

HEAT TRANSFER DIVISION

Fall 2004

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

Chair's Letter



The American Society of Mechanical Engineers (ASME) Heat Transfer Division (HTD) had a successful 2003 Summer Heat Transfer Conference (SHTC) in Las Vegas, July 19–23, 2003. We are grateful for the efforts of the Conference Chair Michael Jensen and the Conference Technical Chair Van Carey.

This conference focused on improving the format and on reducing costs. We had over 336 papers and the attendance was 460, including 101 student members. During the meeting the Max Jakob Memorial Award, which is given jointly with the American Institute of Chemical Engineers (AIChE), was presented to Jogesh Jaluria.

The Technical Program Chair for The Heat Transfer Division (HTD) at the IMECE 2003 in November 16–21, 2003 Washington, D.C. was Russell Skocypec. HTD participated in the congress by sponsoring 62 sessions resulting a total of 234 papers (5 poster, 14 technical presentations, and 215 technical publications). There were 50 technical sessions, 7 panels, 2 poster sessions and 3 open forums. HTD collaborated with other divisions and sponsored

joint sessions with Process Industries Division (PID) and Bioengineering Division (BED) and some intra-HTD sessions. The forums on “Strategic Planning” and “Forum on Past, Present, and Future of HTD” were among the successful activities.

In July we had the 2004 ASME Heat Transfer/Fluids Engineering Summer Conference. This conference was organized jointly with the Fluids Engineering Division (FED) and co-sponsored by AIChE. There are approximately 550 papers. We scheduled an open forum by the HTD Executive Committee to discuss the future of HTD. The conference was held at the Westin Charlotte & Convention Center, Charlotte, North Carolina, on July 11–15, 2004. For the HTD-side the Conference Chair was Yildiz Bayazitoglu and the Technical Program Chair was Raj Manglik. For the FED side the Conference Chair and the Technical Program Chair was Sankaraiyer Gopalakrishnan. The AIChE Conference Chair was Lawrence Golan and the Technical Program Chair was Joel Plawsky. The draft program schedule for the conference is posted on the conference web page at: <http://www.asmeconferences.org/HTFED04/index.cfm>

The 2004 ASME IMECE (WAM) will be held at the Anaheim Hilton, Anaheim, CA on November 13–19. (<http://www.asmeconferences.org/congress04>) The HTD sessions are scheduled starting on the first Saturday. Although this starting date made some members unhappy, the HTD Technical Program Chair Michael Jensen is diligently working with the session organizers to have another successful meeting.

The final arrangements for the 2005 Summer Heat Transfer Conference (SHTC 2005) are made. The conference will be co-located with InterPACK on July 17–21, 2005 and will be held at the St. Francis Hotel, San Francisco, CA. The SHTC 2005 Conference Chair is Russell Skocypec and the Technical Program Chair is Cristina Amon.

The organizational efforts have started for the ASME-JSME Thermal Engineering Conference in 2007. The Conference Chairs are assigned by both ASME and JSME (Japanese Society of Mechanical Engineer). Rod Douglass is

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**Any sufficiently
advanced technology is
indistinguishable from magic.**

– Arthur C. Clarke

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the ASME-side Chair and Katsunori Hanamura is the JSME-side Chair. This conference will be led by our division.

2006, Guwahati, Assam, India. (2) ASME-ATI-UIT Symposium on Ther-

version, July 3–8, 2005, Xi'an Shaanxi, China. (4) International Thermal Sci-



Dr. Yildiz Bayazitoglu presents the ASME Heat Transfer 2002 Classic Paper Award to **Dr. Warren Robsenow** at the 2003 IMECE in Washington, DC



Dr. M. Michael Yovanovich accepts the 2003 Heat Transfer Memorial Award for Art from **Dr. Yildiz Bayazitoglu**



Dr. Yildiz Bayazitoglu presents **Dr. James Welty** with the 2003 Heat Transfer Memorial – General – Award



Dr. Dimos Poulidakos
Dr. Poulidakos was selected as the recipient for the 2003 Heat Transfer Memorial Award for Science

During the year HTD also approved sponsorship of the following international conferences: (1) Seventh ISHMT-ASME Heat and Mass Transfer Conference, January 4–6,

mal-Fluid-Dynamics and Energy Engineering, September 18–22, 2005, Rome, Italy. (3) Fifth International Symposium on Multiphase Flow, Heat and Mass Transfer, and Energy Con-

ference Seminar II, June 13–16, 2004, Bled, Slovenia.

Under the leadership of the Technical Editor, Vijay Dhir, the ASME J. of

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Heat Transfer has remained one of the most popular publications. Because of its high manuscript submittal history, as of January 2004, it is approved to be a monthly publication.

Please note that our new award, the Bergles-Rohsenow Young Investigator Award in Heat Transfer, has already been established last year and this year nominations are received.

During the past year, I had the opportunity to follow the outstanding achievements of the ASME Heat Transfer Division Members. They are too many and difficult to cover in this letter. However I will try to present some of them to you very briefly.

The Heat Transfer Division had its Banquet at the IMECE meeting on November 2003. The site to view banquet photos is: <http://www.asme.org/divisions/htd/gallery/index.html>. Certificates were presented to the retiring 2002-2003 HTD Chair Yogesh Jaluria and to the retiring HTD Committee Chairs, A. Emery (K-2), James V. Beck (K-3), Patrick H. Oosthuizen (K-8), Theodore Bergman (K-9), Adrienne G. Lavine (K-15), Cristina H. Amon (K-16), Zhuomin M. Zhang (K-18), James A. Liburdy (K-19), and Sumanta Acharya (K-20).

Nesreen Ghaddar, S.C. Lau, Andreas Mandalis, Paulo Lage, and Sati S. Sadhal were recognized as our 2003 JHT Outstanding reviewers, and Haim Bau, Van P. Carey, Mohammad Faghri, John Georgiadis, G.P. Peterson, Russell D. Skocypec as our JHT retiring associate editors.

R.V. Devireddy, D.J. Smith and J.C. Bischof received the 2002 HTD Best Paper Award for their paper "Effect of Microscale Mass Transport and Phase Change on Numerical Prediction of Freezing in Biological Tissues," published in the Journal of Heat Transfer, April 2002, p. 365-374.

The classic paper award was given to the contribution "A Method of Correlating Heat Transfer Data for Surface Boiling Liquids," Trans. ASME, Vol. 74, pp. 969 - 975, 1952, which was authored by a very familiar name to our heat transfer community, Warren Rohsenow. I was honored and was very happy to hand the award plaque to Professor Rohsenow.

The 2003 ASME Heat Transfer Memorial Award recipients were Dimos Poulikakos (science), M. Michael Yovanovich (art), and James Welty (general). During their acceptance speech we enjoyed listening to their special memories.

Our HTD Banquet speaker, Dr. John M. Logsdon of George Washington University enlightened the audience on the "Reflection on the Columbia Accident Investigation" before we adjourned.

Among other achievements our members Fu-Chu Chou, James F. Klausner, Mohammad H. Naraghi, Larry W. Swanson, Essam E. Khalil, Jose L. Lage, Rengasamy Ponnappan, Robert G. Watts and Brent W. Webb received the fellow Award from ASME during 2003-04.

I am sure you will agree with me that our division, the HTD (<http://www.asme.org/divisions/htd/>) is one of the ASME's best-prepared divisions for its productive inter-divisional collaboration to promote interest. We have made it known that our readiness for collaboration extends to the entire country and to the world. We are well known with our encouragement of students to attend conferences and present their contributions. Many of our HTD members are at the forefront of fruitful research, engineering and the product development. They have crossed the boundaries between disciplines and spread to many different areas and we are very proud of them. We are involved in several collaborative programs with other divisions.

Our K-Committees have developed several very successful sessions during the conferences. The following outstanding committee members chaired the K-Committees (in parenthesis) during 2003-04. Newsletter Editor G.A. Jacobi; Heat Transfer Division Home Page Editor Y. Tao; Long Range Directions & Issues in Heat Transfer (K-2) S. Yao; Honors and Awards Committee (K-3) P. Ayyaswamy; Coordination Committee (K-5) Y. Bayazitoglu; Committee on Heat Transfer in Energy Systems (K-6) M.S. Sohal; Committee on Thermophysical Properties (K-7) R.T. Jacobsen; Com-

mittee on Theory and Fundamental Research (K-8) P.H. Oosthuizen; Committee on Heat Transfer Equipment (K-10) A. Muley; Committee on Fire and Combustion (K-11) L.A. Gritzko; Committee on Aerospace Heat Transfer (K-12) S. Thynell; Committee on Heat Transfer in Multiphase Systems (K-13) C. H. Oh; Committee on Gas Turbine Heat Transfer (K-14) (Jointly with IGTT) R.S. Bunker; Committee on Transport Phenomena in Manufacturing and Materials Processing (K-15) K. Alam; Committee on Heat Transfer in Electronic Equipment (K-16) D. Price; Committee on Heat and Mass Transfer in Biotechnology (K-17) J. C. Bischof; Committee on Low Temperature Heat T (K-18) Y. Tao; Committee on Environmental Heat Transfer (K-19) S. A. Sherif; Committee on Computational Heat Transfer (K-20) T. Rhodes; Committee on Education (K-21) P. Norris; Committee on Visualization of Heat Transfer (K-22) K. D. Kihm and Membership Development and Recognition Committee N. K. Anand.

ASME's re-organization planning (known as ASME's Continuity and Change) began during IMECE 2003 at Washington DC. If interested, please refer to <http://www.asme.org/change> for details. During the same meeting, the Basic Engineering Group (BEG) Operating Board formally approved a motion to investigate the feasibility of forming an Institute under this Continuity and Change plan. As part of the feasibility study, a draft Business Plan for an Institute for Engineering Science consisting of the six divisions prepared by the Vice President of Basic Engineering Carl Herakovich was: Applied Mechanics, Bioengineering, Fluid Mechanics, Heat Transfer, Materials and Tribology. In addition, the Council of Engineering (COE) formally approved moving the Materials Division into the BEG effective immediately during its meeting on March 5, 2004. The feasibility study for the Institute will continue to move forward with the development of the business plan, bylaws and financial analysis with the goal of having a

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final draft available for consideration by Fall 2004. Carl Herakovich's initiative has been taken over by our new Vice President of Basic Engineering Richard Buckius on July 1, 2004. All divisions including HTD will be asked to indicate their desire to participate in the Institute by the 2004 IMECE. I encourage the HTD community to attend to the Open Forum related to the organization change during the ASME IMECE, Monday, November 15, 2004 from 8am to 12 noon. Although we face some uncertainties concerning the future of the division, we will seek for the opportunities and present the best to the division members.

The HTD Executive Committee (EC) has a strong interest in promoting quality in its division activities. Please note the following duties of the EC members during the next appointment year. While continuing to handle the HTD's technical affairs at the IMECE 2004 meeting, Michael K. Jensen will be the Vice Chair of EC. Rod W. Douglass will pass his Treasurer duties over to our new EC member, Chang Oh. Timothy

W. Tong will continue his duties as the Secretary. Our incoming Chair is Russell D. Skocypec and I am sure he will be in touch with you soon. Yogesh Jaluria will be retiring as our Past Chair and I know that you will join me to express our deep appreciation for his efforts, time, and guidance and for his superb work during his tenure.

On 16th of June, we have learned that Edison Aulestia, Senior Program Manager, Engineering Programs of ASME International, is no longer employed by ASME. Edison's and his assistant Carol Griffin's efforts and their support to our division were very valuable. We will miss him and wish him the best for his future endeavors.

This has been an eventful year, so much that this letter cannot mention of them. It has been a great honor and privilege to serve you as the Chair of the ASME / HTD.



Dr. Raj Manglik is recognized by Dr. Bayazitoglu for his contributions as Technical Program Co-Chair for the 2004 Heat Transfer/Fluids Engineering Summer Conference.



Dr. Yildiz Bayazitoglu (HTD Chair 2003-2004) and Dr. Russell Skocypec (HTD Chair 2004-2005) at the 2004 ASME Heat Transfer/Fluids Engineering Summer Conference.

Yildiz Bayazitoglu

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"Although we face some uncertainties concerning the future of the division, we will seek for the opportunities and present the best to the division members."

— Yildiz Bayazitoglu

2005 Heat Transfer Summer Conference**July 17-22, 2005 Westin St. Francis Hotel, San Francisco, CA, USA**

The Heat Transfer Technical Conference and Exhibition is an International Forum for the Exchange of State-of-the-Art Knowledge in Research and Application of Heat, Mass and Momentum Transfer in all fields of Mechanical Engineering, Chemical Engineering, Nuclear Engineering and Related Technologies.

Sponsored by **ASME** with the participation of the American Institute of Chemical Engineers (AIChE).

Conference Objectives

The Heat Transfer Conference addresses issues facing the automotive, aerospace, chemical, nuclear, biotechnology, electronic and energy markets. The exchange of technical information will occur in areas ranging from energy to electronic systems; on the research front from computational and numerical methods to multi-phase phenomena. A complete list of topics is available on the conference web site: www.asmeconferences.org/htipack05/HTCFP.cfm. Technical information will be presented in unique forums and archived in electronic conference proceedings.

Conference Planning Committee Members

Conference General Chair: Russell D. Skocypec, Ph.D., Sandia National Lab

Conference Program Chair: Cristina H. Amon - Sc.D., Carnegie Mellon University

ASME HTD Organizing Committee: Heng Ban, J.P. Delplanque, Ahmad Fakheri, Amy Fleischer, S. Mostafa Ghiaasiaan, Matthew Jones, Tien-Chien Jen, Muhammad Rahman, S.A. Sherif, Neil Wright, and Lili Zheng

AIChE Co-Chair: Joel Plawsky, Ph.D., Rensselaer Polytechnic Institute;

Program Co-Chair: Mohamed El-Genk, Ph.D., University of New Mexico

Abstract Submittal

Authors should submit a 400-word text-only abstract to the 2005 Heat Transfer site when it is available in September.

Abstract Submittal Deadline: December 3, 2004

Short Paper Abstract Submittal Deadline: March 1, 2005

**For more information including
complete paper submittal deadline and list of tracks, please visit**

<https://www.asmeconferences.org/htipack05/HTCFP.cfm>

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**Nothing will work
unless you do.**

– Maya Angelou

www.asme.org/divisions/htd

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