Heat Transfer Division

The objective of the Heat Transfer Division is to enhance the theory and application of heat transfer in equipment and thermodynamic processes in all fields of engineering and related disciplines.

Summer 2019

Sandip Mazumder, Editor
Letter from the Chair
A letter from Raj M. Manglik, Chair of the Heat Transfer Division (HTD) Executive Committee

Executive Committee (EC)
Composition of the current executive committee of the HTD

Awards
Recognizing the awards given recently by the ASME HTD

Conferences
A synopsis of upcoming conferences to look forward to

K-Committee Updates
Updates provided by the various technical (“K”) committees on their activities and accomplishments

Journal Updates
Updates by editors on the journals supported by the HTD
The year 2018-19 has indeed been eventful and groundbreaking for the Heat Transfer Division (HTD), and it has been a privilege to help steer its course and serve the community as Chair of the HTD. Given the uncertainties of the 2004-16 period, because of reorganization of ASME and the consequent reaction within HTD, I am pleased to convey that our division is now firmly and productively engaged in the new structure. It now looks forward to expanding its role, technical offerings, and volunteer leadership involvement in ASME so as to better serve our membership and the larger global heat transfer community. Last year was particularly eventful in consolidating the position of HTD within ASME, whereby it now has representation in the parent Engineering Science Segment (ESS) and its umbrella Technical Events Committee (TEC). HTD members Roy Hogan and Sumanta Acharya are both ESS committee members, with past-Chair Arun Muley further serving as the HTD liaison. Moreover, Roy Hogan is the ESS representative on the TEC Council. The HTD has been a vibrant part of ASME for more than eight decades now, and the collective engagement of our membership makes it one of the largest divisions (both in membership and content or knowledge content generation). While this bodes well for the future, it is equally important that each one of us strives to expand our membership (encourage young professionals and early career Mechanical Engineers to enroll and participate) as well as inclusivity across the demographic spectrum.
To recap the new ASME structure, the Technical Events & Content (TEC) Sector is one of five sectors that reports to the Sector Management Committee (SMC) and the ASME Board of Governors (BOG). The HTD resides within the Engineering Sciences Segment (ESS), which is also one of five other segments in the TEC. These are the Energy Sources and Processing Segment (ESP), Energy Conversion and Storage Segment (ECS), Design, Materials and Manufacturing Segment (DMMS), and Gas Turbine Segment (GTS). Besides TEC, the other sectors include the Public Affairs & Outreach (PAO) sector, Student & Early Career Development (SECD) sector, and Standards & Certification (S&C) sector. The concerted collective engagement of my HTD Executive Committee (EC) colleagues to chart out its volunteer leadership pathway saw fruition with the participation of the 2018-19 ASME President, Dr. Said Jahanmir, as well as the new Executive Director, Thomas Costabile, attend and speak at the HTD Luncheon during the 2018 IMECE, Pittsburgh, PA. Likewise, the 2017-18 ASME President Charla K. Wise had participated at the HTD Luncheon at the 2017 IMECE. The HTD EC has now decided to make this a regular feature and engage with the top ASME leadership at all future IMECEs.

A major “reconstruction” challenge that I personally took on when joining the HTD EC was to revive the interactions and collaborations with AIChE (American Institute of Chemical Engineers) and their Transport and Energy Processes Division (TEP). Those who remember the old “National Heat Transfer Conference,” which ended in early 2000s, may recall the extensive collaborations at this summer event with AIChE and ANS (American Nuclear Society). I am very pleased to inform that the collaboration with AIChE has now been formally cemented, and since the 2017 Summer Heat Transfer (SHTC), we have been collectively holding topical sessions and gradually expanding this engagement, as is evident in the forthcoming 2019 SHTC. It is hoped that ANS can also be brought into the SHTC event in the coming years. Furthermore, the next major re-integration task before me and the HTD EC is the revival of our collaboration with the Japan Society of Mechanical Engineers (JSME) and Korean Society of Mechanical Engineers (KSME) in a regular quadrennial conference event. More on this will be forthcoming from the HTD EC in the coming year or two.
In this spirit, 2018-2019 was a banner year for HTD with several successfully organized signature events including the International Heat Transfer Conference (IHTC-16), in Beijing, China, and the International Mechanical Engineering Congress and Exposition (IMECE), in Pittsburgh, PA. The USA delegation for IHTC-16 and the Assembly for International Heat Transfer Conferences was chaired by Professor Raj M. Manglik, University of Cincinnati, OH, and the Vice-Chair was Dr. John S. Maulbetsch, Maulbetsch Consulting, Menlo Park, CA. There was a large USA delegation that participated in the conference, including several early career members, with ground-breaking research presentations in different emerging thermal science topical areas. In 2018, the heat transfer community also lost a founding “giant” with the passing of Professor Frank Kreith (January 8, 2018). A moving memorial tribute was accorded to him during the IHTC-16 in Beijing.
The 2018 IMECE, which was held at the David L. Lawrence Convention Center in Pittsburgh, PA, from November 9-15, 2018, was likewise characterized by a very vibrant participation of HTD members. In fact, the HTD had the second largest divisional offerings of topical sessions, panels, and technical presentations, among the many different ASME Divisions that participate in this conference. The Track chair for HTD for this event was Dr. John S. Maulbetsch, Maulbetsch Consulting, the co-chair was Dr. Kevin Dowding, Sandia National Laboratory, and the technical program chair was Dr. Peiwen Li, University of Arizona. Of particular interest was the Memorial Symposium in honor of the Late Professor Frank Kreith, which had multiple sessions with 15 paper presentations and a very large audience participation. The HTD event was further highlighted by the Awards Luncheon, held on Tuesday, November 13, where the Heat Transfer Memorial Award winners and the Bergles-Rohsenow Young Investigator Award winner (as listed in the ensuing), as well as the achievements of many HTD colleagues, were recognized. It was a special occasion to also express our gratitude and appreciation to those in the community that have volunteered their time and efforts in serving as the editors/associate editors for the Journals supported by HTD, as K-committee chairs, session organizers, paper reviewers, etc. The 2018-19 President of ASME, Dr. Said Jahanmir, also participated and shared his vision of the ASME and the importance of the role of the HTD in its affairs. Also present was the new Executive Director of ASME, Tom Costabile, and the event saw extensive engagement of the HTD membership with the ASME leadership. Notably, two HTD members were recognized for their respective accomplishments at the ASME President’s Luncheon with society-level awards for 2018: the Frank Kreith Energy Award (Professor W. M. Worek) and the James Harry Potter Gold Medal (Professor Raj M. Manglik).
The ASME Heat Transfer Memorial Award is the highest society-level recognition given for technical achievements in the science, art, and general field of heat transfer. The 2018 HT Memorial Award in Art went to Professor M. Pinar Mengüç, Ozyegin University, Cekmekoy, Istanbul, for “original and lasting research contributions in radiative heat transfer and nanoscale energy transport, particularly on multi-dimensional radiative transfer models, development of diagnostic tools for particle characterization, and near-field radiation transfer for applications to sustainable energy and nanoscale manufacturing processes.” In the Science category, the 2018 award went to Professor Li Shi, University of Texas at Austin, for “pioneering novel experimental methods and establishing microscopic understanding of thermal transport mechanisms in nanostructures and complex materials, and for demonstrating the impacts of the scientific discoveries on the engineering applications of these materials in electronic and energy devices.” In the General category, Professor Timothy Fisher, UCLA, was the recipient for “pioneering the convergence between heat transfer and nanomaterials with engineering carbon nanomaterials for thermal applications, spanning from material processing to thermal characterization and modeling to pedagogy.” The 2018 HTD Bergles-Rohsenow Young Investigator Award, which recognizes a young engineer who is committed to pursuing research in heat transfer, and has demonstrated the potential to make significant contributions to this field, was given to Dr. Asegun Henry, now Associate Professor at MIT (formerly at Georgia Tech). Moreover, Dr. Roy E. Hogan, Sandia National Laboratory, was recognized with the HTD Distinguished Service Award. In addition to these major awards, we recognized the service of many of our members during the 2018 IMECE Award Luncheon. Several K-Committee Chairs completed their respective term and the following were acknowledged with a Service Certificate: K-8, Patrick Hopkins; K-12 Steve Cai; K-14, Phil Ligrani; K-15, Patrick Mensah; K-17, Nochole Rylander; K-18, Qiuwang Wang; K-19, Michael B. Pate; and K-20, Aaron Wemhoff. Several retiring associate editors of HTD journals as well as best reviewers were also acknowledged.
Furthermore, it gives me much pleasure to announce the following winners of the 2019 Heat Transfer Memorial Award, each of whom will be recognized at the HTD Luncheon during the 2019 IMECE in Salt Lake City, UT:

**Professor Satwindar S. Sadhal, Ph.D. – Science**

**Professor Dereje Agonafer, Ph.D. – Art**

**Professor James Klausner, Ph.D. – General**

The 2019 Bergeles-Rhosenow Young Investigator Award recipient is **Dr. Yongjie Hu.** More details about these award winners and their respective contributions will be available in the next newsletter.

The **Max Jakob Memorial Award** is a joint award sponsored by the ASME and the AIChE in recognition of eminent achievement of distinguished service in the area of Heat Transfer. The 2018 recipient of this award is Professor **John W. Rose**, Queen Mary College, University of London, UK. He will be recognized during the awards banquet at the 2019 Summer Heat Transfer Conference, Bellevue, WA, July 2019.

The ASME HTD supports three major journals: ASME *Journal of Heat Transfer* (JHT), ASME *Journal of Thermal Science and Engineering Applications* (JTSEA), and ASME *Journal of Verification, Validation and Uncertainty Quantification* (JVVUQ). The efforts and contributions of their respective editors, associate editors, and reviewers are significantly substantive. It is their diligence and rigor that contribute to the high reputation and visibility of the ASME journals. The **JHT** has made excellent strides and continues to be the pre-eminent heat transfer journal under the current editorship of Professor Portonovo S. Ayyaswamy. For **JTSEA**, the HTD gratefully acknowledges the editorial stewardship of Professor S. A. Sherif, and extends a welcome to its new editor (2019-24), Professor Srinath Ekkad.
In looking ahead at the HTD events and technical conferences in the coming years, we have organized (will be organizing) the following set of meetings that surely promise to be engaging, technically enriching, and professionally meaningful:

- 2019 SHTC, Bellevue, WA, July 14-17. This conference includes a special Symposium, jointly organized with AIChE, in honor of Professor Peter C. Wayner, Jr., to recognize and celebrate his career contributions to transport phenomena, phase-change processes, and heat and mass transfer. This conference furthers the ASME HTD engagement with AIChE, with two Track/Topical offerings, as well as a special workshop on Carbon Dioxide Capture And Utilization (CCU), being conducted by Dr. C. B. Panchal, E3Tec Services LLC, and R. D. Doctor. It is hoped that this partnership with AIChE will expand in the coming years at future summer meetings.

- 2019 IMECE, at the Calvin L. Rampton Salt Palace Convention Center, Salt Lake City, UT, November 11-14.

- 2020 Summer Heat Transfer Conference, Rosen Creek Hotel, Orlando, FL. It will be co-located with the Summer Fluids Engineering Conference (FED) and the ICNMM Conference.

Needless to add that a proactive and expanded participation of the various HTD K-committees in organizing the programs and events at these conferences will make them duly enriching. Moreover, it would serve our membership well if HTD could align its activities with the core Strategic Technology areas, identified by the ASME. These include, Manufacturing, Pressure Technology, Robotics, Clean Energy, and Bioengineering. The HTD can and should indeed play a major role, especially in the areas of pressure technology (heat exchangers, boilers etc.), clean energy (solar, storage etc.), manufacturing (additive manufacture, laser sintering, thermal bonding, joining, and fusion technology, etc.), and bioengineering (cryo-preservation, thermal therapies, etc.). In addition to these core areas, eight enabling technologies have been ear-marked, which include nanotechnology, sustainability, and materials, where heat transfer can and should play a leadership role. Such topical focus also presents cross-sector and cross-division opportunities, for which ASME has slated support, and HTD should be both a centerpiece within the strategic priorities and forum for leadership in ASME.
In closing, I am very happy to reiterate that the HTD continues to grow, expand its technical and outreach activities, and be a vibrant group within the ASME. Our membership, constituted of both researchers and industry practitioners, has not only participated vigorously in our events for building the critical technical knowledge base in heat transfer, but has also taken up the challenges of volunteer leadership for HTD in the ASME community. I have been privileged and honored to serve as Chair, and I wish to express my heartfelt gratitude for the support and collegiality of EC members, K-Committee Chairs, Journal editors, and the larger membership and heat transfer community. I will continue to serve the HTD to the best of my abilities with active engagement in its activities well past the end of my term as Chair. Together, we are surely enduring co-travelers in this professional journey to serve the heat transfer community.

With warm regards and best wishes,

Raj M. Manglik
ASME Heat Transfer Division (HTD) Chair 2018-19
Professor of Mechanical and Materials Engineering
Director, Thermal-Fluids & Thermal Processing Laboratory
University of Cincinnati, Cincinnati, OH.
<table>
<thead>
<tr>
<th>NAME</th>
<th>AFFILIATION</th>
<th>POSITION</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raj M. Manglik</td>
<td>University of Cincinnati</td>
<td>Chair</td>
<td><a href="mailto:raj.manglik@uc.edu">raj.manglik@uc.edu</a></td>
</tr>
<tr>
<td>John Maulbetsch</td>
<td>Maulbetsch Consultancy</td>
<td>Vice-Chair</td>
<td><a href="mailto:maulbets@sbcglobal.net">maulbets@sbcglobal.net</a></td>
</tr>
<tr>
<td>Satwinder Singh Sadhal</td>
<td>University of Southern California</td>
<td>Member-at-large</td>
<td><a href="mailto:sadhal@usc.edu">sadhal@usc.edu</a></td>
</tr>
<tr>
<td>Kevin Dowding</td>
<td>Sandia National Laboratory</td>
<td>Treasurer</td>
<td><a href="mailto:kjdowdi@sandia.gov">kjdowdi@sandia.gov</a></td>
</tr>
<tr>
<td>Brent Webb</td>
<td>Brigham Young University</td>
<td>Secretary</td>
<td><a href="mailto:webb@byu.edu">webb@byu.edu</a></td>
</tr>
<tr>
<td>Arun Muley</td>
<td>Boeing Research and Technology</td>
<td>Past Chair</td>
<td><a href="mailto:arun.muley@boeing.com">arun.muley@boeing.com</a></td>
</tr>
</tbody>
</table>
Max Jakob Memorial Award

John W. Rose
Professor
Queen Mary, University of London, UK

Bergles-Rohsenow Young Investigator Award

Asegun Henry
Noyce Career Development Professor
Massachusetts Institute of Technology, USA
Heat Transfer Memorial Awards

The Heat Transfer Memorial Awards are bestowed upon individuals who have made outstanding contributions to the field of heat transfer through teaching, research, practice and design, or a combination of such activities. Each award is based on achievement through publications, patents or inventions, in an area of heat transfer or through the application of science or art of heat transfer. One award may be made annually in each of the following categories: the science of heat transfer, the art of heat transfer, or the general subject of heat transfer.

Science

Li Shi
BF Goodrich Endowed Professor
University of Texas, Austin, USA

Art

M. Pinar Mengüç
Professor
Özyeğin University, Turkey

General

Timothy S. Fisher
Professor
University of California, Los Angeles, USA
TRANSFER OF HEAT from Summer to Summer

A report on conference participation by the Heat Transfer Division
The SHTC 2019 conference is co-sponsored by the American Institute of Chemical Engineers (AIChE) and co-located with the 13th International Conference on Sustainability. The theme of this year’s conference is Multidisciplinary Heat and Mass Transfer. The conference features a vibrant program with several panels, tutorials, workshops, and technical tours. The plenary sessions include a presentation by the DQ Kern award winner and a senior member from industry. Two hundred and fifty papers, presentations, and posters are scheduled in sixty technical sessions. On Sunday afternoon, a special CO₂ Capture and Utilization workshop is offered. The Welcome Reception will be held Sunday evening and the Conference Banquet will be held on Monday evening. Please join us on Tuesday during lunch for a special joint SHTC and ES poster session. A tour of the Boeing Commercial Aircraft facility will be offered on Wednesday. A special forum on research funding opportunities, organized with representatives from the National Science Foundation and Oak Ridge National Laboratories, will be conducted. A panel and open discussion regarding women in heat transfer and energy sustainability will be held to address diversity and inclusiveness. A highlight of the conference is the AIChE Symposium in Honor of Peter C. Wayner, Jr. This symposium is organized jointly by the AIChE and the ASME Heat Transfer Division.

Dr. Sandra Boetcher of the Embry-Riddle Aeronautical University is serving as the Technical Program Chair of this conference.

More details regarding the program and activities, along with registration information, can be found at the SHTC website: https://event.asme.org/SHTC
The 2019 International Mechanical Engineering Congress and Exposition (IMECE 2019) will be held in Salt Lake City, Utah, USA from November 11 through 14 at the Calvin L. Rampton Salt Palace Convention Center.

In addition to technical paper presentations from the various divisions and segments of the ASME, the conference will feature plenary talks, keynote lectures, panel discussions, workshops, and other presentations on a range of important topics of current interest including heat transfer, and thermal science and engineering. The Heat Transfer Division (HTD) activities, sponsored by its eighteen technical committees are part of Track 9 (Heat Transfer and Thermal Engineering) proceedings. The submissions to the proceedings of Track 9 include, keynotes, panels, symposiums, and workshops, 120+ full-length technical papers and 60 technical presentations, which would be the highlight of over 40 sessions.

The Topics give a comprehensive coverage of the theory and application of heat transfer in equipment and thermodynamic processes in all fields of mechanical engineering and related technologies. The technical sessions will cover subject wide-ranging areas of thermal science and engineering, which include fundamentals of heat and mass transfer in single and multiphase flows, enhanced heat (mass) transfer and compact heat exchangers, nanoscale transport phenomena, and computational heat transfer, among many others. Symposium on Heat Transfer in Power and Refrigeration Systems will be held. Panel sessions will cover a range of topics.
The key role of heat transfer analysis in energy systems research, Environmental Issues Associated with Natural and Controlled Fires, Recent advancements and discussions in heat transfer and thermal science education, and Broad-based experiences and discussions in mentorship to tenure-track faculty in thermal science programs.

Moreover, specific divisional business and planning activities will include meetings of the Executive Committee on Sunday, November 10, afternoon, as well as meetings of the technical K-Committees throughout the week. All members of the HTD are encouraged to participate in shaping its future direction and scope of activities. The schedule for the technical K-committee meetings will be posted to the Congress website prior to the conference.

A special celebratory highlight of the week’s proceedings at the 2019 IMECE will be the Heat Transfer Awards Luncheon on Tuesday, November 12. The 2019 Heat Transfer Memorial Award winners, and the newly elected ASME Fellows will be recognized during the luncheon, along with other achievements of the division.

The HTD members who are serving as organizers of the Heat Transfer and Thermal Engineering track (Track 9) are:
Dr. Kevin Dowding, Sandia National Laboratory, Track Organizer
Dr. Brent Webb, Brigham Young University, Track Co-Organizer
Dr. Yewen Zhang, University of Missouri, Columbia, Track Co-Organizer

More details of the program and activities, including registration and participation, can be found at the Congress website: https://www.asme.org/events/imece.
In the following pages, the most recent technical ("K") committee leaders within the HTD are listed. Also, the K-committees provide updates on their annual (2018-19) activities.
# Technical (“K”) Committee Leadership

<table>
<thead>
<tr>
<th>COMMITTEE</th>
<th>POSITION</th>
<th>NAME</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Transfer in Energy Systems (K-6)</td>
<td>Chair</td>
<td>Nesrin Ozalp</td>
<td><a href="mailto:nozalp@d.umn.edu">nozalp@d.umn.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Matthew Jones</td>
<td><a href="mailto:mrjones@byu.edu">mrjones@byu.edu</a></td>
</tr>
<tr>
<td>Thermophysical Properties (K-7)</td>
<td>Chair</td>
<td>Nicholas Roberts</td>
<td><a href="mailto:nick.roberts@usu.edu">nick.roberts@usu.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Troy Munro</td>
<td><a href="mailto:troy.munro@byu.edu">troy.munro@byu.edu</a></td>
</tr>
<tr>
<td>Theory and Fundamental Research (K-8)</td>
<td>Chair</td>
<td>Amitabh Narain</td>
<td><a href="mailto:narain@mtu.edu">narain@mtu.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Diana Borca-Tascuic</td>
<td><a href="mailto:borcad@rpi.edu">borcad@rpi.edu</a></td>
</tr>
<tr>
<td>Nanoscale Thermal Transport (K-9)</td>
<td>Chair</td>
<td>Chris Dames</td>
<td><a href="mailto:cdales@berkeley.edu">cdales@berkeley.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Dong Liu</td>
<td><a href="mailto:dli9@central.uh.edu">dli9@central.uh.edu</a></td>
</tr>
<tr>
<td>Heat Transfer Equipment (K-10)</td>
<td>Chair</td>
<td>Sandra Boetcher</td>
<td><a href="mailto:sandra.boetcher@erau.edu">sandra.boetcher@erau.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Ravi Annapragada</td>
<td><a href="mailto:annaprs@utrc.utc.com">annaprs@utrc.utc.com</a></td>
</tr>
<tr>
<td>Fire and Combustion (K-11)</td>
<td>Chair</td>
<td>Albert Ratner</td>
<td><a href="mailto:albert-ratner@uiowa.edu">albert-ratner@uiowa.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Tariq Shamim</td>
<td><a href="mailto:tshamim@masdar.ac.ae">tshamim@masdar.ac.ae</a></td>
</tr>
<tr>
<td>Aerospace Heat Transfer (K-12)</td>
<td>Chair</td>
<td>Ryoichi Amano</td>
<td><a href="mailto:amano@uw.edu">amano@uw.edu</a></td>
</tr>
<tr>
<td>Heat Transfer in Multiphase Flow (K-13)</td>
<td>Chair</td>
<td>Abhijit Mukherjee</td>
<td><a href="mailto:abhijit.mukherjee@csun.edu">abhijit.mukherjee@csun.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Scott Thompson</td>
<td><a href="mailto:smthompson@auburn.edu">smthompson@auburn.edu</a></td>
</tr>
<tr>
<td>Gas Turbine Heat Transfer (K-14)</td>
<td>Chair</td>
<td>John Blanton</td>
<td><a href="mailto:blantonj@asme.org">blantonj@asme.org</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Marc Polanka</td>
<td><a href="mailto:Marc.Polanka@afit.edu">Marc.Polanka@afit.edu</a></td>
</tr>
<tr>
<td>Transport Phenomena in Manufacturing and Materials Processing (K-15)</td>
<td>Chair</td>
<td>Ying Sun</td>
<td><a href="mailto:YSun@coe.drexel.edu">YSun@coe.drexel.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Stephen Akwaboa</td>
<td><a href="mailto:stephen_akwaboa@subr.edu">stephen_akwaboa@subr.edu</a></td>
</tr>
<tr>
<td>Heat Transfer in Electronic Equipment (K-16)</td>
<td>Chair</td>
<td>S.B. Park</td>
<td><a href="mailto:sbpark@binghamton.edu">sbpark@binghamton.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Peter de Bock</td>
<td><a href="mailto:debock@research.ge.com">debock@research.ge.com</a></td>
</tr>
<tr>
<td>Heat and Mass Transfer in Biotechnology (K-17)</td>
<td>Chair</td>
<td>Xiaoming He</td>
<td><a href="mailto:he.429@osu.edu">he.429@osu.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Rafael Davalos</td>
<td><a href="mailto:davalos@vt.edu">davalos@vt.edu</a></td>
</tr>
<tr>
<td>Heat Transfer under Extreme Conditions (K-18)</td>
<td>Chair</td>
<td>Xinwei Wang</td>
<td><a href="mailto:xwang3@iastate.edu">xwang3@iastate.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Zhiguo Qu</td>
<td><a href="mailto:zggu@mail.xjtu.edu.cn">zggu@mail.xjtu.edu.cn</a></td>
</tr>
<tr>
<td>Environmental Heat Transfer (K-19)</td>
<td>Chair</td>
<td>Kashif Nawaz</td>
<td><a href="mailto:nawazk@ornl.gov">nawazk@ornl.gov</a></td>
</tr>
<tr>
<td>Computational Heat Transfer (K-20)</td>
<td>Chair</td>
<td>Sandip Mazumder</td>
<td><a href="mailto:mazumder.2@osu.edu">mazumder.2@osu.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Shima Hajimirza</td>
<td><a href="mailto:shima.hm@tamu.edu">shima.hm@tamu.edu</a></td>
</tr>
<tr>
<td>Education (K-21)</td>
<td>Chair</td>
<td>Nesrin Ozalp</td>
<td><a href="mailto:nozalp@d.umn.edu">nozalp@d.umn.edu</a></td>
</tr>
<tr>
<td>Visualization of Heat Transfer (K-22)</td>
<td>Chair</td>
<td>Nenad Miljkovic</td>
<td><a href="mailto:nmiljkov@illinois.edu">nmiljkov@illinois.edu</a></td>
</tr>
<tr>
<td></td>
<td>Vice-Chair</td>
<td>Chang K. (CK) Choi</td>
<td><a href="mailto:cchoi@mtu.edu">cchoi@mtu.edu</a></td>
</tr>
</tbody>
</table>
During 2018, K-6 committee members made significant contributions to the heat transfer community by organizing and participating in conferences and by writing, reviewing and editing for numerous journals. While no official activities were held during The International Heat Transfer Conference (August 10-15, 2018 in Beijing), K-6 was well represented by several committee members. K-6 Member S.A. Sherif delivered a keynote lecture – *Frost and Ice Fog Formation and Heat Transfer in Supersaturated Air in Industrial Freezers* – at IHTC 2018. At IMECE 2018, K-6 sponsored technical sessions focused on *Performance Assessment of Energy Systems, Waste Heat Recovery, Thermal Management of Battery Systems, Passive Thermal Control, and Radiative Transfer and Properties*. K-6 also sponsored a panel session on *The Key Role of Heat Transfer Analysis in Energy Systems Research*. A total of 39 papers and presentations were given during the K-6 sponsored sessions, and each session was well attended.
The K-6 committee has organized sessions focused on *Waste Heat Recovery and Power Harvesting*, *Heating, Cooling and Power Systems* and *Heat Transfer in Solar Thermal and PV Systems*, a mini-symposium on Thermal Management and Storage and a panel on *The Key Role of Heat Transfer Analysis in Energy Systems Research* for the upcoming SHTC (July 14-17, 2019 in Bellevue). Nesrin Ozalp’s term as K-6 chair will conclude at the SHTC 2019, and the committee expresses deep gratitude for her years of service as Chair and co-Chair. Matthew Jones (current K-6 co-Chair) and Alex Rattner will begin 3 year terms as Chair and co-Chair, respectively, at SHTC 2019.

The K6 committee bylaws, roster and minutes from past meetings are available at [https://asmehtdk6.byu.edu/](https://asmehtdk6.byu.edu/).
The K-7 Committee on Thermophysical Properties is currently looking for a Secretary, and new members. Troy Munro (troy.munro@byu.edu), an Assistant Professor of Mechanical Engineering at Brigham Young University, has recently taken over as Vice-Chair. The committee’s goal is to vastly increase committee membership and participation at ASME conferences by having more focused sessions sponsored on specific properties and specific applications areas.

Several committee members presented at the Twentieth Symposium on Thermophysical Properties in June 2018, partially sponsored by the ASME-AIChE Joint Committee on Thermophysical Properties. At the upcoming SHTC conference, we are currently sponsoring topics in 3 sessions, with 11 abstracts, 2 papers, 7 “presentation only” submissions.

At the IMECE 2019, K-7 is sponsoring two sessions on “Spatially resolved thermophysical property measurements” and “Thermophysical properties of next-generation thermal storage materials,” as well as a panel discussion on thermophysical property measurement systems. We encourage ASME members interested in these topics to join the K-7 committee.
The K-8 Committee remains very active in sponsoring sessions at the two leading ASME heat transfer conferences: the Summer Heat Transfer Conference (SHTC) and the International Mechanical Engineering Congress and Exposition (IMECE).

At IMECE 2018 (Pittsburgh, PA), continuing on the momentum of earlier years, K-8 offered nine sessions with forty four presentations/papers in fundamentals of phase-change (boiling and condensation), micro- and macro-scale conduction, and convection. We saw vigorous participation from authors, contributors, and the audience. The Panel session on “Fundamentals of non-equilibrium thermal transport,” chaired by Yan Wang and Xiulin Ruan, had four renowned speakers and attracted excellent attendance.
The committee continues to be active in the upcoming offerings at SHTC 2019 (Bellevue, WA) and IMECE 2019 (Salt Lake City, Utah). At SHTC, our long time member, Leslie Phinney is organizing a Women in Engineering Panel, which is being received with great enthusiasm. Our K8 committee and its several members – including Vaibhav Bahadur, Navdeep Dhillon, Patrick Oosthuizen, Enakshi Wikramanayake, Gregory Michna, and others – continue to provide leadership and service, organizing tracks/topics at both conferences.
The K-9 Committee aims to represent all fields of nanoscale thermal transport including theory, computation, and experiments; and membership from a broad professional audience including academia, industry, and national laboratories. The K-9 Committee interacts with other K-Committees to coordinate nanoscale science and technology activities within the HTD. Furthermore, the K-9 Committee interacts with ASME Nano Engineering Council and other ASME Divisions to coordinate society-wide activities.

The K-9 Committee continues to have a major presence at ASME conferences. For example, at the 2018 IMECE conference in Pittsburgh PA, K-9 organized 17 sessions and 85 presentations, including 6 invited talks. We look forward to increasing the number of invited talks as well as panel discussions at future conferences. Many thanks to the leadership and organizational efforts of Liping Wang, Sanjiv Sinha, Sangyeop Lee, and Dong Liu at IMECE 2018!

Looking ahead to the 2019 Summer Heat Transfer Conference in Bellevue, K-9 has a track on Nanoscale Transport Phenomena, organized by Chris Dames, Dong Liu, and Liping Wang. Many thanks to our Topic and Session Organizers:

- Nanoscale Heat Conduction (Ming Hu, Zhen Chen)
- Nanoscale Thermal Radiation (Anil Yuksel, Andrej Lenert)
- Micro/nanoscale phase change heat transfer (Shalabh Maroo)
We are pleased to share a few accomplishments of K-9 members:

- Yongjie Hu (UCLA) received a 2019 Alfred P. Sloan Research fellowship.
- Zhiting Tian (Cornell) was named a 2019 ACS Polymeric Materials Science and Engineering (PMSE) Young Investigator award.
- Nenad Miljkovic (UIUC) received a Dean’s Award for Excellence in Research.

This list of course is far from complete! We encourage all members in the future to please share your accomplishments with the K-9 committee at one of our regular meetings, and/or by email to the Secretary.

This summer marks the end of the two-year terms of the current K-9 leadership. In accordance with the K-9 Guidelines document, the current Vice Chair (Dong Liu) is designated to take over the Chair position. The next Vice Chair shall be nominated and elected by the K-9 committee members, and the next Secretary will be appointed by the Chair.
Heat Transfer Equipment

The K-10 Committee is comprised of many members from both academia and industry and is very active within the Heat Transfer Division, sponsoring many sessions at the Summer Heat Transfer Conference and the International Mechanical Engineering Congress & Exposition.

At the 2018 ASME IMECE (Pittsburgh, PA), K-10 organized 6 sessions with 25 talks related to experimental and modeling work related single phase and multi-phase and passive enhanced heat transfer in heat transfer equipment.

At the 2019 SHTC (Bellevue, WA), K-10 is sponsoring 4 sessions with around 18 talks related to experimental and modeling work related single phase and multi-phase and passive enhanced heat transfer in heat transfer equipment. This includes a invited panel session titled “Lifecycle of industrial heat exchangers: Concept to trouble-free operation” that includes experts from the industry to discuss studies conducted to evaluate performance of the heat exchangers in a system-level operation compared to the design expectations and lessons learnt as well as solutions implemented to address identified gaps.

Sessions sponsored by K-10 for the 2019 ASME IMECE (Salt Lake City, UT), currently received over 25 abstracts. Additional invited talks and panel sessions are being planned to provide perspective on design and fundamentals of heat transfer equipment.

K-10 members continue to be recognized and provide leadership within the HTD. Raj Manglik served on the HTD executive committee and as the 2018 ASME IMECE HTD track chair. He was also bestowed with the James Harry Potter Gold Medal, which recognizes eminent achievement or distinguished service in the science of thermodynamics and its application in engineering. Arun Muley served as the 2017-18 Chair of the HTD. Sandra Boetcher served as the Technical Program Chair of the 2019 SHTC.

Subramanyaravi (Ravi) Annapragada  
Vice-Chair, K-10

Sandra Boetcher  
Chair, K-10
In 2018, the **K-13 committee** focused on organizing technical sessions at the 2018 ASME IMECE in Pittsburgh, PA. At the 2018 ASME IMECE, K-13 sponsored one technical session: “Heat Transfer in Multiphase Systems” at which 14 speakers presented their work.

The committee now has 37 active members comprising of representatives from academia, industry, and government labs. Currently, the K-13 committee is working on the 2019 SHTC to be held in Bellevue WA and the 2019 IMECE to be held in Salt Lake City, UT.

K-13 chair Abhijit Mukherjee from California State University, Northridge will step down at the end of summer 2019 and Scott Thompson from Auburn University will be the new chair and Vinod Srinivasan from University of Minnesota will be the new Vice Chair. Elections will be held to elect a new secretary to start in Fall 2019.

Abhijit Mukherjee
Chair, K-13
The K-14 committee’s major activity is always the Turbo Expo. In June 2018, the meeting took place in Lillestrøm, Norway. We also sponsored 1 technical session at the IMECE 2018 in Pittsburgh, PA, USA. A summary of activities of the K-14 Committee is provided below.

ASME Turbo Expo 2018 – Turbomachinery Technical Congress and Exposition, Norway Exhibition and Convention Centre, Lillestrøm, Norway, June 11-15, 2018

- The K-14 Committee Meeting was held Wednesday 13 June 2018. Attendance: 127, including 78 K-14 Committee Members, 6 new member candidates, and 43 non-member guests.

- **Bijay Sultanian** provided a Point of Contact Report for TURBO EXPO 2018, which included Vanguard Chair statistics regarding abstract numbers, draft paper numbers, final paper numbers, and session numbers. Bijay Sultanian extended a thank you to all those who volunteered, including 13 Vanguard Chairs, session organizers and co-organizers for 49 technical / tutorial sessions, and over 600 reviews for 201 technical papers.

- On behalf of Peter Childs, Best Paper Subcommittee Chair, Phil Ligrani presented the following *Best Paper* awards from K-14 Committee sponsored sessions in 2018.
  - GT2017-64994, “Film Cooling Effectiveness Comparison on Full Film Cooling Effectiveness Comparison on Full-scale Turbine Vane Endwalls Using PSP Technique,” paper co-authors: Chao-Cheng Shiau, Andrew F. Chen, Je-Chin Han, Salam Azad, and Ching-Pang Lee.
On behalf of the K-14 Gas Turbine Heat Transfer Committee, Phil Ligrani presented the following K-14 GTHT Committee Outstanding Service Awards: Bijay K. Sultanian and Nirm Nirmalan.


John Blanton was Topic Organizer for IMECE 2018, which was held in Pittsburgh, Pennsylvania, USA on November 9-15, 2018. Overall, 5 final papers were presented. The Session was titled “Gas Turbine Heat Transfer.” The Session Organizer Chair was Stephen Lynch and the Session Organizer Co-Chair was Andrew Nix.

The Gas Turbine Heat Transfer Committee meeting took place on Monday, November 12, 2017 from 7:30 to 9:00 PM in the Westin Hotel Somerset West room, 2nd Floor. Four committee members, two guests, and one Executive Committee Representative attended the meeting.

The Annual K-14 Gas Turbine Heat Transfer Committee dinner, during the TURBO EXPO 2018 meeting, was held immediately following the committee meeting at the Thon Hotel Lillestrøm in Lillestrøm Norway on Wednesday 13 June 2018. Approximately 80 individuals (including guests and spouses) attended.
K-14 Committee composition update (November, 2018):

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Membership</td>
<td>151</td>
<td>158</td>
<td>162</td>
<td>172</td>
<td>175</td>
</tr>
<tr>
<td>Academia</td>
<td>75</td>
<td>79</td>
<td>77</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Government</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Industry</td>
<td>64</td>
<td>66</td>
<td>71</td>
<td>75</td>
<td>64</td>
</tr>
<tr>
<td>K-14 ASME Fellows</td>
<td>58</td>
<td>60</td>
<td>69</td>
<td>67</td>
<td>65</td>
</tr>
</tbody>
</table>

John Blanton  
Chair, K-14

Marc D. Polanka  
Vice-Chair, K-14
The K-15 Committee remains very active in sponsoring sessions at the ASME heat transfer conferences: the 2018 International Mechanical Engineering Congress and Exposition (IMECE) in Pittsburgh, the 2019 Summer Heat Transfer Conference (SHTC) in Bellevue, and the 2019 IMECE in Salt Lake City. Members of the committee have also taken leadership roles in organizing the international heat transfer conferences such as the 2nd Pacific Rim Thermal Engineering Conference in Hawaii in December 2019.

Highlights of the committee members include:

- Committee Secretary Heng Pan at Missouri University of Science and Technology received the prestigious NSF CAREER Award on "Laser Direct Writing of Three-Dimensional Functional Nanostructures."
- Committee Chair Ying Sun has been promoted to Full professor, the first woman ever reached this level in Mechanical Engineering at Drexel University.
The **K-16 Committee** remains very active in sponsoring sessions at SHTC, IMECE and InterPACK conferences, in addition to the ITherm conference. This year, the K16 committee initiated an Additive Manufacturing Heat Sink Design Challenge for students. This initiative, led by Prof. Joshua Gess, saw 8 teams (2018) and 15 teams (2019) compete for designing 3D-printable heat sinks. Selected designs were 3D printed by GE Addworks and tested in Prof. Gess’ lab to determine the winner. Winners were recognized at InterPACK (2018) and ITherm (2019).

**Key achievements/recognitions of K16 members**
- Prof. Dereje Agonafer, elected to the National Academy of Engineering (NAE).
- Prof. Satish Kumar, elected Fellow, ASME.

The K16 Committee has elected Dr. Baris Dogrouz as the Committee Secretary. Dr. Dogrouz will begin his six year leadership term shortly, and will replace outgoing Chair Prof. SB Park.

**S.B. Park**  
Chair, K-16

**Peter de Bock**  
Vice-Chair, K-16

**Ankur Jain**  
Secretary, K-16
The K-17 Committee held its annual meeting on July 8th, 2018 during the 8th World Congress of Biomechanics (WCB) in Dublin, Ireland. The committee unanimously approved the minutes of our meeting from the 2017 Summer Biomechanics, Bioengineering, and Bio-transport (SB3C) meeting held in Tucson, AZ. The WCB2018 included exciting sessions organized by our K-17 committee members on bio-transport in diagnostics and therapeutics, brain bio-transport, cancer microenvironment and tumor transport, cryotherapy and cryopreservation (Boris Rubinsky 70th birthday session), hyperthermia and heat-mediated transport, microfluidics, modeling of bio-fluid transport, and nano-therapeutics and nanoparticle transport. Both our committee meeting and these technical sessions were well attended.

During the committee meeting, we discussed plans for the upcoming SB3C to be held in Seven Springs, PA from June 25-28, 2019, and for promoting members in our committee for academic services and recognitions such as journal editorship and ASME awards/fellowship. For the latter, we have formed an advisory committee consisting of senior members who are willing to volunteer their precious time to promote our committee members. We also discussed potential participation in the future ASME Nanoengineering in Medicine and Biology Conference, which is a great platform for our committee members to publicize their exciting work in nanotechnology. An update was also provided to the committee on member research accomplishments, awards, and promotions. Three newly elected ASME fellows (Charles Lee, Malisa Sarntinoranont, and Xiaoming He) from our committee were announced and recognized during the committee meeting. The Alliance of Advanced Biomedical Engineering (AABE) was also brought to the attention of our committee members at the meeting.
Prof. Nichole Rylander finished her 3-year term as the chair of our committee and her service is highly appreciated by the committee members. More recently, Prof. Rafael Davalos was elected as the Vice-Chair of our committee. I enjoyed working with Prof. Rylander in the past three years and am looking forward to working with Prof. Davalos to serve our committee in the coming three years.

Some exciting news of our committee members: Dr. Kenneth Diller is the recipient of the prestigious 2019 ASME Robert M. Nerem Education and Mentorship Medal; Dr. John Bischof was named director of the Institute for Engineering in Medicine at the University of Minnesota; Drs. Rupak Banerjee, Rafael Davalos, and Alisa Clyne were elected as a member of the American Institute of Medical and Biological Engineering (AIMBE).

Lastly, our committee organized six exciting podium sessions, and one special symposium on Thermal Damage Processes in Tissues to Celebrate Dr. John Pearce’s 70s birthday, for the upcoming SB3C 2019. We look forward to seeing you in Seven Springs, PA.
The **K-18 Committee** has done great in the past year in organizing various conferences under the leadership of the past committee chair: Prof. Qiuwang Wang. It did the leadership change in 2018 with the new committee chair of Prof. Xinwei Wang and associate chair of Prof. Zhiguo Qu. The committee actively sponsored a wide scope of conference tracks/sessions: ASME Summer Heat Transfer Conference (SHTC), ASME International Mechanical Engineering Congress and Exposition (IMECE), the 20th Symposium on Thermophysical Properties, and the 16th International Heat Transfer Conference with Prof. Qiuwang Wang as the delegate of AIHTC and co-chair of the Chinese Scientific Committee, and Prof. Qu as the secretariat.

We also actively collaborated with other committees to sponsor and organize sessions in other areas, including thermal transport in nanostructured materials. We, the K-18 Committee, always welcomes scholars of different stages to join the committee, broaden the scope of the research coverage, and significantly promote committee’s diversity.

Prof. Xinwei Wang has led his lab to develop a new promising technique: Energy Transport State-Resolved Raman (ET-Raman) for multi-physics probing and characterization down to picosecond and atomic scales:

The thermal diffusivity and anisotropic specific heat theories developed in Prof. Xinwei Wang’s lab, for the first time, explained the ultra-long phonon mean free path in the c-axis of graphene paper and graphite. It could be readily applied to other anisotropic materials to uncover the structure domain size determined by the low-momentum phonon scattering:

In addition to the topics organized at the SHTC and IMECE 2018, the joint organization of the sessions at the 20th Symposium on Thermophysical Properties (Boulder, CO) is also very exciting, and it covers various areas of research related to extreme situations, at the nanoscales, and in nanostructured materials. It has significantly promoted junior scholars’ participation and research dissemination.

Xinwei Wang
Chair, K-18
The **K-20 Committee** remains very active in sponsoring sessions at the two leading ASME heat transfer conferences: the Summer Heat Transfer Conference (SHTC) and the International Mechanical Engineering Congress and Exposition (IMECE).

The committee contains members at different stages of their careers, enabling senior members to share their experiences and expertise with new membership. To that end, new members and their ideas are always welcome. K-20 collaborates regularly with K-6, K-8, K-9 and the Fluids Engineering Division to create cross-cutting, cutting-edge areas for tutorials, panels, and sessions. Further collaboration with other committees and sections is always welcome and encouraged.

At the 2018 IMECE in Pittsburgh, K-20 offered sessions in Applications of Computational Heat Transfer, Methods in Computational Heat Transfer, and Thermal Management in Electronics (co-sponsored by K-16). A total of 18 papers were presented in these sessions.
At the 2019 SHTC in Bellevue, K-20 is sponsoring 4 sessions, and 2 tutorials. These include sessions in Applications of Computational Heat Transfer, Methods in Computational Heat Transfer, Computational Heat Transfer in Biological Systems, and Modeling Non-Fourier Heat Conduction.

The two tutorials will be taught be renowned experts in their fields, and are as follows:

- “Uncertainty Quantification and Validation,” Prof. Ashley Emery
- “Parameter Estimation and Inverse Analysis in Heat Transfer.” Dr. Kevin Dowding and Prof. Keith Woodbury.

Members of the K-20 committee continue to serve in leadership positions within the HTD and as associate editors. Prof. Mazumder, the Chair of K-20, serves as the Editor of the HTD newsletter and as an associate editor of the JTSEA. Prof. Emery serves as the Editor of the JVUQ, and Profss. Wemhoff, Lin, and Dowding serve as guest Associate Editors of the JTSEA.
The **K-22 Committee** participated in the 2018 ASME IMECE held in Pittsburgh, PA, USA on November 9-15, 2018 and sponsored two sessions with nine entries. Nenad Miljkovic (Univ. of Illinois at Urbana-Champaign) was elected as the new chair of the K-22 Visualization Committee. Chang Kyoung (CK) Choi (Michigan Tech.) was elected as the vice-chair.

The K-22 committee’s unique annual contribution to ASME *Journal of Heat Transfer* was also made through the publication of 4 entries for the March and 4 entries for the August issues of 2018, after peer-reviewed evaluation conducted by the participants, K-22 committee members, and *Journal of Heat Transfer* editors. A total of 20 poster entries were presented from the two conferences. The first review process was made for 9 entries presented from the 2017 Summer Heat Transfer Conference (SHTC) held in Bellevue, WA, on July 9 – 12, 2017.

The top 4 entries were identified for publication in the ASME *Journal of Heat Transfer* March issue of 2018. The second review process was conducted for 10 entries presented from the 2017 ASME International Mechanical Engineering Congress and Exhibition (IMECE) held in Tampa, FL on Nov. 3 – 9, 2017. The top 4 entries were identified for publication in the August issue of 2018 ASME *Journal of Heat Transfer*. The K-22 Visualization Technical Committee continues to host “Heat Transfer PhotoGallery” sessions to draw attention to innovative visualization techniques and aesthetic qualities of thermal and mass transport. Our hope is that the reader will enjoy these visualization Photogalleries, become familiar with state-of-the-art visualization techniques, and participate in future Photogallery sessions at IMECE and the Summer Heat Transfer Conferences.

**Nenad Miljkovic**  
Chair, K-22

**Chang Kyoung (CK) Choi**  
Co-Chair, K-22
The Heat Transfer Division (HTD) is closely tied to three archival ASME journals: the *Journal of Heat Transfer* (JHT), the *Journal of Thermal Science and Engineering Applications* (JTSEA), and the *Journal of Verification, Validation and Uncertainty Qualification* (JVVUQ).

The *Journal of Heat Transfer* disseminates information of archival value on the fundamentals of heat and mass transfer science. Contributions may consist of results from fundamental research that apply to thermal energy or mass transfer in all fields of engineering and related disciplines.

The *Journal of Thermal Science and Engineering Applications* focuses on the dissemination of information of archival value in applied thermal sciences and engineering.

The JHT and the JTSEA are complementary to one another.

The *Journal of Verification, Validation and Uncertainty Quantification* disseminates original and applied research, illustrative examples, and high quality validation experimental data from leaders in the field of VVUQ as applied to: design of experiments; computational models; and analysis of experimental results.

The publication of these journals would not be possible without the support and contributions of the Heat Transfer Division members.

The journals of the Heat Transfer Division maintain their quality by having generous and knowledgeable colleagues participate in the review process. If you feel that you can contribute as a reviewer, please inform the Technical Editors of the journals of your choice. They will see to it that a file is created for you and that the Associate Editors are informed of your interest to review, and your expertise. To those who have helped in this capacity, we extend a most grateful Thank You!
Special Issues are occasionally composed to highlight particular topics, often with papers from conferences on those topics. In 2019, the Journal of Heat Transfer will be processing the following specials issues:

- **2019 – Special issue for the Joint 19th International Heat Pipe Conference and the 13th International Heat Pipe Symposium;** Guest Editors: Manfred Groll, Fabio Bozzoli, and Maria Luisa Rossetto. This issue is scheduled for August 2019.

- **2019 – Symposium Honoring Dr. Portonovo Ayyaswamy’s retirement;** Guest Editors: Debjyoti Banerjee and Milind Jog. This issue was published in May 2019.

- **Special Issue Honoring Dr. Frank Kreith;** Guest Editors: Sati Sadhal, John Maulbetsch, and Raj Manglik. The focus of this issue is Advances in Heat Transfer, Energy Systems, and Sustainability.

- **Special Issue for ASME Micro/Nanoscale Heat and Mass Transfer Conference to be held in Dalian, China – July 2019**
Each year, the *Journal of Heat Transfer* honors individuals who provide the journal with outstanding reviews. The 2018 recipient of the *Outstanding Reviewer Award* was **Vítor Costa**, Universidade de Aveiro.

**Associate Editors (and the end dates of their terms)**

- Debjyoti Banerjee (2019), Texas A&M University
- Antonio Barletta (2021), University of Bologna
- Thomas Beechem (2020), Sandia National Laboratories
- Amy Fleischer (2020), Villanova University
- Bumsoo Han (2020), Purdue University
- Milind Jog (2019), University of Cincinnati
- Amitabh Narain (2021), Michigan Technological University
- Sara Rainieri (2020), Università degli Studi di Parma
- Xiulin Ruan (2021), Purdue University
- Guihua Tang (2021), Xi’an Jiatong University
- Evelyn Wang (2020), MIT
- Gognan Xie (2020), Northwestern Polytechnical University
- Yuwen Zhang (2020), University of Missouri
- Gennady Ziskind (2021), Ben-Gurion University
- Suresh Aggarwal (2022), University of Illinois at Chicago
- George S. Dulikravich (2019), Florida International University
- Zhixiong Guo (2019), Rutgers, The State University of New Jersey
- Ali Khounsary (2019), Illinois Institute of Technology
- Ravi Prasher (2019), Arizona State University
- Danesh K. Tafti (2019), Virginia Tech
The Journal of Thermal Science and Engineering Applications (JTSEA) continued its growth in 2018 and 2019. In 2018, the JTSEA published six issues with 1000 published pages (up from 600 pages in 2017). This growth continues in 2019 with another 1000 pages expected to be published. The total number of submitted papers broke an all-time record in 2018 with 660 papers submitted. Only 19% of all submitted papers were accepted with the rejection rate standing at 58% at the time this write-up is prepared. There are still 42 2018-papers at different stages of the review process. When these papers are processed, it is expected that the acceptance and rejection rates will be very close to the 2017 rates of 18% and 62%, respectively. The amount of time from submission to publication has been cut down to 6.65 months in 2018 (down from 9.76 months in 2017). There are currently three special issues in progress. The first of these special issues is on “Advances in Nanofluids: Modeling and Applications.” It will be published in the August 2018 issue. The primary Guest Editor is Professor Ali J. Chamkha of Prince Mohammad Bin Fahd University (Saudi Arabia). Other Guest Editors that contributed to the publication of this issue are Dr. Yit Fatt Yap of the Petroleum Institute (United Arab Emirates), Professor Aaron P. Wemhoff of Villanova University,
Professor Cheng-Xian (Charlie) Lin of Florida International University, Professor Gerard F. Jones of Villanova University, Dr. Ayyoub M. Momen of Oak Ridge National Laboratory, Professor T.S. Ravigururajan of Wichita State University, and Professor Sujoy K. Saha of IIEST Shibpur (India). This special issue is expected to have a maximum of 29 papers. There is a second special issue on the “11th International Conference on Thermal Engineering: Theory and Applications (ICTEA-11).” This issue will be a special section in the February 2020 issue with a total of eight papers. The Guest Editors of that issue are Professor Ziad Saghir of Ryerson University (Canada) and Professor Ibrahim Hassan of Texas A&M University at Qatar. A third special issue in progress is on “Micro/Nanoscale Heat and Mass Transfer.” It will contain selected papers from the 6th ASME Micro/Nanoscale Heat & Mass Transfer International Conference (MNHMT2019) which will be held in Dalian, China, from July 8 – 10, 2019. The Guest Editors are Professor Hongbin Ma of the University of Missouri along with Professors Yongchen Song and Xuehu Ma both of Dalian University of Technology, China. This issue will be published in June 2020 with an anticipated 20 papers to be included in it. As to special issues published in 2018 already, the February 2018 issue (Vol. 10, No. 1), was a special issue on “Heat Transfer Analysis in Processes of Developing and Applying Renewable Energies and Novel Materials (DARENM).” The issue contained 15 papers and its Guest Editors were Professor Giulio Lorenzini of the University of Parma (Italy), Dr. Qingang Xiong of Fiat-Chrysler Automobiles, and Professor Jingchao Zhang of the University of Nebraska-Lincoln.
On February 1, 2018, four Associate Editors retired: These are Professor Giulio Lorenzini of the University of Parma (Italy), Professor Pedro J. Mago of Mississippi State University, Professor Pradip Majumdar of Northern Illinois University, and Professor Ali Siahpush of Southern Utah University who all served one three-year term. On July 1, 2018, eight more Associate Editors retired. These are Professor Sandra Boetcher of Embry-Riddle Aeronautical University (one term), Dr. Alexander L. Brown of Sandia National Laboratories (two terms), Professor Ali J. Chamkha of Prince Mohammad Bin Fahd University (Saudi Arabia – one term), Dr. Amir Jokar of Exponent Inc. (one term), Professor Ranganathan Kumar of the University of Central Florida (two terms), Professor Wei Li of Zhejiang University (China – one term), Dr. Samuel Sami of TransPacific Energy Inc. (two terms), and Professor Ting Wang of the University of New Orleans (two terms). A one-year extension was granted to Professor Boetcher, Dr. Brown, Professor Chamkha, Dr. Jokar, Professor Kumar, Professor Li, Professor Mago, Dr. Sami, and Professor Wang to help the Journal in processing the many papers that are submitted. Sincere thanks go to all retired Associate Editors.

There are currently only seven Associate Editors on the editorial board. These are Dr. Steve Q. Cai of United Technologies Corporation, Professor Matthew R. Jones of Brigham Young University, Professor Webb J. Marner of the University of California-Los Angeles, Professor Sandip Mazumder of the Ohio State University, Professor Matthew Oehlschlaeger of Rensselaer Polytechnic Institute, Professor Nesrin Ozalp of the University of Minnesota-Duluth, and Professor Carey J. Simonson of the University of Saskatchewan (Canada).
The ASME *Journal of Thermal Science and Engineering Applications* is indexed and abstracted in the Science Citation Index Expanded (also known as SciSearch), Journal Citation Reports/Science Edition, and Current Contents/Engineering Computing and Technology. The Journal has been indexed since January 2013 with Volume 5, No. 1. The 2018 Impact Factor for the Journal has been released on June 21, 2019 and stands at 1.115 (Five-year Impact Factor is 1.347). This is a nice increase of 12%. The 2018 number of citations has increased by 31% over the 2017 numbers (from 484 citations in 2017 to 633 in 2018). The 2019 Impact Factor will be released in June 2020. The Impact Factor is a metric measuring the number of citations for papers published in the journal in two consecutive years divided by the number of papers published in the journal in the same two-year period. For this journal, the period corresponding to the 2018 data (released in June 2019) is from January 2016 to December 2017 while the 2019 data (when released in June 2020) will be reporting on the period January 2017 through December 2018. The 2018 Immediacy Index stands at 0.652 and is the fourth highest among all 33 ASME journals. The Immediacy Index is the average number of times an article is cited in the year it is published. The journal Immediacy Index indicates how quickly articles in a journal are cited.

On July 1, 2019, I am stepping down after serving for five and half years as Editor (January 1, 2014–June 30, 2019). I must also say that I served as Associate Editor from 2011-2014. I am excited to announce that Professor Srinath V. Ekkad of North Carolina State University will take on the position of Editor starting July 1, 2019.
Professor Ekkad is a past two-term Associate Editor for the Journal, so he is well versed in the operation of the Journal. Professor Ekkad is a highly accomplished researcher, teacher, and scholar. He is currently Department Head and the RJ Reynolds Professor of Mechanical and Aerospace Engineering at North Carolina State University. Before joining NCSU, he was Professor of Mechanical Engineering at Virginia Tech for many years. I am confident that the Journal will continue to grow and flourish under his able leadership.

There is a cadre of ASME staff working behind the scenes to make my job and those of the Associate Editors, reviewers, and authors easy. I am indebted to all of them as I found them eager to assist me and all involved in a most professional and efficient way. I would like to especially thank Ms. Beth Darchi who handles all issues pertaining to operating the Journal Toolbox, Ms. Jennifer Smith who works in the Journals Production Department, and Ms. Tamiko Fung who handles copyright issues and page charges among other things. I also want to thank Mr. Phillip Laskaris who among many other things ensures that all published papers have the correct authorship and ensures compliance with the many regulations and laws of publishing. Of course Mr. Colin McAteer and Mr. Philip di Vietro have always been there in case I needed any help to operate the Journal. I extend my sincere thanks to both of them for their unfailing support throughout the past five and half years.
The Journal would not exist without the many hours of work put forth by the authors, reviewers, and Associate Editors which complement the many hours put forth by ASME staff. Like other ASME journals, JTSEA is no exception in that both volunteers and staff work harmoniously together to present an excellent product for researchers and engineers in the area of applied thermal sciences and engineering. If you want to be involved as a reviewer feel free to contact me with your CV and I will see to it that your name is added to the reviewers’ database. My contact email and phone number are sasherif@ufl.edu and 1-352-392-7821, respectively. After July 1, 2019, please contact the new Editor, Professor Srinath V. Ekkad at sekkad@ncsu.edu.

Dr. S.A. Sherif
Editor, Journal of Thermal Science and Engineering Applications
The Journal of Verification, Validation and Uncertainty Quantification (JVVUQ) is sponsored jointly by the Heat Transfer Division and the Fluids Engineering Division of the ASME.

The JVVUQ disseminates original and applied research, illustrative examples, and high quality validation experimental data as applied to: Design of experiments; Computational models; and Analysis of experimental results. The journal is a great platform to publish papers on simulation and experiments in Heat Transfer.

Since its inception in 2014, 195 papers have been submitted to the journal, of which 79 have been published, and 61 have been rejected (32% rejection rate). In the first half of 2019, 17 papers were submitted to the journal, and 9 are still in review.

The rate of submission dropped slightly during the last half of 2018. The Editors and ASME Publications staff have been discussing ways to increase the popularity of the journal. ASME generated a publicity campaign, video and email, but the response by Heat Transfer participants has not been as much as anticipated. In addition, it appears that many authors do not recognize that the validation efforts that they employed in their studies are of interest to our readers.
The journal has a low rate of rejection. This is partly due to the efforts of the Associate Editors to help authors improve their papers so that they communicate important ideas to the readers. While this effort is salutary, it also means that the review process is substantially longer than desired. This effect will diminish as the number of papers submitted grows and more Associate Editors are used.

The Aim and Scope of the journal has been revised to include the following statement: “We encourage authors of papers that describe discipline specific models and experiments to consider formulating their papers in two parts, the discipline specific part to be published in their home journals and the part describing the validation and uncertainty aspects of their work that would be published in the VV&UQ Journal.”

We believe that this approach would be especially relevant to members of the Heat Transfer Division whose papers frequently involve validation and uncertainty quantification.

I also encourage any division members who know of conferences that are likely to involve presentations/papers that involve validation or uncertainty to email me (emery@uw.edu) with the conference information. I can then identify and contact prospective authors.

Dr. Ashley Emery
Editor,
Journal of Verification, Validation and Uncertainty Quantification