



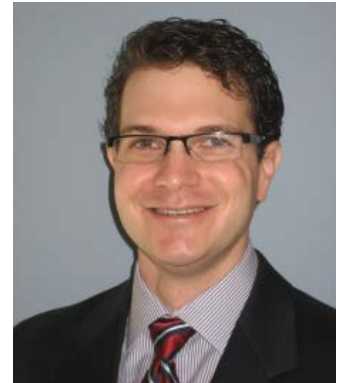
Manufacturing Engineering Division

NEWSLETTER FALL 2017

https://community.asme.org/manufacturing_engineering_division/default.aspx/

Message from the Chair

Submitted by Shawn Moylan - MED Executive Committee Chair



Dear fellow Manufacturing Engineering Division (MED) members,

On behalf of the MED Executive Committee (EC), I am writing to provide you an update on the state of the division. As manufacturing rises in prominence, with more in more in the U.S. and the world recognizing the importance manufacturing plays in economic prosperity and national security, MED continues to thrive. The division continues to grow, with more than 14,000 members and 3,200 primary members. Our flagship conference, the International Manufacturing Science and Engineering Conference (MSEC) is flourishing. Our journals continue to improve, publishing higher quality research papers with more efficient review. Division leadership is exploring opportunities to collaborate with other ASME technical divisions and groups looking for manufacturing expertise. We encourage you to be creative in finding and proposing ways to help MED continue to grow its influence and impact.

It is under rather unusual circumstances that I deliver this, my second, Message from the Chair. Ordinarily the position of Chair, as with the other positions on the EC, is held for only one year. Unfortunately, the gentleman that was scheduled to rotate into the Chair position had unexpected family obligations that he thought would prevent him from adequately perform the duties of the Chair and had to leave the EC. Because this situation is not addressed in the Division By-laws, the EC had to decide how to proceed. After significant discussion, we decided to follow a plan that would minimize disruption to EC and our generous volunteers. The result is that I will remain Chair of the division for an additional 6 months, through December 2017, and Kevin Chou, the current Vice-Chair, will rotate into the position of Chair in January 2018, where he will remain for the next 18 months. All other positions in the EC (see page 2) and elsewhere in the division are unaffected and the EC will return to regular order in July 2018.

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EDITOR – Ihab Ragai, Penn State University, Erie.	

MSEC, held jointly with the North American Manufacturing Research Conference (NAMRC) is truly a world-class advanced manufacturing event. Please see page 2 of this newsletter for details about this year’s excellent conference, which was also co-located with the Japanese Society of Mechanical Engineers International Conference on Materials and Processing (ICM&P). Of course, a conference like this only comes together with some outstanding volunteer support. The EC would

like to sincerely thank Professor Yong Chen, Shelly Lewis, and the entire team at the University of Southern California for the many hours and positive energy they brought to hosting the event. Additionally, we extend our thanks to Professors Johnson Samuel and Arif Malik for organizing the outstanding technical lineup for MSEC. We look forward to MSEC 2018 when the conference visits Texas for the first time at Texas A&M University. More details can be found on page 11. We expect another large and distinguished audience, so we encourage you to submit your work and register early.

Now, more than ever, there are plenty of ways to get involved with MED and ASME. I highly encourage manufacturing researchers to join MED Technical Committees (TC) and find others with similar interests for collaboration or ideation. Please see page 4 to find our current TC leaders who are excellent contact to get more involved. With MSEC 2018 well on track, we're already looking forward to MSEC 2018. Please contact TC chairs for opportunities to organize a symposium or propose a state-of-the-art paper. MED has two journals that are among the best for disseminating manufacturing research. The EC thanks the editors, Professor Y. Lawrence Yao and Professor Jian Cao, for their strong support and we encourage MED members to volunteer for the journals and submit papers for publication. Another way to get your voice heard in the manufacturing community is encourage recognition of our leaders, both new and experienced. MED maintains five awards (see more on page 9) and we encourage you to nominate deserving individuals. And if you're enthusiastic about advanced manufacturing and none of the opportunities discussed here are exactly what you're looking for, please do not hesitate to just send me an email and let me know you're interested. I'm sure we can find a way for you to get more involved. We certainly can use your help in shaping the future of MED and strengthening advanced manufacturing.

<u>MED Executive Committee</u>	
Chair:	Shawn Moylan National Institute of Standards and Technology (NIST)
Vice Chair:	Kevin Chou University of Louisville
Program Chair:	Radu Pavel TechSolve
Treasurer:	Laine Mears Clemson University
Secretary:	Moneer Helu National Institute of Standards and Technology (NIST)

Shawn Moylan, MED Chair (2016-2017)



National Institute of Standards and Technology
shawn.moylan@nist.gov

12th ASME International Manufacturing Science and Engineering Conference Hosted by University of Southern California, June 4-8, 2017. Technical Program Report

Submitted by Johnson Samuel and Arif S. Malik - Program Chairs

The 12th ASME International Manufacturing Science and Engineering Conference (MSEC 2017), sponsored by the Manufacturing Engineering Division (MED) of ASME, was jointly held with the 45th North American Manufacturing Research Conference (NAMRC45), sponsored by the North American manufacturing Research Institute of SME (NAMRI/SME), and the sixth International Conference on Materials and Processing (ICM&P 2017), sponsored by the Materials and Processing Division of the Japan Society of Mechanical Engineers (JSME) and ASME. The collocated conference was hosted by the University of Southern California (USC), from June 4 to June 8, 2017, in Los Angeles, California. As leading world-class societies in Mechanical Engineering field, ASME, SME and JSME act as global bridges between industries, government and academic institutions.

MSEC 2016 received 291 draft papers and 50 poster submissions. After the peer review process, 259 papers were accepted for presentation in 96 MSEC sessions that included one MSEC-NAMRC joint session and five MSEC-ICM&P joint sessions. The conference featured 32 Technical Symposia in 5 Technical Tracks: Additive Manufacturing, Processes, Materials,

Manufacturing Equipment and Systems, and Bio and Sustainable Manufacturing. In addition, the conference had 42 student poster presentations, 9 industry-sponsored “presentation only” talks, and a workshop on ‘Game-changing Ideas for Cost-effective Low-Volume Manufacturing’ organized by MForesight: The Alliance for Manufacturing Foresight. The conference also includes three student-centric events: Early Career Forum, Student Manufacturing Design Competition and the Reusable Abstractions of Manufacturing Processes (RAMP) Competition.

MSEC 2017 (co-located with NAMRC45 and ICM&P 2017) brought together 719 attendees from 21 countries. This number includes 275 students. The Civil, Mechanical and Manufacturing Innovation (CMMI) Division of the National Science Foundation (NSF) supported student conference participation. Students studying in U.S. institutions who were planning to attend the MSEC2017/NAMRC45/ICM&P 2017 applied for this opportunity: 82 of them received NSF Travel Support that helped defray their cost of attending the conference. Approximately 88% of the attendees came from academic institutions, 9% from industry, and 3% from government.

MSEC 2017 also featured the Symposium-Invited Speakers Program, jointly with NAMRC and ICM&P, in three emerging areas: Big Data Implications for Manufacturing Innovation, Additive Manufacturing, and Nanotribology. This program featured a 60 minute talk on each topic, followed by 30 minutes of questions and answers. Dr. William C. Regli, the Acting Director of the Defense Sciences Office (DARPA) gave the talk “*A New Kind of Thinking: Revolutionizing Design and Manufacturing*” challenging the manufacturing community to consider the implications of the big-data revolution on the emerging human-machine collaboration paradigm. Professor David Bourell from The University of Texas at Austin delivered a talk on “*The Development and Prospects for Additive Manufacturing (AM)*” that showcased the evolution of AM technologies along with an analysis of recent developments and current challenges facing the AM field. “*Emerging Trends in Nanotribology, and their Implications for Manufacturing*” was the title of the talk given by Professor Robert W. Carpick from the University of Pennsylvania. His talk highlighted the applications of tribology research to the challenges in micro- and nano-manufacturing.

In addition to technical paper presentations, the MSEC-ICM&P joint sessions also featured three ICM&P 2017 plenary talks from the following distinguished Japanese speakers : 1) Dr. Hideki Kyogoku - “*The current status and prospects of metal Additive Manufacturing in Japan*”; 2) Dr. Hiroyuki Hamada - “*Looking at Tradition, Creating the Future : DENTO MIRAI*” – a talk on translating the implicit knowledge in the traditional Japanese crafts into new manufacturing processes; and 3) Dr. Hiroshi Asanuma - “*Smart Disaster Mitigation Based on Novel Materials and Structures*”.

The joint conferences hosted three keynote speakers: Dr. Jim Davis, Vice Provost of University of California, Los Angeles, and co-founder of the Smart Manufacturing Leadership Coalition (SMLC); Dr. Friedrich Prinz, The Finmeccanica Professor in the School of Engineering at Stanford University; and Dr. Scott P. Willoughby, the Vice -president and program Manager of the James Webb Space Telescope program at Northrop Grumman. **Dr. Jim Davis** discussed “Smart manufacturing” – the technology practice of applying advanced sensors, controls, platforms and modeling not only as advanced technologies but as integrated operations and information (OT/IT) technology systems. His talk also introduced the audience to the Clean Energy Smart Manufacturing Innovation Institute (CESMII), the 9th U.S. institute under the White-house led “Manufacturing USA” initiative. **Dr. Friedrich Prinz**, presented a case for the impact of the processes developed by the Semiconductor Industry on the performance enhancements for renewable energy conversion devices. The talk highlighted how semiconductor processes are having a significant impact on industries far beyond the scope of their original applications. **Dr. Scott P. Willoughby** highlighted the incredible manufacturing behind the largest telescope ever built for space and its potential impact on our understanding of the universe. This inspiring talk struck a chord with the many space fans in the audience.

The MSEC symposium organizers nominated 22 papers for the Best Paper Award. These 22 papers were reviewed and ranked by symposium organizers. The Technical Program Chair compiled the results and then handed off all final decision making to the MED executive committee. The final awards were as follows:

- 1st place: MSEC2017-2695 Dynamic Sampling Design For Characterizing Spatiotemporal Processes in Manufacturing
Authors: Chenhui Shao, Jionghua (Judy) Jin, and S. Jack Hu

- 2nd place: MSEC2017-3092 Investigation on the Effects of Process Parameters on Defect Formation in Friction Stir Welded Samples Via Predictive Numerical Modeling and Experiments,
Authors: Abhishek Ajri, and Yung Shin
- 3rd place: MSEC2017-2951 Process Development for a Robotized Laser Wire Additive Manufacturing
Authors: Meysam Akbari, Yaoyu Ding, and Radovan Kovacevic

The Technical Program Chair selected the recipient of the Best Organizer of a Symposium and Sessions (BOSS) Award in consultation with the MED Executive Committee. The recipients of this award were Prof. Xun Xu (University of Auckland, New Zealand), Prof. Xi Vincent Wang (KTH, Royal Institute of Technology, Sweden), Dr. Nenad Ivezic (National Institute of Standard and Technology, USA) and Dr. Yujie Chen (Caterpillar Inc., USA) for their symposium entitled “Cloud Manufacturing” The organizers solicited a significant number of high-quality technical papers, constructed interesting technical sessions, and ran a well-organized symposium.

The conference program is the result of the outstanding efforts of many people. We would like to thank all the authors for their technical paper and poster submissions. We also express our gratitude to all the organizers for their dedicated management of the tracks, symposia as well as for guarding the quality of the papers and posters to be presented, which has contributed a great deal to the success of the conference technical program. We would also like to thank the host Organizing Committee, the Conference Coordinating Committee, the NAMRI/SME Scientific Committee, the ICM&P Scientific Committee, and the ASME MED Executive and Technical Committees. Our thanks also go to the ASME staff for their outstanding job in presenting conference information on the Internet, managing the submitted technical papers and posters, and ensuring high-quality publication of the conference proceedings for MSEC 2017.

MED Technical Committees	
Manufacturing Processes Chair: Hitomi Yamaguchi Greenslet (University of Florida) Vice-Chair: Wayne Cai (General Motors)	Life Cycle Engineering Chair: Moneer Helu (NIST) Vice-Chair: Terri Jia (GE)
Manufacturing Equipment Chair: Mathew Kuttolamadom (Texas A&M) Vice-Chair: Parikshit Mehta (Alcoa)	Nano/Micro/Meso Manufacturing Chair: Cheryl Xu (Florida State University) Vice-Chair: Xinyu Liu (Lamar)
Manufacturing Systems Chair: Qing Chang (Stony Brook University) Vice-Chair: Michael Brundage (NIST)	Biomanufacturing Chair: Robert Chang (Stevens Institute of Technology) Vice-Chair: Roland Chen (Washington State University)
Quality and Reliability Chair: Zeyi Sun (Missouri University of Science and Technology) Vice-Chair: Yong Wang (Binghamton University)	Textile & Composites Engineering Chair: currently vacant (looking for volunteer) Vice-Chair: currently vacant

Student Manufacturing Design Competition at MSEC 2017

Submitted by Radu Pavel - Student Competition Coordinator

The 2017 Student Manufacturing Design Competition (SMDC), jointly sponsored by ASME MED, NAMRI/SME and University of Southern California, received a total of 19 entries. After detailed reviews, eight finalists were selected and invited to present their work during the 2017 MSEC/NAMRC/JMSE, hosted by University of Southern California, Los Angeles, CA, from June 4 – June 8.

The final presentations were thoroughly evaluated by several judges including Dr. Radu Pavel, Professor Hitomi Yamaguchi, Professor Laine Mears and Professor Ihab Ragai. All SMDC finalist projects were well prepared and students showcased their projects with high quality presentations, demonstrating results with a potentially high impact to the

industry. After serious debates, the judges decided to award the top three winners listed below, who received the cash prizes of \$1,000, \$750, and \$500, respectively.

- **First place:** Abin Abraham, Bonnie Billings, Benjamin Gravell, Jamie Gravell, Savannah Mars, and Joao Pereira from the University of Texas at Dallas for their project entitled “Circulator Packaging Robot,” advised by Professor Terry Baughn and Dr. Joon Park, industry mentor.
- **Second place:** Lindsey Bass, Grady Wagner, Daniel Rau, David Wolf, Mitchell Wolf, and Scott Ziv from Virginia Tech for their project entitled “The Dream Machine: A Multi-Tool Additive Manufacturing System,” advised by Professor Christopher Williams.
- **Third place:** Fariha Ahmed, Daniel Anderson, Josh Bostick, Karen Bouchard, Hunter Eiss, Sebastian Garcia, Jonathan Magliulo, Jacob H. Peterson, Peter Prosper, Swetha Sriram, and Matthew Thayer from University of New Hampshire for their project entitled “Invisibell,” advised by Professor Sam Chiappone and Larry Ruff, Larry Oigny, Dan Baker.

Although without a monetary reward, this year an Honorable Mention was also awarded to a team that impressed the judges with the difficulty of the project and ingenuity of the approach. Xin Dong, Xingjian Liu, and Deokkyun Yoon from University of Michigan were awarded Honorable Mention for their project entitled, “Design and Manufacture of a Compliant Joint for Mitigating Quadrant Glitches,” advised by Professor Chinedum Okwudire.

The Coordinator is grateful to all the judges for their assistance with the presentation evaluations. The event went exceptionally well, with on-time sessions, remarkable presentations and demonstrations, and involved audience.

The finalist teams all received travel supports from the MED and/or the National Science Foundation. The Coordinator would like to thank all 19 SMDC participating teams for their high-quality submissions. The Coordinator would also like to encourage students and their advisers to consider participating in future SMDC activities. The MED leadership team is looking forward to more high-quality entries and participants in the 2018 SMDC.

Early Career Forum at MSEC 2017

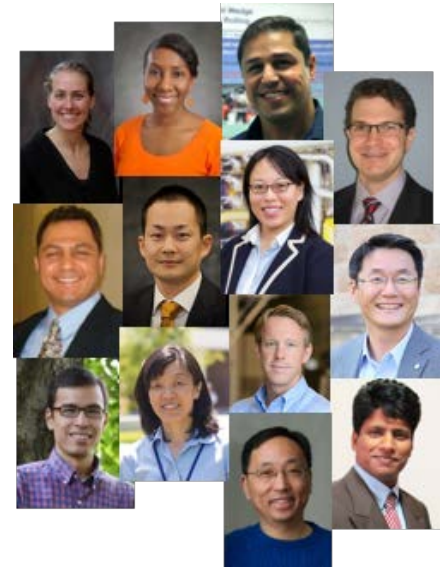
Submitted by Frank Pfefferkorn - Organizing Committee Chair

The Early Career Forum was held during the joint conference of the 12th ASME International Manufacturing Science and Engineering Conference (MSEC 2017), the 45th NAMRI/SME North American Manufacturing Research Conference (NAMRC 45), and the Japan Society of Mechanical Engineers International Conference on Materials Processing (ICM&P 2017) at the University of Southern California, Los Angeles, CA. The event attracted over 100 participants who discussed career opportunities, paths, and planning with a diverse and talented panel representing industry, academia, and government career paths. The event was sponsored by the National Science Foundation and the Department of Engineering Professional Development at the University of Wisconsin-Madison.

The objective of the Early Career Forum was to educate students and recent graduates about possible manufacturing engineering career paths available to them, and details of feasible expectations for activities and future opportunities when following a given career path. This was achieved a small-scale networking event where students were introduced to a panel of 13 professionals with wide-ranging experience in industry, academia, and government. All the panelists have experience in more than one of these sectors. It is noteworthy that each of the university professors on this panel have a significant amount of industrial experience, prior to taking an academic position. The panelists were:

Dr. Kira Barton, University of Michigan Ann Arbor
Ms. Jasmine Bridges, Manufacturing Consultant

Dr. Wayne Cai, General Motors Global R&D
 Dr. Moneer Helu, National Institute of Standards and Technology
 Dr. Arif Malik, University of Texas Dallas
 Dr. Laine Mears, Clemson University
 Dr. Sangkee Min, University of Wisconsin-Madison
 Dr. Shawn Moylan, National Institute of Standards and Technology
 Dr. Chandra Nath, Hitachi Americas Ltd.
 Dr. Ihab Ragai, Penn State University
 Dr. Masakazu Soshi, University of California Davis
 Dr. Tao "Terri" Jia, GE Healthcare
 Dr. Hitomi Yamaguchi Greenslet, University of Florida



This was the eighth Early Career Forum at these co-located conferences. The forum consisted of a brief introduction from each panelist, followed by small group discussions where one panelist sat at a table with eight to 10 students. The panelists moved to a new table twice during the forum, hence they met with three small groups of students. The informal nature of the forum facilitated meaningful discussions, where questions could be answered from all the students. The students came away feeling empowered and more confident about their futures in manufacturing engineering. The organizing committee would like to thank all who participated. The committee would like to extend its gratitude to the National Science Foundation for covering the conference registration costs and lodging for 82 students and to the Department of Engineering Professional Development at the University of Wisconsin-Madison for paying for dinner that was served to all forum participants. Our gratitude also goes to the staff at the University of Southern California for their invaluable help and cooperation in making this such a successful Early Career Forum.

[Journal Reports](#)

[ASME Journal of Manufacturing Science and Engineering \(JMSE\)](#)

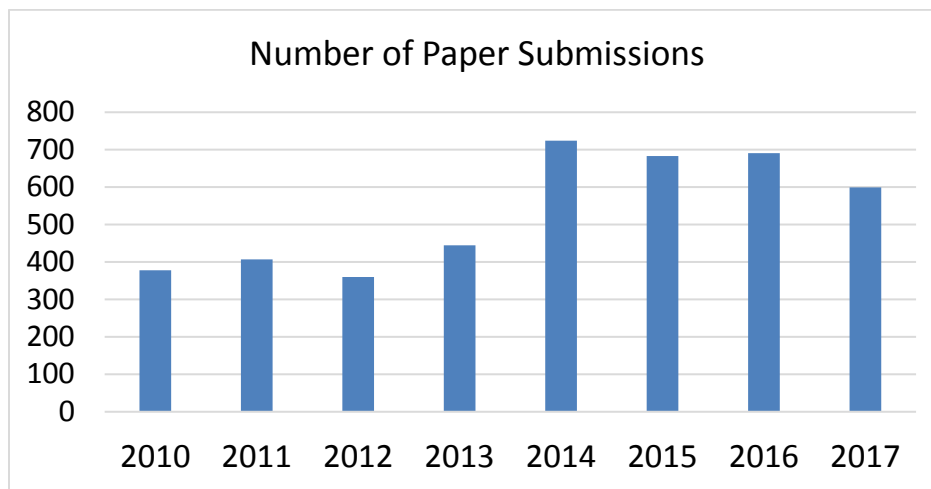
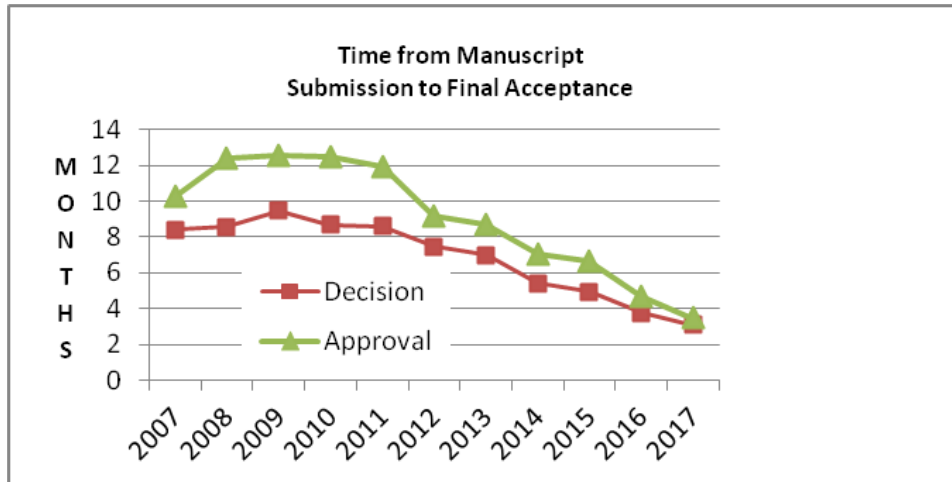
Submitted by Y. Lawrence Yao - Editor

The Journal is on very solid ground and gaining each year. Because of a steadily increasing annual submission rate, we switched to publishing monthly (rather than bi-monthly) in 2016. For 2017, our page allotment per year was increased to 2,400 to accommodate a higher number of papers that can be published per issue.

With confidence in this strong showing, we still continue to focus on streamlining our review process without sacrificing quality. The time papers spent in review and the number of submissions are shown below. **Please note that the data in the following charts is as of 8/30/2017.**

We also plan to draw readers to JMSE through the publication of several robust and timely special issues. We completed one this year—an issue on **Data Science-Enhanced Manufacturing** (October 2017)—and have one in progress on **Grinding Technology – Commemorating the Scientific Contributions by Professor Stephen Malkin** (December 2017). We are also working on an issue on **Enhanced Process-Machine Interaction Through Design, Tooling, Automation, and Modeling** (February 2018). We wish to thank our Guest Editors, Robert X. Gao, Case Western Reserve University, USA; Ivan Selesnick, Tandon School of Engineering (NYU), USA; and Moneer Helu, NIST, USA for handling submissions to the issue on Data Science-Enhanced Manufacturing in an expert and timely manner. Likewise, we thank Guest Editors Mark J. Jackson of Kansas State University, Kai Cheng of Brunel University, and Xun Chen of Liverpool John Moores University for their excellent handling of the submissions for the issue on Grinding Technology. Finally, we thank Burak Sencer of Oregon State

University, Tony Schmitz of the University of North Carolina at Charlotte, Jaydeep Karandikar of GE Global Research Center, and Chris Tyler of Boeing, who are hard at work on submissions for the issue on Enhanced Process-Machine Interaction.



With strong support from the MED Executive Committee – particularly Shawn Moylan, the EC Chair and Johnson Samuel, the MSEC 2016 Program Chair – we’ve established a fast-tracking system between well-reviewed MSEC papers and subsequent publication in JMSE. MSEC 2017 papers that received a “journal quality” rating from at least one reviewer were considered for JMSE publication without further review. Among the 226 final papers accepted by MSEC 2017, 45 were considered by JMSE and 19 were fast tracked. We plan to continue this process for MSEC 2018 to provide a streamlined way for quality papers to appear in the Journal sooner.

Our current Editorial Board consists of 18 members, including the TE. We are excited to welcome four new AE’s since last fall: Karl Haapala, Oregon State University; Satish Bukkapatnam, Texas A&M University; Qiang Huang, University of Southern California; and Johnson Samuel, Rensselaer Polytechnic Institute. Additionally, several AEs – Wayne Cai, GM; Radu Pavel, Techsolve; Dragan Djurdjanovic, The University of Texas at Austin; Hongqiang Chen, GE Global Research; and Guillaume Fromentin, Arts et Métiers ParisTech - have kindly agreed to serve another term of three years, and their terms have been extended accordingly.

This year, we have also had the pleasure of seeing our Impact Factor increase significantly to **3.48**, after a period of adjustment as we switched from bi-monthly to monthly issues. We believe the reduced review times and the special issues have also contributed to this increase.

On behalf of the Editorial Board, I would like to thank the authors and reviewers for their continued support of JMSE, and thank the MED Executive Committee for its guidance and support. I also invite and strongly encourage you to participate

in the process of strengthening the Journal by sending me your thoughts and ideas for improving JMSE and our service to the community: yly1@columbia.edu, 212-854-2887.

ASME Journal of Micro and Nano-manufacturing (JMNM)

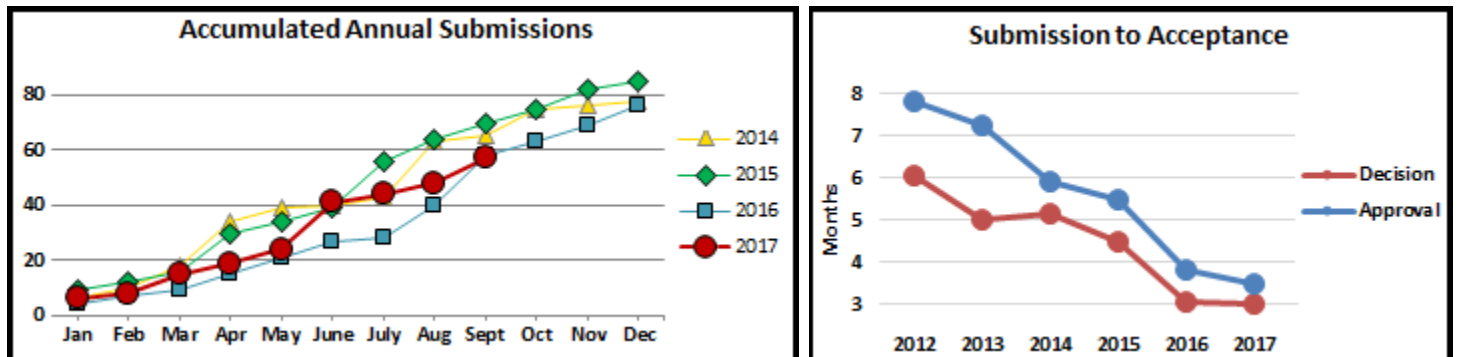
Submitted by Jian Cao - Editor

Now in our fifth year of publication, the *ASME Journal of Micro- and Nano-Manufacturing* (JMNM) continues its commitment to growth and offering high-quality publications within the ASME journal series.

This is the second year we are indexed and abstracted in Thomson Reuters' new Emerging Sources Citation Index (ESCI), and covered in the Thomson Reuters Web of Science™ Core Collection, a renowned citation database which lists more than 12,700 technical journals spanning varied professional fields and disciplines.

The Journal of Micro- and Nano-Manufacturing provides a forum for the rapid dissemination of original theoretical and applied research in the areas of micro- and nano-manufacturing. It offers special coverage of research relating to process innovation, accuracy and precision, throughput enhancement, material utilization, compact equipment development, environmental and life-cycle analysis and predictive modeling of manufacturing processes with features sizes less than one hundred micrometers.

On average we receive 80 papers annually. We have continued to shorten our Submission-to-Acceptance time from 7 months in year 1, to 3 months so far this year, a 57% decrease. We've actually cut time for many of our Process Stages including cutting the Time in Review by 23% from last year, which is also a 60% decrease from our year 1 numbers. We attribute this gained efficiency to well-maintained and managed review progression that allows for the same rigorous and quality review process, in the shortest time frame possible.



This year, we have welcomed high-quality MSEC papers to submit extended versions of their top-rated work to our Journal. MSEC papers that were rated as “journal quality” have been invited for a fast track to publication.

Additionally we have enlisted the help of Guest Editor Dr. Yayue Pan, from the University of Illinois, Chicago, to assist us in editing our Special Section MSEC submissions. With Dr. Pan's support, we received many high-quality papers from the Micro- and Nano-Additive Manufacturing Symposium at MSEC 2017, and will publish them in two Special Sections this December and next March. This symposium focused on additive manufacturing (AM) process innovation for micro/nano-fabrication, micro/nano-scale materials utilization, process control and modeling, and development of micro/nano-additive manufacturing machines. Dr. Pan served as the organizer of this Symposium and we are therefore grateful for her support as the Guest Editor of these Special Sections. Furthermore, we are pleased with not only the

quality of these submissions but the large volume of them, which will contribute great value to both our December and March publications.

The past year has seen the departure of Editorial Board members Dr. Sangkee Min from the University of Wisconsin-Madison, and Dr. Bin Wei from the GE Global Research Center. Both Associate Editors served the journal for 3 years, and we here at JMNM are grateful for their support. We also welcomed two new Editorial Board members, Dr. Joey Mead from the University of Massachusetts Lowell, and Dr. Takashi Matsumura from Tokyo Denki University, Japan. I am proud to work with a team of international experts on the JMNM Editorial Board who provide expertise and conduct the peer-review process for our full-length research papers and technical briefs.

On behalf of the Editorial Board, I would like to thank the authors and reviewers for their continued support of JMNM. Particularly, we would like to express our sincere gratitude to our journal assistant Mrs. Maegen Gregory, for her extraordinary organization skills and her continued dedication to JMNM. We look forward to continuing our work within and beyond the ASME community in creating a platform for scholars and experts from across the globe to educate and discover.

Please submit your manuscripts to JMNM at <http://journaltool.asme.org>.

Honors Committee Reports

Every year ASME bestows a number of awards on our most outstanding colleagues for their efforts to move various aspects of the manufacturing field forward. It is important that these individuals be recognized for their tremendous contributions. Please consider nominating a deserving colleague for one for the ASME administered by MED including the Blackall Machine Tool and Gage Award, the William T. Ennor Manufacturing Technology Award, the Chao and Trigger Young Manufacturing Engineer Award, the Milton C. Shaw Manufacturing Medal, the M. Eugene Merchant Manufacturing Medal of ASME/SME and the Ehmann Medal. See <https://www.asme.org/about-asme/get-involved/honors-awards> for further information on these awards and their nomination process.

Blackall Machine Tool and Gage Award

Submitted by Yuebin Guo - Committee Chair

The Blackall Machine Tool and Gage Award is presented for the best original paper or papers (not published elsewhere) which has/have been presented before ASME and/or published by ASME during the two calendar years immediately preceding the year of the award. The paper(s) should clearly demonstrate that the science and engineering technologies outlined in the paper, resulted in a significant contribution to the manufacturing processes and systems for the design or application of machine tools, gauges, dimensional measuring instruments, or new manufacturing technologies and metrology approaches. Papers by multiple authors are eligible. The award shall be made annually if warranted. The award was established in 1954 by Frederick S. Blackall, Jr., Fellow and Seventy-second President of the Society.

The recipients of 2017 Blackall Machine Tool and Gage Award are Hai T. Nguyen, Hui Wang, Bruce L. Tai, Jie Ren, S. Jack Hu, Albert J. Shih for the paper "High-Definition Metrology Enabled Surface Variation Control by Cutting Load Balancing," Journal of Manufacturing Science and Engineering, 2016, Vol. 138 / 021010-1.

William T. Ennor Manufacturing Technology Award

Submitted by Yuebin Guo - Committee Chair

The William T. Ennor Manufacturing Technology Award is presented to an individual or team of individuals for developing or contributing significantly to an innovative manufacturing technology, the implementation of which has resulted in substantial economic and/or societal benefits. The award was established by the Production Engineering Division (now the Manufacturing Engineering Division) in conjunction with the Alcoa Company in 1990.

Chao and Trigger Young Manufacturing Engineer Award

Submitted by Yong Huang - Committee Chair

The Chao and Trigger Young Manufacturing Engineering Award recognizes a young manufacturing researcher under 40 with potential for significant fundamental contributions to the science and technology of manufacturing processes.

On behalf of the members of the award selection committee, it is our pleasure to announce that the Chao and Trigger awardee for 2017 is Professor Sameh H. Tawfick of University of Illinois at Urbana-Champaign, recognized for his significant achievements in the design and scalable manufacturing of multi-functional carbon nanomaterials by combining roll-to-roll chemical vapor synthesis, self-assembly, and laser-assisted processing.

M. Eugene Merchant Manufacturing Medal of ASME/SME

Submitted by John Sutherland - Committee Chair

On behalf of the members of the M. Eugene Merchant Medal of ASME/SME award selection committee, it is our great pleasure to announce this year's awardee: Mr. Michael F. Molnar, for his outstanding contributions to manufacturing research and its implementation in industry via his leadership and coordination responsibilities in the federal government's advanced manufacturing efforts, and in particular for his playing a critical role in formulating and standing up Manufacturing USA – the National Network for Manufacturing Innovation.

The M. Eugene Merchant Manufacturing Medal of ASME/SME is awarded to an individual who has had significant influence and responsibility for improving the productivity and efficiency (either by research or by implementation of research) of the manufacturing operation(s). This award was established in 1986 in honor of M. Eugene Merchant. The selection committee consists of three immediate past recipients, the ASME/MED Vice Chair, ASME VP MTG, three members-at-large, the SME President, and the committee Chair. Congratulations to Mr. Molnar for receiving this prestigious award.

Nominations are now being sought for the 2018 M. Eugene Merchant Manufacturing Medal of ASME/SME. The due date for the award is 1 February 2018. Please send all nominations to Professor John Sutherland (jwsuther@purdue.edu).

Milton C. Shaw Manufacturing Research Medal

Submitted by Yong Huang - Committee Chair

The Milton C. Shaw Research Medal established in 2009, recognizes significant fundamental contributions to the science and technology of manufacturing processes.

On behalf of the Milton C. Shaw Manufacturing Research Medal Committee, we are pleased to announce that the 2017 Milton C. Shaw Manufacturing Research Medal is awarded to Professor Shaochen Chen of University of California, San Diego. Chosen from a set of six outstanding nominees, Prof. Chen is recognized for his significant and fundamental contributions to the science and technology of manufacturing processes in the areas of 3D printing, bioprinting, and nanomanufacturing.

Nomination Deadline for All Awards above:

Please visit the ASME MED awards website for details:

https://community.asme.org/manufacturing_engineering_division/w/wiki/3659.honors-awards.aspx

Upcoming Events

13th ASME International Manufacturing Science and Engineering Conference

Submitted by Jyhwen Wang, Arif Malik, and ZJ Pei - Conference and Program Chairs

Our next conference, MSEC 2018, will be hosted June 18 – 22, 2018 by the Texas A&M University in College Station, TX. It will be co-located with the 46th North American Manufacturing Research Conference (NAMRC - sponsored by the Society of Manufacturing Engineers).

Conference Host Website: <https://msec-namrc-2018.tamu.edu/>

ASME website: <https://www.asme.org/events/msec>

ASME submission webtool: <https://www.asmeconferences.org/MSEC2018/login.cfm>

Publication Schedule

This is the overall publication schedule for MSEC2018. (Note: For specific details and questions regarding these dates, please contact the appropriate volunteer organizer).

Submission of Abstract/Full-Length Draft Paper and Poster Abstract for Review: November 15, 2017

Notes: You must submit your abstract and full-length paper at the same time. ONLY engineers/researchers from industry may submit an abstract for “Presentation Only”. Poster abstracts must be submitted by this deadline.

Paper Reviews Completed/Acceptance Notification: January 31, 2018

Electronic Copyright Form Submission Process Opens: January 31, 2018

Electronic Copyright transfer forms are requested upon acceptance of the draft or revised draft and prior to the submittal of the final paper.

Submission of Revised Paper for Review (if required): February 28, 2018

Submission of Posters for Review: February 28, 2018

Author Notification of Acceptance of Revised Paper and/or Poster: March 15, 2018

Deadline for Submission of Copyright Form: March 25, 2018

Electronic Copyright transfer forms are requested upon acceptance of the draft or revised draft and prior to the submittal of the final paper.

Submission of Final Paper: March 31, 2018

In accordance with ASME final paper requirements publication in the conference proceedings is not guaranteed if materials (including final paper and copyright transfer form) are received after March 31, 2018.

Author Registration Deadline: April 20, 2018

A presenter must be identified for each presentation. The presenter of each paper, poster, or presentation only will be required to pay the author registration by this deadline.

Technical Program**Tracks (10)**

Track 1: Additive Manufacturing

Track 2: Manufacturing Equipment and Systems

Track 3: Processes

Track 4: Materials

Track 5: Bio and Sustainable Manufacturing

Track 6: Posters

Track 7: Joint MSEC-NAMRC Symposia

Track 8: Plenary Sessions

Track 9: Student Manufacturing Design Competition

Track 10: Reusable Abstractions of Manufacturing Processes (RAMP) Competition

Symposia (41)**Track 1: Additive Manufacturing**

1. Quality Assurance in Additive Manufacturing Systems: Sensing, Analytics, and Control
2. Advances in Additive Manufacturing Process Design & Part Performance
3. Advances in Micro- and Nano-Additive Manufacturing
4. Advances in 3D Printing of Tissue Scaffolds
5. Design for Manufacturability for Additive Manufacturing

Track 2: Manufacturing Equipment and Systems

1. Innovations in Equipment Design, Control and Automation
2. Advances in Cyber Physical Systems, Stochastic Modeling, and Sensor Networks in Advanced Manufacturing
3. Advances in Monitoring, Diagnostics, and Prognostics to Enhance Maintenance and Control Strategies
4. Advances in Development, Measurement, and Operations Improvement of Complex Manufacturing Systems for Optimized Throughput
5. Advances in Data Analytics and Engineering Modeling for Intelligent & Resilient Manufacturing Systems
6. Intelligent Maintenance Decision Making of Manufacturing Systems
7. Advances in Information Visualization and Visual Analytics for Product Lifecycle Decision-Making
8. Advances in Data Management for the Digital Thread in Manufacturing
9. Technologies Development for Cognitive Design-thinking Manufacturing
10. Advances in Quality, Reliability, and Continuous Improvement in Manufacturing Development and Executions

Track 3: Processes

1. Abrasive Machining Processes: Michael P. Hitchiner Memorial Symposium
2. Nontraditional Manufacturing Processes
3. Monitoring, Sensing, and Control for Smart Manufacturing
4. Advances in Assisted / Augmented Manufacturing Processes
5. Advances in Modeling, Analysis, and Simulation of Manufacturing Processes

6. Machining Technologies for Multi-axis and Multi-tasking Manufacturing Processes
7. Advances in Micro and Nano Manufacturing Processes and Systems
8. Nanomanufacturing Processes

Track 4: Materials

1. Processing of Polymers and Polymer-based Composites
2. Novel Joining Technologies for Dissimilar Materials
3. Machining of Difficult-to-Cut Materials
4. Tribology of Material Removal/Deformation Processes and Machinery
5. Advances in the Mechanics of Materials and Manufacturing Processes
6. Advances in Composites Manufacturing Processes
7. Advances in Metal Matrix Nanocomposites

Track 5: Bio and Sustainable Manufacturing

1. Advances in Analysis, Design, and Manufacturing of Biomedical Devices
2. Advancing Biomedicine through Innovative Manufacturing and Materials
3. Advanced Methods for Scalable 3D Tissue Culture and Characterization
4. Smart Manufacturing and System Sustainability
5. Sustainability & the Industrial Internet: How data can lead to improved sustainability
6. Sustainable Operations Management in Manufacturing Systems and Processes
7. Cloud-based Smart Manufacturing

Track 6: Posters

1. Technical posters in various areas of advanced manufacturing research

Track 7: Joint MSEC-NAMRC-Manufacturing USA

1. Research in Collaboration with Manufacturing USA Institutes
2. Manufacturing Education, Workforce Development, and Outreach
3. Manufacturing Public Policy: Influence R&D Investment

Important Deadline: Submission of Abstract and Full-Length Draft Paper and Poster Abstract for Review: November 15, 2017.