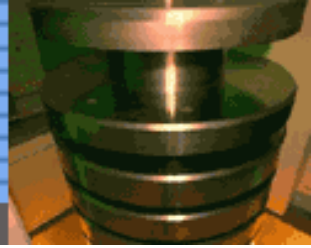




# Manufacturing Engineering Division



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## On-line News Update

Welcome to the MED On-line News Update! This On-line News Update represents MED's continuing effort to provide its membership with quick communication on current events that pertain to manufacturing engineering. This web page will be updated as news becomes available. Since this is your news update, comments and suggestions are encouraged to make the news update as beneficial as possible. Also, if you are aware of events or topics that you would like to see included in this on-line news update, please e-mail the information to the MED Newsletter Editor.

**Wei Li, Newsletter Editor**  
December 18, 2007, 2007

### [Message from the Chair](#) - Mike Molnar



Mike Molnar

Dear Colleagues:

I am pleased to share that our division is active, strong, and growing in membership. Our premier technical conference – the International Manufacturing Science and Engineering Conference (MSEC) successfully completed its second year, hosted very capably by our friends at Georgia Tech. Seven technical committees remain active including new Bio Manufacturing committee. And our technical journal, the ASME Journal of Manufacturing Science and Engineering, is...[\(read more\)](#)

### News and Reports

- [MSEC 2007 Post-Conference Report](#) - by Robert Williams and John Roth
  - [Best Paper Award](#)

- [Best Organizer of Symposium & Session \(BOSS\) Award](#)
- For conference speech slides and photos, visit <http://www.pmrc.gatech.edu/IMSEC/> (courtesy of Steven Liang)
- [IMECE 2007 Post-Conference Report](#)  
by Brad Kinsey

## Upcoming Events

- **NSF CMMI Grantee Conference**  
2008 NSF Engineering Research and Innovation Conference will be held January 7-10, 2008 in Knoxville, TN. For more information, please visit <http://www.cmmigranteeconference.org/index.htm>
- **NAMRC 36**  
The 36<sup>th</sup> North American Manufacturing Research Conference (NAMRC 36) will be held May 20-23, 2008 at Tecnologico de Monterrey, Monterrey, Mexico. For more information, please visit <http://cidyt.mty.itesm.mx/namrc/>
- **MSEC 2008**  
MSEC 2008 will be held October 8-11 at Northwestern University. For more information, please visit <http://msec2008.northwestern.edu/>

## Special Announcements

- [S.M. Wu Research Implementation Award nominations - nominate a deserving colleague](#)

## [ASME International - Manufacturing Engineering Technical Division Leadership Team](#)

This page is maintained by: [Wei Li](#)

## Chair's Message



Dear Colleagues:

I am pleased to share that our division is active, strong, and growing in membership. Our premier technical conference – the International Manufacturing Science and Engineering Conference (MSEC) successfully completed its second year, hosted very capably by our friends at Georgia Tech. Seven technical committees remain active including new Bio Manufacturing committee. And our technical journal, the ASME Journal of Manufacturing Science and Engineering, is strong and growing.

Wait a minute. The newspapers consistently say that manufacturing (as well as structured professional organizations like ASME) is in chronic decline. What's going on here? Much of this is misperception with a healthy dose of confusion.

First, we are an international division and manufacturing the world over is generally booming. Most of our members reside in the United States and

here is where misperception is rampant. US industrial production has never been higher, hitting a record in 2007 (see sources such as the Federal Reserve's G.17 data of US Industrial Production). Newspapers headline plant closures and to be sure there are many companies struggling and sectors undergoing change. It really is hard to believe that the US is today still the world's largest manufacturer. Depending on the data, China will overtake that claim next year or will in a few years, yet as we have seen again and again this is not a zero sum game and both countries will flourish.

Our US sited conferences are international, and we partner with other sister organizations worldwide. Next year for example we are holding MSEC jointly with the Japanese Society of Mechanical Engineers (International conference on Materials and Processing) in Chicago, and are partners with the Chinese Mechanical Engineering Society on Frontiers in Design and Manufacturing in Guang Zhou, China.

Second, change is threatening, yet when have we not been in a period of change? The "new" idea of creative destruction (introduced in 1942 by the economist Joseph Schumpeter) has never been more true – innovation and disruptive technologies change the game and for the betterment of society. Large, vertically integrated companies are under stress and have been outsourcing the manufacturing of parts or products which are not strategic or where they are uncompetitive. All those outsourced manufactured items are still being made but now by someone else who is more efficient. The net result is a marvel of efficiency and productivity which serves to raise the standard of living writ large.

Manufacturing engineering is at the core of this multi-decade story of continuous improvement and higher productivity levels. Exciting new process technologies will enable amazing new future products, and make more efficient the products of today. I saw today news of a 1 terabyte personal computer hard drive which will be available early next year. It reminded me that I was very proud of my second computer, which had an amazing 10mb hard drive (the first had no hard drive). This was purchased when I was an engineering intern at IBM designing automation for making... hard drives. Visionaries I met then in the 1980's did foresee very large drives, but the idea of a single drive with a terabyte capacity for a mainframe was revolutionary – let alone for a personal computer. The product and process technologies responsible for this example product is simply amazing, and due to engineering. Look closely at virtually any sector today and you will see similar stories of transformational development.

Lastly, the concept of sustainable development is becoming mainstream. Here too manufacturing engineers have a key role. I have heard this described in complex ways, down to a simple idea – look at the total system including the full lifecycle costs of a product. Lifecycle here would expand to consider the design, manufacturing, sale and distribution, service, repair or remanufacturing, and retirement (reuse, recycle or dispose) of products. What we consider as part of the system is certainly expanding, and for the betterment of society. This is why I remain bullish about manufacturing and manufacturing engineering.

Yes, things continue to change. The best way for an engineer to remain competitive is to stay on top of new technologies, acquire and sharpen skills, and continue growing a professional network. And on that count, professional organizations like ASME and the Manufacturing Engineering Technical Division are strategic enablers. This is why I remain bullish about ASME and our division.

With very best wishes for a safe and productive 2008

Michael F. Molnar PE FASME

Cummins Inc.

Chair - ASME Manufacturing Engineering Division, 2007-08

# MSEC 2007 Post-Conference Report

## 2007 ASME International Manufacturing Science & Engineering Conference (MSEC) Final Report Updated Post-Conference

**Program Chair: Professor Robert Williams, University of Nebraska-Lincoln**  
**Program Co-Chair: Professor John Roth, Penn State Erie, The Behrend College**

### Technical Program Summary

Number of final organized symposia: 17  
 Number of abstracts accepted: 154  
 Number of abstracts rejected: 6  
 Number of draft papers received: 139  
 Number of papers accepted: 118  
 Number of papers rejected: 21  
 Number of abstract/papers withdrawn: 35 (approximate, some were duplicate submissions)  
**Number of final manuscripts received: 118**  
**Paper acceptance rate: 85%**

Number of paper sessions: 31 (3, 4 or 5 papers per session)  
 Number of panel sessions\*: 2  
 Student design competition sessions: 2

### Panel Session Details

1. Challenges in Micro and Nanomanufacturing, Xiaoping Yang, Cummins, Gloria Wiens, Florida and Mark Jackson, Purdue
2. Rapid Manufacturing Using Metal Additive Technologies: Applications, Challenges and Directions, Frank Liou, Missouri-Rolla, Kevin Chou, Alabama, and Mary Kinsella, Air Force Research Lab

### Technical Paper and Panel Presentations at MSEC

The final number of sessions and accepted papers for each symposium are listed in the table below.

No.	Proposal Title	Organizers	MED Technical Committee	Final Papers Accepted	Sessions
1	Advances in Rapid Manufacturing Technologies for Metallic Parts	Dr. Kevin Chou, UA and Dr. Mary Kinsella, AFRL	MP	7	2 paper, 1 panel
2	SFF for Biomedical and Tissue Engineering	Dr. Wei Sun, Drexel, Dr. David Rosen, GT and Dr. Stephen Summit, Dental Implant Tech.	MP, BM	9	2
3	Miniaturization of Molding and Casting Processes	Dr. Dong Yao, GT and Dr. Yie Zhao, Alcoa Automotive Casting	MP	8 + keynote	2
4	Hybrid Macro/Meso/Micro Manufacturing Processes	Dr. Tugrul Ozel, Rutgers and Dr. Andrew Trimmer, GE	MP	12	3
5	Thermally-Enhanced Manufacturing	Dr. Frank Pfefferkorn, UW and Dr. Jay Rozzi, Creare Inc.	MP	9 + keynote	2
6	Micro-Manufacturing for Fabrication of Sensors	Dr. Ru-Min Chao, National Cheng Kung Univ. and Dr. Peter Chang, ITRI	ME	3	1
7	Communication Systems and Distributed Control in the Manufacturing Enterprise	Dr. Laine Mears, Clemson and Dr. Jeannie Falcon, National Instruments	MS	2 + tutorial	1

8	Collaborative and Digital Manufacturing for Advancing Product Quality	Dr. Weiming Shen, Integrated Manufacturing Research Inst. and Drs. Yunfeng Zhang and Jerry Y.H. Fuh, National Univ. of Singapore	QR	4	1
9	Diagnostics, Performance Prediction and Decision Making for Intelligent Maintenance of Manufacturing Systems	Dr. Dragan Djurdjanovic, UT, Dr. Haxia Wang, Univ. of Cincinnati and Dr. Fred Discenzo, Rockwell Automation	QR	9 + 2 from Symp 17	3
10	Advances in Quality Control in Multistage Manufacturing Systems	Dr. Dragan Djurdjanovic, UT and Dr. Charles Sheridan, Intel	QR	8	2
11	“Bottom-up” Nanomanufacturing	Dr. Brian Paul Oregon St., Dr. Daniel Palo, Pacific NW National Lab, and Dr. Susana Lai-Yuen, USF	NM	4	1
12	Biomedical Manufacturing	Dr. Wei Li, UW and Dr. Biaoyang Lin, Institute for Systems Biology	NM, BM	5	1
14	Development and Applications of Micro Manufacturing Equipment	Dr. Shih-Ming Wang, Chung Yuan Christian Univ. and Dr. Jong-Kweon Park, KIMM	ME	13	3
15	Design and Operations of Manufacturing Systems for Responsiveness	Dr. S. Jack HU, UM and Dr. Samuel Marin, GM	MS	6	2
16	Advances in Metal Forming	Dr. Kuniaki Dohda, NIT and Dr. Guosong Lin, UM	JSME	11	3
17	Fracture Reliability of Fabricated Materials	Dr. Yoshiharu Mutoh, NUT and Dr. Su Hao, NW	JSME	2	Shared with #9
18	Advances in Synergistic Effects of Materials and Processing	Dr. Katsuhiro Maekawa, Ibaraki Univ. and Dr. Desiderio Kovar, UT-Austin	JSME	6	2

MP: Manufacturing Processes, ME: Manufacturing Equipment, MS: Manufacturing Systems, QR: Quality & Reliability, LCE: Lifecycle Engineering, NM: Nanomanufacturing, BM: Biomanufacturing, JSME: Japanese Society of Mechanical Engineers, Materials and Processing Division

## **Best Paper Award**

- Each symposium organizer was asked to nominate 1-2 of their best papers for the award based on the reviews. Approximately 14 papers were nominated from various symposia.
- The Program Chair and Co-Chair short listed 9 of the papers based on careful review of the papers and the reviewer comments.
- All of the symposium organizers and TC chairs were asked to rate the papers on a scale of 1-100 (100 being best). Eight ratings were received and compiled by the Program Chair and ranked according to the average rating.
- The top rated paper was chosen for the award. This was paper number 31039, **“Fuzzy Logic-based Drilling Force Control in a Network-based Application”** by **R. Haber, R. Haber-Haber, A. Alique and A. Jimenez**. The Best Paper Award was handed out at the MED Banquet on October 16.

### **Best Organizer of Symposium & Session (BOSS) Award**

- The Program Chair and Co-Chair short listed 2 symposia organizers based on the following criteria: organizational effort, promptness, participation in various program development steps, enthusiasm, and quality of the symposium. After discussion, **the organizers of Symposium #1, Prof. Kevin Chou and Dr. Mary Kinsella, were selected for the award.** The BOSS Award recipients were acknowledged at the MED Banquet.

# IMECE 2007 Post-Conference Report

IMECE 2007 Proceedings and IMECE 2007 Newsletter 99-95, Seattle, WA

Symposium Title	Symposium Organizers	IMECE Technical Committee	ASME Division Co-sponsor	Total Papers Accepted	Number of Sessions	Number of Presentations Scheduled	
Advances in Materials Forming	Daryl Knezy, UNL, and Zhenli	Manufacturing Processes	Applied Mech. Division	7	2	8	
Traditional and Non-Traditional Machining Processes	Kunze, Sibley, and Robert Iwanski, NIST	Manufacturing Processes	Applied Mech. Division	20	5	21	
Structural Development of Polymers in	Yan, Giesch, and Yong Huang	Manufacturing Processes	Materials Division	5	2	8	
Materials in Expressing Applications	NCAET, Yong Huang, Chikmani, and	Manufacturing Processes	Materials Division	7	2	8	
			<b>Totals:</b>	<b>39</b>	<b>11</b>	<b>45</b>	

## S.M. Wu Research Implementation Award nominations - nominate a deserving colleague

Dear friends and colleagues:

I hope all is well. This is a reminder that nominations are due soon.

I am writing to invite your nomination of a candidate(s) for the S. M. Wu Research Implementation Award. The award recognizes outstanding original research presented as a paper at the annual North American Manufacturing Research Conference (NAMRC) and subsequently, upon implementation, had a significant commercial and/or societal impact. The award nomination submission deadline is December 1. More information can be found at the [S. M. Wu award web site](#). There are also links to past honorees and to the history of NAMRC presentations from 1973 to the present that you will find helpful.

I encourage you to look around for colleagues deserving of this recognition. The award is presented during the NAMRI/SME Awards Luncheon at **NAMRC** - the premier international forum for academic research and industrial applications in manufacturing. If you have any questions please contact me by phone: 1-404-894-8164 or e-mail: [steven.liang@me.gatech.edu](mailto:steven.liang@me.gatech.edu) or Mark Stratton of SME, phone: 1-313-425-3307 or e-mail: [mstratton@sme.org](mailto:mstratton@sme.org).

Thanks.

Steven Y. Liang, Ph.D.  
Chair of Honors Committee, NAMRI/SME  
Morris M. Bryan Jr. Professor, Georgia Tech

# ASME International - Manufacturing Engineering Technical Division Leadership Team

Role	Name	Term
<b>Exec Committee</b>		
Chair	Mike Molnar	2007-2008
Vice-Chair	Jian Cao	2007-2008
Program Chair	Bin Wei	2007-2008
Secretary/treasurer	Lawrence Yao	2007-2008
New member	Matt Bement	2007-2008
Mfg Technical Group Chair	K. P. Rajurkar	2005-2008
ASME Sr. Program Manager	Lee Hawkins	n/a
ASME Assistant E.P.	Abraham Hassan	n/a
<b>Technical Committee Chairs</b>		
Manufacturing Processes	Yong Huang	2006-2008
Manufacturing Equipment	Burak Ozdoganlar	2006-2008
Manufacturing Systems	Yuan-Shin Lee	2006-2008
Quality & Reliability	John Roth	2006-2008
Life Cycle Engineering	Steven Skerlos	2006-2008
Nano/Micro/Meso Manufacturing	Xiaochun Li	2007-2009
Biomanufacturing	Wei Sun	2007-2009
<b>Technical Committee Vice-Chairs</b>		
Manufacturing Processes	Santosh Ranganath	2006-2008
Manufacturing Equipment	Diana Rincon	2006-2008
Manufacturing Systems	Zhijian Pei	2006-2008
Quality & Reliability	Dragan Djurdjanovic	2006-2008
Life Cycle Engineering	Fu Zhao	2006-2008
Nano/Micro/Meso Manufacturing	TBA	1007-2009
Biomanufacturing	Wei Li	2006-2008
<b>Technical Conferences</b>		
Congress 2006	John Roth	2005-2006
Congress 2007	Brad Kinsey	2006-2007
Congress 2008	TBA	
MSEC 2006	Shreyes Melkote	2005-2006
MSEC 2007	Bob Williams	2006-2007
MSEC 2008	John T. Roth	2007-2008
MSEC 2009	Brad Kinsey	2007-2008

Honors Committee (Chair)	Robin Stevenson	2006-2009
JMSE Technical Editor	Kornel Ehmann	2006-2012
Newsletter	Wei Li	2006-2008
Web Liaison	Jaime A. Camelio	2007-2008
Long Range Planning Comm	Steven Liang	2006-2008
	David Stephenson	2005-2007
Nominating Committee (Chair)	Jian Cao	2007-2008
Student Contest (Chair)	Bin Wei	2006-2007
	Lawrence Yao	2007-2008
	Matt Bement	2008-2009
Advisory Committee	Steven Liang	2007-2012
	David Stephenson	2006-2011
	Scott Smith	2005-2010
	Jun Ni	2004-2009
	Amit Bagchi	2003-2008