ASME International

Three Park Avenue, New York, NY 10016-5990

MED

Manufacturing Engineering Division Newsletter

John Roth, Editor ***Fall 2001***

Message from the Chair

Greetings to all MED members! It is my great pleasure and honor to provide some opening comments for our division's newsletter. In what some of my MED colleagues may feel is highly repetitious, I will begin with some background regarding the goals and objectives of ASME and the Manufacturing Engineering Division. I continually promote this Dilbertesque exercise to provide some focus to our volunteer efforts. Many talented, enthusiastic, and committed members with very diverse technical/professional backgrounds and interests populate our division. To ensure that we collectively maximize the benefit from our participation in ASME and MED, I feel it is important to maintain a common framework to guide our actions. Without some focus, it is easy to spread our attention and efforts, both individually and collectively, among so many topics that we may hinder our ability to achieve the objectives of MED and/or our purpose for membership.

So, what IS the purpose of ASME and MED? Why did you join ASME, and specifically MED? I am sure there are many unique personal answers for the latter question. Some of the reasons technical professionals join societies such as ASME are to keep abreast of technology development, to network with other colleagues, to exchange technical information, and to serve their profession. In recent years, ASME and all of its associated divisionshave worked to address the former question. If you have skimmed through your membership packet, *Mechanical Engineering* magazine, or visited the ASME web site (www.asme.org), you are probably familiar with the following. ASME strives to promote the art, science, and practice of mechanical engineering by promoting and enhancing the technical competency of its members, and by delivering quality programs and activities in mechanical engineering. Within the realm of mechanical engineering, the Manufacturing Engineering Division is concerned with the creation of products, and, consequently, the knowledge base of manufacturing sciences and technology and its application for improved production performance (see the ASME web site for full version!). The scope of MED is intended to include the entire field of manufacturing engineering, from machine tools to production planning.

Well, how are these fancy words and lofty goals translated into reality? Through you! The division relies almost exclusively on the active involvement of its members to achieve its objectives and fulfill the expectations of our other members. Technical conferences, workshops, and technical papers are a few of the major "products" of MED targeted atfulfilling our objectives. There is also a significant effort towards web-based communication (see the MED web site at www.asme.org/divisions/med).

Each year, MED sponsors and organizes numerous technical symposia at IMECE. In addition to technical presentations, there are several panel sessions and a Student Manufacturing Engineering Design competition. These sessions are proposed, organized, and chaired by MED members. The symposia and panels reflect the diverse interests of our membership, and provide a great opportunity to hear and discuss new technology developments, trends, and applications. A summary of IMECE 2000 held in Orlando, Florida can be found at our division's web site, and a preview of IMECE 2001 is contained within this newsletter. MED members are also very involved in several other international conferences, such as the North American Manufacturing Research Conference and the Japan-USA Symposium on Flexible Automation.

Technical publishing is another major activity of the division. The *Journal of Manufacturing Science and Engineering* is the archival publication of our division, and is one of the most well known and respected international journals in manufacturing. Under the stewardship of Shiv Kapoor, technical editor of the journal, dramatic improvements in the review process, publication speed, and publication quantity have been achieved.

The majority of the planning for our division activities occurs during general membership and executive committee meetings. These meetings are held twice annually, once during the North American Manufacturing Research Conference (late May) and again during IMECE (mid November). It is readily apparent that the "products" of MED primarily serve the more technical and/or academic members of the division. Throughout my involvement in ASME, there has been on going discussion regarding industrial participation during the general membership and executive meetings. Within the pool of active volunteers in MED, there is a strong and sincere desire to serve the needs of all MED members, not just those with an academic bent. This situation represents a classic "Catch-22." Without greater involvement from industrial members at MED events/meetings, it is difficult to create offerings that better match their interests or needs. However, the current content at the primary MED technical conferences does not always attract industrial members. Since division planning occurs at these meetings, the cycle continues. For the long-term benefit of our membership, it is important to provide on-going value to all our members. We continue to make changes to the committee structure within the division to (1) improve our "products" to the membership, and (2) maximize the benefits from our volunteers' efforts.

Now, finally, some relevance to my opening comments! Since the MED output is largely a volunteer effort, a tight focus with a few specific objectives is

critical. We are evaluating all the technical committees, and will add/delete committees as appropriate. Please see the on-line survey to express your opinion. We have created specific objectives for each technical committee (see article in newsletter) and have combined some committees to streamline efforts. The discussion and changes will continue at IMECE 2001. I welcome your suggestions and feedback regarding MED.

The other members of the Executive Committee are Amit Bagchi (Vice-Chair), Jun Ni, Scott Smith, and Dave Stephenson (incoming member). Edison Aulestia and Carol Griffin provide exceptional ASME staff support. John Roth is the editor of the newsletter, and deserves special recognition for all his efforts. Thank you to all for your dedicated contributions.

I also look forward to your active participation in the division and thank you in advance for your efforts. There is no shortage of volunteer opportunities within ASME and MED! I hope to see you at IMECE 2001! Like everything in life, you only get out as much as you put in.

Richard J. Furness, Chair
ASME-MED Executive Committee 2001 – 2002

MED Technical Committee Changes

Several years ago, the Manufacturing Engineering Division of ASME established Technical Committees to provide technical leadership and organize technical symposia, panel discussions, and/or workshops in areas of interest to MED members. To better serve the needs of the MED membership, new responsibilities have been added to the MED Technical Committees (TC). Starting with the Fall 2001 on-line newsletter (http://www.asme.org/divisions/med/newsletter), each TC will complete a yearly update that describes the recent advances in their respective area. The TC Update is expected to include: i) a synopsis of important conference events and presentations, ii) breakthrough hardware and software developments, iii) a review of seminal paper contributions, and iv) a plan for TC activities during the coming year.

Every three years each TC will present a paper at the IMECE (the paper will also appear in the conference proceedings). This paper will identify important recent advances or achievements, discuss the "state of the art" in the area, pinpoint trends or directions, and identify research gaps or promising areas for future research. In light of their increased responsibilities, the TCs have been charged to expand to include at least 6 members. To become active in one of the technical committees, please contact the indicated committee chair (the Congress for which the TC paper has been planned is also listed):

Computer Integrated Manufacturing & Robotics: C. James Li – 2003
Education: K. (Subbu) Subramanian – 2001, 2004
Manufacturing Sys. Management & Optimization: Shane Hong – 2004
Machine Tools: Eric Marsh – 2002
Sensors & Controllers, Steven Liang – 2002
Electronics Manufacturing: I. Charles Ume – 2004
Materials Processing: S. Jack Hu – 2003
Emerging Areas of Manufacturing Engineering: Matt Davies – 2003

The MED is constantly evaluating the Technical Committee structure to ensure that it adequately covers the topics of interest to MED members. A Technical Committee Information Survey has been included in the e-newsletter to allow MED members to provide feedback on the Technical Committees: http://www.asme.org/divisions/med/tcfeedbackform.html/ . Please pass along your comments!

Jun Ni, Member, MED Executive Committee
John Sutherland, Past Chair, MED Executive Committee

MED Membership Meeting at IMECE 2000 at Orlando, FL

Honors and Awards

Inyong Ham Receives the William T. Ennor Manufacturing Technology Award

INYONG HAM, Ph.D., distinguished professor emeritus of Industrial Engineering at Pennsylvania State University at University Park, PA, received the William T. Ennor Manufacturing Technology Award.

Over the past four decades, Ham has been a pioneer in the development and application of the concept of Group Technology, which has significantly influenced the implementation of modern CIM systems. His fundamental contributions in CAPP have also been cited as the cornerstone of system integration technologies between design and manufacturing.

Ham has often been referred to as the "Father of Group Technology," not only because of his valuable research in this discipline, but because of his tireless efforts in educating students and practicing engineers on the practical and cost-effective use of Group Technology. His research results represent the basis of many of the productivity improvement programs being implemented by industrial worldwide.

Editor's Note: A memorial to Dr. Ham appears on page 5 of this issue.

Barney E. Klamecki Receives the Blackall Machine Tool and Gage Award

BARNEY E. KLAMECKI, Ph.D., professor and associate division director, University of Minnesota-Twin Cities (Minneapolis, MN.), received the Blackall Machine Tool and Gage Award in recognition of his paper, "Residual Stresses and Workpiece Deformation Due to Polishing and Plating of Computer Hard Disk Substrates," which presents the first complete description of the development and distribution of residual stresses in part produced by electroplating and subsequent polishing.

In the mid-1990s, Klamecki spent four summers with IBM working on data storage device manufacturing processes. Much of the experimental work that led to his paper, which was published in ASME's Journal of Manufacturing Science and Engineering (Vol. 121, Feb., 1999), was done at IBM. Klamecki's paper exemplifies the use of classical analytical techniques and modern measurement and gaging techniques to study and understand the flatness of ultraprecision finished surfaces of interest to modern industry.

The ASME Honors Committee is charged with reviewing and evaluating candidates for both of the William T. Ennor Manufacturing Technology Award and the Blackall Machine Tool and Gage Award. More details on these awards, how to submit nominations, and on the honors committee in general can be found at the site http://www.asme.org/divisions/med/awards.html, by contacting the Chair of the Honors Committee, Kamlakar P. Rajurkar, iermraju@engunx.unl.edu, or by contacting ASME directly.

Kamlakar Rajurkar, Chair, ASME MED Honors Committee, 2001-2002

2002 IMECE in New Orleans

2002 IMECE (November 17-22, 2002; New Orleans, Louisiana) will feature two major tracks sponsored by the Manufacturing Engineering Division, Manufacturing at the macro, meso and micro levels, and Manufacturing systems and optimization. A complete list of symposia, with contact information, is provided in the following paragraphs. Authors are required to submit five copies of their full manuscript to the appropriate symposium organizer by *February 1, 2002* for peer review per ASME guidelines. Notification of paper acceptance for the conference proceeding will be made by May 25, 2002. Camera-ready manuscripts are due June 15, 2002. For further information about any symposium, please contact each individual organizer. It is highly recommended that you notify the symposium organizer by *October 30, 2001 of* your intention to submit a paper. For general information, please contact Prof. Jian Cao (jcao@northwestern.edu, Tel: 847-467-1032) or Prof. William Endres (wjendres@mtu.edu, Tel: 906-487-2567) or refer to the information on the web at: http://www.asme.org/divisions/med/newsletter/IMECE02.html

Symposium on Mixed-Scale (NANO/MICRO/MESO) Manufacturing

Over the past 40 years, there has been a growing emphasis in manufacturing research on the fabrication of devices with diminishing length scales. Microelectronics, MEMS, µTAS and microtechnology-based energy and chemical systems (MECS) are but a few of the mixed-scale technologies which rely on integrated nano/micro/meso-scale features to enhance physical system performance. For example, within microelectronics, nano-scale gates are embedded within micro-scale circuits which are connected to meso-scale wire bonding pads. Similarly, in MECS, nanocrystalline catalysts can be placed within non-silicon microchannels which connect to meso-scale plenums and fluidic connectors to create efficient, portable microreactors. The ability to integrate electrical, fluidic and other types of physical systems using many different materials at mixed length scales is expected to provide a number of important functions where a premium is placed on mobility, compactness, or point application. Example application areas include high-speed electronics cooling, hydrogen separation for automotive fuel cells, portable power generation for mobile/wearable computing, in situ waste remediation, and high-yield pharmaceuticals among others. Any mixed-scale manufacturing colleagues working in any material systems (including silicon) are encouraged to submit papers to help bring mixed-scale manufacturing to the forefront of manufacturing research.

Prof. Brian K. Paul, Oregon State University, Industrial and Manufacturing Engineering, 118 Covell Hall, Corvallis, OR 97331-2407, Tel: 541-737-7320, Fax: 541-737-5241, Email: paulbk@engr.orst.edu

Prof. Mike L. Philpott, University of Illinois, Mechanical and Industrial Engineering, 1206 W. Green Street, Urbana, Illinois 61801, Tel : 217-244-3184, Fax : 217-244-6534, Email : mphilpot@uiuc.edu

Symposium on Advanced Surface Engineering and Manufacturing for Macro, Micro and Nano Systems

The symposium will include papers/presentations on the following subject, but not limited to: Coatings for cutting tools and advanced machining; Laser and ion beam processing of ceramics, polymers and other materials; Advanced coating processes; Scale-up of coating technologies and manufacturing of surfaces; Surface effects on reliability of micro and nano systems; Predictive surface engineering and related modeling; Nano structured surfaces and coatings.

Prof. Ajay P. Malshe, Department of Mechanical Engineering, MEEG 204, University of Arkansas, Fayetteville, AR 72701; Tel: 501-575-6561; Fax: 501-575-6982; E-mail: apm2@engr.uark.edu.

Symposium on Automotive Body Joining and Assembly

The automotive body assembly is a complex process that typically involves joining about 300 sheet components made from a variety of materials in nearly 100 assembly stations. Nevertheless, the body joining and assembly area is among the least researched in all automotive manufacturing fields. New technologies are in great demand now more than ever since automotive manufacturers and supplies are striving to reduce cost and lead-time, improve safety, quality, and reliability in an increasingly more competitive marketplace. This symposium invites original academic and industrial research and development ideas and work in the following areas: (1) Automotive Body Materials, including steels, aluminum and magnesium alloys, polymers and composites, and other advanced materials; (2) Body Joining Technologies, including welding (e.g., resistance spot welding, laser welding, GMAW, friction welding, friction stir welding, and hybrid welding), hemming, bonding, and mechanical fastening; (3) Assembly Tooling and Processes, including fixturing, stacking/buffering, transportation, shipping and handling. Though the primary focus of this symposium is on automotive assembly for sheet components, sub-assemblies and Body-in-White, applications in other areas such as aerospace and furniture industry are also strongly encouraged.

Prof. Zhongqin Lin, School of Mechanical Engineering, Shanghai Jiaotong University, 1954 Huashan Rd., Shanghai 200030, P.R. China. Tel: 86-21-6293-3093, Fax: 86-21-6293-2674, Email: zqlin@mail.sjtu.edu.cn.

Dr. Wenjia "Wayne" Cai, GM R&D Center, Mail Code 480-106-359, 30500 Mound Road, Warren, MI 48090-9055. Tel: 810-986-1478, Fax:810-986-0574. E-mail: wayne.cai@gm.com.

Symposium on Benchmark of Machining Process Simulation Models

Call for Participation -- this symposium will be composed of two discussion panel sessions featuring presentation and discussion of some of the predictions submitted as part of the Assessment of Machining Models (http://www.nist.gov/amm/) effort. Researchers interested in presenting predictions of the validation data set are requested to notify the symposium organizers of their desire to present results as part of this symposium by February 1, 2002.

Dr. Rob Ivester, Manufacturing Metrology Division, NIST, 100 Bureau Drive, Stop 8223, Gaithersburg, MD 20899-8223; Tel: 301-975-8324; Email: ivester@nist.gov.

Dr. Shounak Athavale, Ford Scientific Research Laboratory, Dearborn, MI 48121, Tel: 313-621-0718, Email: sathaval@ford.com

Symposium on A Glimpse Into the Future of Sheet Metal Forming

As with all standard manufacturing processes, sheet metal forming practice is currently undergoing dramatic changes in response to new technologies and market forces. The overall goal of these changes is to reduce the cost and lead-time of tooling development, reduce production costs, increase process flexibility, and increase overall forming accuracy. New technologies being developed by both academic and industrial research teams include, but are not limited to, rapid prototyping and tooling methods (e.g., layer manufacturing, reconfigurable tools), advanced FEA process simulation capabilities, more accurate material constitutive models, new sheet materials (e.g., tailor-welded blanks), new forming methods (e.g., laser forming), advanced workholding methods (e.g., reconfigurable fixtures), new cutting methods (e.g., AWJ, laser, high definition plasma), and the application of closed-loop process control. Market forces include the proliferation of lean and agile manufacturing practices, and shorter product life cycles. This session invites papers where authors are asked to extrapolate about the future of sheet metal forming in any of the aforementioned technologies based on academic and industrial research trends.

Prof. Daniel F. Walczyk, Department of Mechanical, Aeronautical & Nuclear Engineering, Rensselaer Polytechnic Institute, 110 8th Street, Troy, NY 12180-3590; Tel: 518-276-2397; Fax: 518-276-2623; E-mail: walczd@rpi.edu.

Dr. Apostolos Karafillis, GE Aircraft Engines, 100 Western Ave., Lynn, MA 01910; Tel: 781-594-3638; Fax: 781-594-0927; E-mail: apostolos.karafillis@ae.ge.com.

Symposium on Process Planning and Process Optimization

Effective planning and optimization increases part quality and process efficiency with small capital expenditure. When careful consideration is paid to both process and system capabilities, it becomes possible to fully exploit the available resources while maintaining required accuracies and process performance. Recent developments in process technologies highlight the need for a continued focus on planning and optimization strategies. This symposium will provide a forum for university and industry collaboration on current developments in manufacturing process planning and optimization. Contributions are solicited in all aspects of planning and optimization with application to both traditional and nontraditional manufacturing processes. Topics of interest include, but are not limited to, path planning and feedrate scheduling for 2-, 3-, and 5-axis machining, parameter optimization, layout and part orientation, tool and fixture selection, and operation planning. Processes of interest include, but are not limited to, high-speed machining, solid freeform fabrication, nontraditional manufacturing processes, and MEMS fabrication.

Prof. James A. Stori, Department of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign, 140 Mechanical Engineering Bldg., 1206 West Green Street, Urbana, IL 61801, Tel: 217-244-7762, Fax: 217-244-6534, Email: jastori@uiuc.edu.

Dr. Michael Bieterman, Mathematics and Computing Technology, The Boeing Company, P.O. Box 3707, MC 7L-21, Seattle, WA 98124-2207, Tel: 425-865-3862, Fax: 425-865-2966, Email: michael.bieterman@boeing.com.

Symposium on Advances to Further the Automation of Metal Removal Processes

This symposium focuses on advances in research that aid in the automation of metal removal processes, elimination and control of quality variation in production, and optimization of the metal removal processes. Topics include: Feedback and control of machine tools to maintain product quality; Advances in tool life prediction, modeling & monitoring; Instability / Chatter modeling and/or monitoring of the metal removal process; Surface & profile analysis; Automated feature, tolerance & quality monitoring and/or assessment; Mechanistic modeling; Signal processing techniques to aid in ramp-up and increased throughput; CAD/CAM based software development to aide in the optimization and understanding of the metal removal process.

Prof. John T. Roth, Department of Mechanical Engineering, Penn State Erie, Station Road, Erie, PA 16563, Tel: 814-898-7587, Fax: 814-898-6125, Email: jtr11@psu.edu.

Dr. Philip Szuba, Director of Research and New Product Development, Lamb Technicon Machining Systems, 5663 E. Nine Mile Road, Warren, MI 48091, Tel: 810-497-6131, Fax: 810-497-6216, Email: psszuba@lambtech.com.

Symposium on Wafer Processing

Semiconductors have become an increasingly powerful economic force throughout the world today, particularly as the applications of integrated circuits continue to expand, and competition steadily escalates in high-technology development. Semiconductors are the enabling technology of the information revolution. The industry is expected to grow through the next decade and beyond. Semiconductor wafer processing involves a sequence of physico-chemical processes to fabricate three-dimensional microstructures on the surface of wafers of single-crystal silicon. Examples of these processes include photolithography, thin film etching, thin film deposition and chemical mechanical polishing. Wafer fabrication factories have a high degree of process difficulty and manufacturing complexity. Typical semiconductor factories may have from one to ten major fabrication process flows and may produce 20,000 or more wafers per month. Papers are invited in the following suggested (but not limited to) topics: Wafer throughput models; Wafer scheduling in cluster systems; Robotic wafer handling and sensing technologies; Advances in chemical mechanical polishing; Sensors for in-situ metrology; and Environmental factors in semiconductor processing.

Prof. Ranga Narayanaswami, 2019 Black Engineering Building, Industrial and Manufacturing Systems Engineering, Iowa State University, Ames, IA 50010; Tel: 515-294-8730; Fax: 515-294-3524; Email: ranga@iastate.edu.

Dr. Mukund Srinivasan, LAM Research Corporation, 4650 Cushing Parkway, Fremont, CA 94538; Tel: 510-572-5831; Fax: 510-572-6087; Email: mukund.srinivasan@lamrc.com.

Special Sessions on Emerging Technologies for Manufacturing

Prof. John. Roth, Dept. of Mechanical Eng., Penn State Erie, Station Road, Erie, PA 16563, Tel: 814-898-7587, Fax: 814-898-6125, Email: jtr11@psu.edu

Dr. Bernie Yokiel, Sandia National Laboratories, P.O. Box 5800, Mailstop 0958, Alberquerque, NM 87185; Tel: 505-284-4285; Email: bjokie@sandia.gov

Panel Discussion on e-Manufacturing: Global Perspective and Collaboration

For the past decade, the impact of web-based technologies has added *"velocity"* to the design, manufacturing, and after market service of a product. Today's competition in manufacturing industry depends not just on lean manufacturing, but also on the ability to provide customers with lean service and life-cycle costs for sustainable value. With emerging use and applications of Internet and wireless communication technologies, the impact of e-Intelligence is forcing companies to shift their manufacturing operations from the traditional factory integration model to an e-Business environment. This transformation is dependent upon the advancement of next-generation manufacturing practices on *"e-Manufacturing system"* which is focused on the use of web-enabled technologies for achieving global leadership in six-sigma product manufacturing productivity for the 21st century. This Panel is organized to address emerging technologies and system requirements in e-Manufacturing System. The presentation discusses how to design manufacturing systems using web-enabled intelligence technologies. In addition, research needs and focuses for future product design, manufacturing and service strategies are introduced. Finally, Design of e-Intelligence System for making e-Business work in today's manufacturing environment will be discussed.

Prof. Jay Lee, Department of Industrial and Manufacturing Engineering, University of Wisconsin-Milwaukee, 3200 N Cramer St., EMS E309, Milwaukee, WI 53211, Tel: 414-229-5304; Fax: 414-229-6958; Email: jaylee@uwm.edu

Prof. Zhang Shengshen, College of Mechanical Engineering, Shanghai Jiao Tong University, Shanghai, China 200030; Tel: 86-21-62932021, Fax: 86-21-62933536; Email: sszhang@mail.sjtu.edu.cn

Symposium on Virtual Manufacturing

The aim of this symposium is to bring together scientists, engineers, and others with diverse disciplinary and professional backgrounds who are concerned with virtual Manufacturing and to promote both fundamentals and applications.

Topics of particular interest to guide prospective contributors include, but are not limited to, are as follows:

- Virtual Factory (Process Planning, Cost Calculation, Factory Simulation)
- Digital Manufacturing and Processes.
- Virtual Prototype.
- Virtual Humans Modeling and Ergonomics (Computational human performance measures, Injury prediction/simulation using human modeling systems, Haptics and human-in-the-loop simulation).
- Virtual Reality for Manufacturing Applications.

Dr. Bilal Maiteh, Virtual Environment Lab, Advanced Development Group (ADG), Delphi Interior Systems, M/C 480-009-T60, 1401 Crooks Road, Troy, MI 48084; Tel: 248-655-8453 Email: bilal.y.maiteh@delphiauto.com

Prof. Pat Banerjee, The Department of Mechanical Engineering (M/C 251), University of Illinois at Chicago, 3029 Engineering Research Facility, 842 W. Taylor Street, Chicago, Illinois 60607-7022; Tel: 312-996-5599, Email: banerjee@uic.edu

2002 Student Manufacturing Design Competition: Call for Projects

The Student Manufacturing Design Competition Committee is now accepting projects for the 8th Annual Student Manufacturing Design Competition (SMDC) in New Orleans, LA. Original student designs that focus on manufacturing engineering and science are sought. Any design of a system, component, or process that can be used to promote the art, science and practice of manufacturing engineering is acceptable. Technical design areas include, but are not limited to: computer integrated manufacturing and robotics; machine tools, sensors and controllers; manufacturing systems management and optimization; materials processing; and new areas of manufacturing engineering.

Project descriptions should be submitted by May 16, 2002. Finalists selected from the entrants (individual or group) will be expected to give an oral presentation of their project at the International Mechanical Engineering Congress and Exposition in New Orleans, LA.

The use of visual aids and demonstration of actual working models are highly encouraged. A project may be entered in the competition by submitting three copies of a project description by May 16, 2002, to:

K. Scott Smith
University of North Carolina at Charlotte
Department of Mechanical Engineering
9201 University City Boulevard
Charlotte, NC 28223-1000
Email: kssmith@uncc.edu

Delcie Durham & 2000 1st Place Winner - Yong-Tai Im

2000 2nd Place Winner - John R. Milos & Delcie Durham

MED Mourns the Loss of Two of its Distinguished Members

William Bothwell Rice (1918 - 2001)

Dr. W. B. Rice died March 8, 2001, after a brief illness. He was a Professor Emeritus at Queen's University, Kingston, Ontario. Dr. Rice, a Fellow of ASME and former Chair of the Production Engineering Division of ASME, was a faculty member of Queen's University since 1950.

Dr. Rice is widely recognized for his contributions as a teacher and a pioneer researcher in the field of production processes in Canadian Universities. He was a Fellow and Past-president of the Engineering Institute of Canada, was a member of CIRP, and was active in founding the Canadian Society for Mechanical Engineering, serving as its President in 1981-82.

A Fellow of the Society of Manufacturing Engineers, he was a founder of NAMRI and was the Chairman of the Scientific Committee during its first eight years and President of the North American Manufacturing Research Institution of SME in 1983-84.

Dr. Rice drew strength throughout his long career from his family life and his strong Christian faith. His wife, Hilda, predeceased him, and his three children survive him.

Inyong Ham (1925 - 2000)

On November 23, 2000, Dr. Inyong Ham died at his home in State College, Pa. Dr. Ham was this year's recipient of the William T. Ennor Manufacturing Technology Award for his significant and pioneering contributions to the development and application of the Group Technology concept; for effective implementation of Computer Integrated Manufacturing, and for playing a leading role in developing and promoting Computer Aided Process Planning (CAPP).

Since 1958, he was associated with Penn State, retiring from his position as a professor of industrial engineering in 1995. Ham was a Fellow of ASME and served as chair of the Production Engineering Division (1977). He also was a Fellow of the Institute of Industrial Engineers and the Society of Manufacturing Engineers. He served as president of both NAMRI (1984-85) and CIRP, International Institution for Production Engineering Research (1994-95).

Those of us who knew him well will always remember his friendship, insight, and ability to light up any situation or event with his humor and singing.

Upcoming IMECE 2001 at New York, NY: November 11 – 16, 2001

The MED IMECE program consists of 8 symposia organized by 11 MED members, with the cooperation and participation of 4 ASME members from the Heat Transfer Division, Applied Mechanics Division, and MEMS Subdivision. Of the 66 papers submitted for review, 53 papers were accepted for presentation at the symposia. All accepted papers had at least two favorable peer reviews. These papers are distributed across 15 MED sessions. The distribution of the papers and their statistics are shown in Table 1. The complete MED program can be found in the Congress 2001 site of ASME on the WEB.

A large number of papers were submitted in the area of machining. Some papers deviated from the theme of *Fundamental Issues in Machining* announced in the call for papers. Consequently, the Program Committee decided to add a symposium on *Current Research in Material Removal Processes* to accommodate these papers, and Drs. Vis Madhavan and Robin Stevenson voluntarily took the responsibility of organizing this symposium.

In order to broaden the horizon of manufacturing from metals and plastics to other non-conventional areas of manufacturing, 9 panel sessions have been scheduled at the IMECE, six of which are classified as Highlight/Industry sessions. Some of these stretch the boundaries of manufacturing to encompass pharmaceuticals and heart valves. Others consider the impact of globalization on manufacturing paradigms for technology development, control and dissemination. Three of the symposia have a panel session added to their paper sessions. The panel sessions in Electronics and Electronics Packaging will address different transport issues that affect product design and manufacturing. Table 2 lists the panels and their organizers.

Two sessions have been assigned to the Student Manufacturing Design Competition. Dr. Jun Ni has finalized the list of presentations, which will be made Thursday, November 15, from 7:45 to 11:00 AM.

MED Technical Committees were charged by the Executive Committee to produce a paper summarizing the state of the art in their specialty areas for all MED members. The first paper came from the Technical Committee on Education. This paper was treated as a special paper and included in the MED proceedings in a special section. The Executive Committee expects that each future MED proceeding will include reports or papers from two Technical Committees in turn.

The MED General Membership Meeting will be held on Thursday, November 15, from 5:30 to 7:00, followed by the MED Reception. The MED Banquet will also be on Thursday from 7:30 to 9:30 PM. All awards will be presented at the banquet. The MED Executive Committee invites all members to attend the meeting and the banquet.

The Technical Committee Chairs meeting with the Executive Committee and the IMECE 2002 Program Committee is scheduled from 1:00 to 5:00 PM on Thursday, November 15.

Amit Bagchi, MED 2001 IMECE Program Chair

Table I: IMECE 2001 Symposia and Proceedings

Symposium Title (Organizers)	Papers Submitted	Papers Accepted	Papers Rejected	Invited Papers (Presentation only)
Modeling, Sensing and Controlling Micro-Machining Processes (Roth & Pratt)	3	3	0	0
Nontraditional Manufacturing (Yao & Chen)	13	11	2	0
Fundamental Issues in Machining (Madhavan & Stevenson)	15	14	1	0
Current Research in Material Removal Processes (Stevenson & Madhavan)	11	6	5	0
Fabrication and Testing of MEMS (Mou & Lee)	3	3	0	0
Controls, Equipment and Technology for On-Machining Inspection (Drescher & Donmez)	7	3	4	1
Material Development and Utilization in Forming (Cao, Xia & Pan)	9	8	1	0
Industry-University Educational Partnerships (Wiens & Grider)	3	3	0	1
Poster Paper (Hong)	1	1	0	0
Student Manufacturing Design Compeititon Posters (Ni)	11	8	3	--
Technical Committee Sponsored Papers (Subramanian)	1	1	0	--

Table II: IMECE 2001 Panel Sessions and Special Sessions

Panel / Special Session Title	Organizers
Student Manufacturing Design Competition	Ni
Transport and Thermo-Mechanical Issues that Arise in the Manufacturing and Development of Electronic Packages	Sammakia & Ramakrishna
Industry-University Educational Partnerships for the New Millenium: Experiences and Lessons Learned	Wiens & Grider
Manufacturing of Biomedical Implants and Devices	Davies
2001, A Manufacturing Odyssey: Impact of Globalization on Technology Requirements	Athavale
Emerging Technologies and Research Issues in Non-traditional Manufacturing	Yao & Smith
Assessment of Machining Models	Ivester & Furness
Impact of Analysis and Understanding of Machining at a Fundamental Level	Stevenson & Madhavan

2003 IMECE in Washington, DC: Call for Symposia

Symposium proposals are solicited for the 2003 International Mechanical Engineering Conference and Exposition (IMECE). The 2003 IMECE will be held November 16 - 21 in Washington, DC.

Proposals are sought that respond to each of the technical areas below:

- Computer Integrated Manufacturing and Robotics
- Education
- Electronics Manufacturing
- Emerging Areas of Manufacturing Engineering
- Machine Tools
- Manufacturing Systems Management and Optimization
- Materials Processing
- Sensors and Controllers

In addition, symposium proposals are welcomed on other topics of interest to the division members. Each proposal should consist of a brief description of the technical focus, a list of specific topics to be covered, and an estimate of the number of papers expected. The proposals should be submitted by two co-organizers. It is expected that the organizers will have different professional backgrounds, *e.g.*, one organizer from the industry or research laboratory and one organizer from a university.

Symposia proposals should be submitted by March 15, 2002. If there are any questions, please contact Bill Endres at:

William J. Endres
Michigan Technological University
Dept. of Mechanical Engineering - Engineering Mechanics
1400 Townsend Drive
815 R.L. Smith ME-EM Building
Houghton, MI 49931-1295
Tel: 906-487-2567 Fax: 906-487-2822
Email: wjendres@mtu.edu

Pictures from IMECE 2000 in Orlando, FL

Journal of Manufacturing Science

It has been almost fifteen years since the Journal of Manufacturing Science and Engineering (formerly known as the Journal of Engineering for Industry) became the Manufacturing Engineering Division's journal. The JMSE has been a real success, and I predict that it will continue to grow, improve, and prosper. We all should be proud of our colleagues and Division Executive Committee members who have contributed tremendously toward this success. The number of papers submitted and the number of pages published have been growing steadily. Overall, the Journal is enjoying rising levels of participation both from the United States as well as foreign countries. This, of course, has given the Journal a wide variety of material to be introduced to the manufacturing community. In fact, in the past ten years, papers have been submitted in areas ranging from traditional metal cutting and forming to new laser and nano-scale manufacturing.

The success of a technical journal depends upon the dedication and hard work of its editorial staff. The associate editors have been working tirelessly to reduce the review portion of the cycle without sacrificing the quality and reputation of the Journal. However, we all have the responsibility to review papers carefully and to do it in a timely manner. In the past year Professor Ehmann and Professor Elbestawi have each completed two, three-year terms as associate editors. Four new associate editors, Dr. Matthew Davies of the National Institute of Standards and Technology, Professor Steven Schmid of the University of Notre Dame, Professor Albert Shih of North Carolina State University, and Professor Yung C. Shin of Purdue University have agreed to serve the Journal. As in previous years, the editorial board has selected five outstanding reviewers: Professor Yusuf Altintas, Dr. Erhan Budak, Dr. Michael Karabin, Professor Dr.-Ing. Frank Vollertsen, and Professor Guangming Zhang. The names of the nearly 300 people who reviewed papers in the year 2000, the outstanding reviewers for 2000, an index of the papers published from 1991 through 1999, and a list of the authors of those papers appeared in February 2001 issue of the Journal.

Financially, the Journal is in a healthy state. However, I encourage every member of the Division to subscribe to the Journal. As a member, you can subscribe to the Journal for less than 7 cents a page. This is an investment that I believe will be very beneficial. As always, I welcome suggestions as to how the quality of the Journal might further be improved. Please send your comments to me at s-kapoor@uiuc.edu.

It has been my pleasure to serve the Journal as editor for two, five-year terms. Over the past ten years I have been assisted by 43 associate editors, many of whom were willing to serve more than one, three-year term. I want to express my appreciation for their dedicated service. The service of the almost three thousand people who have either reviewed papers or offered to review papers has been invaluable. I will complete my term as editor at the end of 2001. The ASME Publication Committee has been actively searching for an editor for the term beginning January 1, 2002. Upon the announcement of their selection, I hope you will join me in welcoming the new editor and I hope he or she will find the editorship to be as rewarding an experience as I have found it to be. I will continue serving the Journal but after January 1, 2002, in a capacity lesser than editor.

Shiv Kapoor, Technical Editor, Journal of Manufacturing Science and Engineering