe (MNFDTTC co-Chair).

Multiphase Flow Technical Committee

Deborah Pence, Chair and Joseph Katz, Vice-Chair

A number of flows fall under the category of multiphase flows. The applications are far reaching and include biological, environmental, and industrial, just to name a few. The focus of the Multiphase Flow Technical Committee (MFTC) is to advance knowledge in all aspects of multiphase flow, whether it involves fundamental research or improvement upon techniques focused on measurements, experiments, simulations, modeling or applications. The advancement of knowledge is primarily achieved by bringing the multiphase community together to create, sponsor, and organize symposia and fora at engineering conferences. The two primary conferences in which the MFTC is involved are the International Mechanical Engineering Congress & Exposition (IMECE) and the Fluids Engineering Division Summer Meeting (FEDSM), with a larger number of symposia and fora offered at the summer meeting.

The MFTC is sponsoring and/or co-sponsoring a number of symposia and fora at upcoming 2015 meetings.


- 14th International Symposium on Gas-Liquid Two-Phase Flows
- 14th International Symposium on Liquid-Solid Two-Phase Flows
- 16th International Symposium on Gas-Solid Two-Phase Flows
- 15th International Symposium on Numerical Methods for Multiphase Flow
- Symposium on Noninvasive Measurements in Single and Multiphase Flow
- 50th Forum on Cavitation and Multiphase Flow
- Open Forum on Multiphase Flows: Work in Progress

ASME International Mechanical Engineering Conference and Exposition (IMECE) 2015, November 13-19, Houston, TX.

- 11th Forum on Recent Developments in Multiphase Flow
- Forum on Experimental Validation of CFD Modeling in Heat Exchangers
- 15th International Symposium on Measurements and Modeling of Environmental
- Forum on Multiphase Flow with Bio-applications
- Forum on Multiphase Flow with Oil and Gas Applications

Please come join us at one of the symposia or fora. We also invite you to participate in the committee meetings held at each of these conferences. We are always looking for new and active members.
Committee membership is open to professionals with an interest in multiphase flow research and applications. Please feel free to contact the current chair, Deb Pence at deborah.pence@oregonstate.edu or the current co-chair, Joe Katz at katz@jhu.edu for more information. Special thanks to our many European colleagues who are leading several of these topics.

Computational Fluid Dynamics Technical Committee

Ning Zhang, Chair and Elia Merzair, Vice-Chair

The focus of the Computational Fluid Dynamics Technical Committee (CFDTC) is the field of computational fluid dynamics and related areas. 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 and co-sponsors 7 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, Symposium on Algorithms and Applications for High Performance CFD Computation, Symposium on CFD Verification and Validation (co-sponsor), and Symposium on Uncertainty Quantification in Flow Measurements and Simulations (co-sponsor). At the IMECE meeting the CFDTC sponsors and co-sponsors 2 symposia: 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.

A new CFDTC sponsored Symposium on Algorithms and Applications for High Performance CFD Computation had its first meetings at the 2014 FED Summer meeting. The symposium 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. It was a success for its first meetings with two technical sessions and two tutorials. A new CFDTC co-sponsored Symposium on Uncertainty Quantification in Flow Measurements and Simulations also had its first meeting at the 2014 FED Summer meeting. This symposium provides a venue to present the latest advances in all issues and challenges related to the estimation of uncertainty in flow measurements and simulations.

CFDTC actively participated the new graduate student paper competition program. The current chair Dr. Ning Zhang and past chair Dr. Raymond Gordnier helped a student awardee Mr. Varun Chitta to improve his awarded paper by giving him feedbacks and suggestions. The revised paper was accepted and published in Journal of Fluids Engineering. CFDTC also provided Mr. Chitta other opportunities such as review ASME conference papers. We believe the TC’s involvements with the student scholars will have very positive impacts on their future professional developments.
CFDTC will co-sponsor three more symposia at the 2015 IMECE, and they are: Forum on Multiphase Flow with Bio-Applications (new), Symposium on Wind Turbines: Aerodynamics and Control (new), and International Symposium on Measurement and Modeling of Environmental Flows.

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 Dr. Ning Zhang (nzhang@mcneese.edu), CFDTC Chair or Dr. Elia Merzari (emerzari@anl.gov), CFDTC Vice Chair.

Fluid Measurement and Instrumentation Technical Committee

_F. Javier Diez, Chair and Martin Wosnik, 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 broad 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 analytical and numerical models.

The FMITC was originally organized under the Coordinating Group for Fluid Measurements (CGFM) to foster technical and professional development activities in the area of fluid measurements in both laboratory and field. 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.

Elections for FMITC chair and vice-chair were held during the FEDSM2014 meeting. Prof. F. Javier Diez was elected as the new chair, and Prof. Martin Wosnik was elected as the new vice-chair. Prof. Hui Hu completed his chair term and we thank him for all his contributions to the committee.

FMITC will organize the following symposiums and forums as an integral part of the 2015 ASME-JSME-KSME Joint Fluids Engineering Conference to be held on July 26-31, 2015 at Coex, Seoul, Korea:

- 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.ajk2015-fed.org/sub/sub02_1.asp

FMITC will also be active at IMECE2015, to be held Nov. 13-19, 2015 in Houston, TX to organize or co-sponsor the following symposiums:

- Symposium Fluid Measurements and Instrumentation
- 15th International Symposium on Measurement and Modeling of Environmental Flows

Further information about the symposiums and forums is available at http://www.asmeconferences.org/imece2015/
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 symposiums, please write to the FMITC chair, Prof. F. Javier Diez at diez@jove.rutgers.edu; or the vice chair Prof. Martin Wosnik at martin.wosnik@unh.edu.

**Fluid Mechanics Technical Committee**

**David Davis, Chair and Stefan aus der Wiesche, 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 40, 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 2014, FMTC organized 13 symposia at FEDSM in Chicago, IL and 4 symposia at IMECE in Montreal, CA. At FEDSM 2014, in addition to its 11 recurring symposia, FMTC also co-sponsored two special symposia; Urban Fluid Mechanics, and Fluid Mechanics of Aircraft and Rocket Emissions and their Environmental Impact. FMTC also sponsored a well-received Workshop on the Measurement Uncertainty at FEDSM2014. Due to the success of the workshop, plans are underway to make it an annual event, potentially moving to IMECE so as to expand beyond fluid mechanics.

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 david.o.davis@nasa.gov (David Davis, FMTC Chair) or wiesche@fh-muenster.de (Stefan aus der Wiesche, FMTC Co-Chair) 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 2014 Committee members include Professor Theodore J. Heindel (FMITC) of Iowa State University, Dr. Miguel Visbal (CFDTC) of Air Force Research Laboratory, Mr. Wayne Strasser (FASTC) of Eastman Chemical Company, Dr. Mark R. Duignan (MFTC) of Savannah River National Laboratory, Professor Prashanta Dutta (MNFDT) of Washington State University, 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 2014 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, 2015. 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 2014 Fluids Engineering Award was Professor Efthathios E. (Stathis) Michaelides. Professor Stathis Michaelides is currently the Tex Moncrief Chair of Engineering at Texas Christian University (TCU). Prior to this he was chair of the Department of Mechanical Engineering of the University of Texas at San Antonio, where he also held the Robert F. McDermott Chair in Engineering and was the Founder and Director of the NSF-supported Center on Simulation, Visualization and Real Time Computing (SiViRT). In the past he was the Founding Chair of the Department of Mechanical and Energy Engineering at the University of North Texas (2006-2007); the Leo S. Wel Professor of Mechanical Engineering at Tulane University (1998-2007); Director of the South-Central Center of the National Institute for Global Environmental Change (2002-2007); Associate Dean for Graduate Studies and Research in the School of Engineering at Tulane University (1992-2003); Head of the Mechanical Engineering Department at Tulane (1990-1992). Between 1980 and 1989 he was on the faculty of the University of Delaware, where he also served as Acting Chair of the Mechanical Engineering Department (1985-1987).

Professor Michaelides holds a Bachelors degree (honors) from Oxford University and Masters and Doctorate degrees from Brown University. Professor Michaelides was awarded an honorary M.A. degree from Oxford University (1983); the Casberg and Schillizi Scholarships at St. Johns College, Oxford; the student chapter ASME/Phi,Beta,Tau excellence in teaching award (1991 and 2001); the Lee H. Johnson award for teaching excellence (1995); a Senior Fulbright Fellowship (1997); the ASME Freeman Scholar award (2002) and the Outstanding Researcher award at Tulane (2003). Professor Michaelides was a member of the executive committee of the Fluids Engineering Division of the ASME (2002-08) and served as chair of the Division in 2005-2006. Prior to this he has served as chair (1996-1998) of the Multiphase Flow Technical Committee. He served as the President of the ASEE Gulf-South Region (1992-93). He was elected to the Governing Board for the International Conference on Multiphase Flows (1998-2004) as one of four delegates from North and South America. In 2001 he chaired the 4th International Conference on Multiphase Flows, which took place in New Orleans from May 27 to June 1, 2001 and was the vice-chair of the 5th International Conference on Multiphase Flows, which took place in Yokohama, Japan in May 2004. He has published more than 130 papers in archival publications and has contributed more than 230 papers in national and international conferences. He has also published four books on: a) Particles, Bubbles and Drops – their motion and heat transfer (World Scientific, 2006); b) Alternative Energy Sources (Springer 2012); c) Heat and Mass Transfer in Particulate Suspensions (Springer 2013); and Thermodynamic and Transport Properties of Nanofluids (Springer 2014).
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


Jian Gao
Jun Chen
Daniel R. Guildenbecher
Phillip L. Reu

Jian Gao received his B.S. (2008) in Physical Electronics from Harbin Institute of Technology and Ph.D. (2014) in Mechanical Engineering from Purdue University. He grew up in Shenyang, China. Jian’s doctoral research focused on the development of holographic diagnostic techniques for particle characterization and bio-imaging, and he has applied the techniques to a variety of experimental researches. Jian is currently a Postdoctoral Fellow at Johns Hopkins University working on turbulent boundary layer over surface roughness.

Dr. Jun Chen received his B.S. and M.S. in Aerospace Engineering from Beijing University of Aeronautics and Astronautics. He received his Ph.D in mechanical engineering from Johns Hopkins University in 2005. After that he was a postdoctoral research associate in Los Alamos National Laboratory. He joined Purdue faculty in 2008 and is currently an Associate Professor in the School of Mechanical Engineering. His research interests are in the area of experimental and applied fluid dynamics, including development of advanced flow diagnostic techniques, and measurements and modeling of complex flows.

Daniel R. Guildenbecher is a Senior Member of the Technical Staff at Sandia National Laboratories in Albuquerque, New Mexico. Dr. Guildenbecher’s research emphasizes experimental diagnostics of multiphase flows, particularly those involving particle transport, liquid fragmentation, combustion, and energy conversions. Dr. Guildenbecher received his Ph.D. in Mechanical Engineering from Purdue University in 2009. Prior to joining Sandia, Dr. Guildenbecher was a Visiting Professor at the Karlsruhe Institute of Technology (2009-2010) and Purdue University (2010-2011).

Dr. Phillip L. Reu is a Senior Member of Technical Staff at Sandia National Laboratories. He has obtained a Masters degree in Biomedical engineering from Rensselaer Polytechnic Institute and Masters and PhD degrees from the University of Wisconsin at Madison in Mechanical Engineering. Since 2003 he has been working in the field of optical measurement techniques, specializing in the areas of Digital Image Correlation (DIC) and coherent laser measurements. Current research efforts in DIC are focused...
on uncertainty quantification. Other areas of active research included pulsed holography and electron Doppler velocimetry for nano-dynamics. His current job is full-scale testing at Sandia, where he is developing new techniques for large-scale and high-rate full-field measurements for application to explosively driven events.

**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, 2015. More details can be found at https://www.asme.org/about-asme/get-involved/honors-awards/unit-awards/lewis-f-moody-award. The 2014 Moody Award was presented to Martin Wosnik and Nathaniel Dufresne for their paper entitled “Experimental Investigation and Similarity Solution of the Axisymmetric Turbulent Wake with Rotation,” (Paper FEDSM2013-16565).

Martin Wosnik

Nathaniel Dufresne

Martin Wosnik is Associate Professor in Mechanical and Ocean Engineering and Associate Director of the Center for Ocean Renewable Energy at the University of New Hampshire. He received a B.S. equivalent in Mechanical Engineering from the Technical University of Darmstadt, Germany, and an M.S. in Aerospace Engineering and Ph.D. in Mechanical Engineering from the University at Buffalo, The State University of New York. His research interests are in the area of fluid and thermal sciences with an emphasis on renewable energy applications, including marine renewable energy conversion (tidal, wave, offshore wind), turbulent flows, high-speed hydrodynamics and cavitation. Dr. Wosnik received an NSF CAREER award to study turbulent inflow and wakes relevant to marine hydrokinetic energy conversion.

Nathaniel Dufresne, a native of York, ME., earned his B.S. in Naval Architecture and Marine Engineering from the United States Coast Guard Academy (2009). He received an M.S. in Mechanical Engineering from the University of New Hampshire (2013). He is a Commissioned Officer in the U.S. Coast Guard and is currently working as the Coast Guard’s 210’ Medium Endurance Cutter Asset Line Manager. He is directly responsible for the maintenance and repair of 16 ships including the development and design review of engineering changes to recapitalize antiquated systems on board the aging fleet.

**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, 2016. More details can be found at https://www.asme.org/about-asme/get-involved/honors-awards/unit-awards/sankaraiyer-gopalakrishnanflowserve-pump.
Freeman Scholar Awards

The Freeman Scholar Program is supported by the ASME Freeman Fund, established in 1926 by John R. Freeman, noted hydraulic engineer and scholar, Honorary Member and Twenty-fourth President of the ASME. The Freeman Scholar Award is presented to an eminent contributor to Fluids Engineering, who will research an area of current interest to the Fluids Engineering community. The Freeman Scholar Committee selects, based on review of submitted proposals, 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 was 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 was given at the ASME 2014 Joint US-European FEDSM and International Conference on Nanochannels, Microchannels, and Minichannels in Chicago, IL. His review paper on this topic will appear in an upcoming issue of the Journal of Fluids Engineering.

The Freeman Scholar Award is biennial and awarded in even years. Proposals for the 2016 competition are due on September 1, 2015. More details may be found at: http://www.asme.org/about-asme/honors-awards/freeman-scholar-award. Questions may also be addressed to the 2015-16 chair of the Freeman Scholar Award committee: Professor Stathis Michaelides of Texas Christian University (e.michaelides@tcu.edu).

Henry R. Worthington Medal

The Henry R. Worthington Medal, established in 1980, is bestowed for eminent achievement in the field of pumping machinery including, but not limited to, research, development, design, innovation, management, education or literature.

Gerald L. Morrison, P.E., Ph.D., is the recipient of the medal for 2014. He is professor of mechanical engineering, Texas A&M University, with more than three decades of pump research and development ranging from the space shuttle main engines to multiphase electric submersible pumps; and advanced experimental and computational techniques that have expanded the understanding of pump operation and characterization.

Gerald R Morrison

Morrison has supervised 19 Ph.D. and 78 M.S. students through degree completion. His current responsibilities include teaching and managing multiple research projects. Morrison has authored/co-authored more than 60 peer-reviewed journal publications, and approximately 50 refereed and 80 other conference publications. He holds several patents in the area of flow meters.

He has performed experimental and computational fluid dynamics studies pertaining to jet noise, multiphase flow meters, centrifugal and positive displacement multiphase pumps.
An ASME Fellow, he has served as chair of the Fluid Measurements and Instrumentation Technical Committee, and a member of the Fluid Applications and Systems Technical Committee. Morrison is an Associate Fellow of the American Institute of Aeronautics and Astronautics and a member of the Society of Petroleum Engineers.

His honors include Texas A&M's Association of Former Students College-Level Teaching Award (1996 and 2011).

To be considered for this ASME achievement award submit a nomination package by February 1 of each year. Details are provided at https://www.asme.org/about-asme/participate/honors-awards/achievement-awards/henry-r-worthington-medal

Judith Ann Bamberger, PhD, PE, FASME is the chair of the ASME Henry R Worthington Medal committee.

IMECE2014 Track 9 Fluids Engineering Systems & Technologies

Keith Walters

The 2014 International Mechanical Engineering Congress and Exposition was held November 14-20 at the Palais des Congres in Montreal, Canada. As always, the congress included technical sessions and special events covering all aspects of mechanical engineering. A total of 19 tracks were included in the technical program, and the Fluids Engineering Division sponsored and organized Track 9, entitled "Fluids Engineering Systems and Technologies". Track 9 included 13 different topics, 23 sessions, 115 presentations and 100 full papers. Recurring topics included the panel on "CFD/EFD Choice—A Dilemma for Industries", and new topics included the "Forum on Experimental Validation of CFD Modeling in Heat Exchangers", which was co-sponsored with the ASME Heat Transfer Division. In addition, several of the posters presented in Track 17 (Virtual Podium) were related to fluids engineering topics.

As in years past, FED sponsored the Young Engineers Paper (YEP) competition, organized by Dr. Terry Beck. The selection committee included Dr. James Liburdy and Dr. Malcolm Andrews, and the winners of the 2014 IMECE YEP contest who were recognized at the FED Reception include:

1st Place: Vera Klimchenko, University of Maryland, "Wake Alleviating Devices for Offshore Wind Turbines."

2nd Place: Junshin Park, Pohang University of Science and Technology (Korea), "Separated Turbulent Boundary Layer Under Unsteady Adverse Pressure Gradients: DNS and RANS."

3rd Place: Mohammad A. Hossain, University of Texas at El Paso, " Numeric Investigation of an Axisymmetric Turbulent Jet."

Honorable Mention: Muhammad Nadeem Azam (presented by Kamran Nazir), National University of Science and Technology (Pakistan), "Pumping Speed Measurement of the Rotary Vane Vacuum Pump by Using Numerical and Experimental Approaches."

IMECE2015 Track 9

Yu-Tai Lee

The 2015 International Mechanical Engineering Congress and Exposition will be held November 13-19 at the George R. Brown Convention Center in Houston, TX. The Fluids Engineering Division is sponsoring and organizing
Track 9, entitled "Fluids Engineering Systems and Technologies". The track includes the following 16 topics:

9-1 22nd 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 13th Symposium on Electric, Magnetic and Thermal Phenomena in Micro and Nano-Scale Systems
9-4 11th Forum on Recent Developments in Multiphase Flow
9-5 18th 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 24th Symposium on Industrial Flows
9-9 Microfluidics 2015 - 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 Forum on Multiphase Flow with Bio-Applications
9-16 Multiphase Flow with Oil & Gas Applications (MFOG)

Topics 9-14 and 9-16 are new. 9-14 matches with the theme of IMECE 2015. 9-16 is particularly suitable for the Houston meeting.

**FED 90th Anniversary**

The 2016 FEDSM will be held at Hyatt Regency Washington on Capitol Hill during the week of July 10-14, 2016. It will be the FED 90th anniversary since the Hydraulic Division was first established in 1926 and later changed to the Fluids Engineering Division in 1973. In order to celebrate this special occasion, FED Executive Committee is planning to have a special article published in Mechanical Engineering Magazine and a special JFE issue dedicated to the FED past history. We are also planning to invite past FED chairs and awardees of Fluids Engineering Award, Fluids Machinery Design Award, Sankaraiyer Gopalakrishnan-Flowserve Pump Technology Award, and Freeman Scholar to attend the 2016 FEDSM conference and provide few history lectures. While the planning is underway, we would like to have the current and past members of FED to contact us to let us know whether they plan to attend the 2016 FEDSM. We would also welcome our members to provide their photos which would be suitable for these special publications and lectures. The photos shall be in an electronic readable format. Please attach a footnote for each photo. The point of contact for sending the photos is Dr. Timothy J. O’Hern at (tjohern@sandia.gov or ohernt@asme.org).
Events Photographs

2014 US-European Fluids Engineering Summer Meeting

Prof. Efstathios E. (Stathis) Michaelides, 2014 FED Award Recipient, and Prof. Khaled Hammad

Prof. Martin Wosnik, co-author and recipient of the Moody Award. Also pictured, Prof. Francine Battaglia and Prof. Khaled Hammad
Back row: Prof. John Thome, Dr. Yu-Tai Lee, Prof. Stathis Michaelides, Prof. Mike Reeks, Prof. Michel Lance
Front row: Dr. Jean Bataille and Mrs. Bataille, Prof. Dr.-Ing. Martin Sommerfeld, Prof. Francine Battaglia, Dr. Jinkook Lee, Dr. Bahram Khalighi, Prof. Javid Bayandor

2014 FEDSM Graduate Student Scholarship Recipients
ASME President, J. Robert Sims awarding Dr. Upendra Singh (Kumar) Rohatgi with the 2014 Technical Communities Globalization Medal.