



MECHANICAL ENGINEERING

MECHANICAL ENGINEERING DEPARTMENT NEWSLETTER

FALL 2007 ♦ VOLUME I

Welcome to the fall 2007 semester and the publication of the first ME departmental newsletter. This will be initially published at the start of each semester to highlight faculty, staff, and student accomplishments. With time, the ME department plans for this newsletter to become a quarterly publication. In between newsletters, please visit our website @ www.me.msstate.edu If you have comments or questions about this newsletter, please let me know.

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CHANGES IN THE ME DEPARTMENT

Change does occur, some of it sad as our members move onto other interests and opportunities and some of happy as we welcome new members into the department.

GOODBYES AND BEST WISHES

After 7 ½ years of serving as the department technician, Mr. Luke Nason has accepted a position as an electrical technician with SeverCorr in the GTR area.

Ms. Dot Jenkins bade us a fond farewell at her retirement party celebrating 9 ½ years of service as the Accounts Supervisor for the ME department.

Associate Professor, Dr. Wen Li, has accepted a position at Wayne State College in Detroit after 3 years in the ME department.

THE ME DEPARTMENT WELCOMES

Dr. Doug Bammann joins the ME Department. Dr. Bammann was formerly with Sandia National Laboratories in Livermore, CA. In addition to his pioneering efforts on internal state variable modeling, he is also a scuba instructor and underwater photographer.



Ms. Linda Schubert has accepted the position of Business Manager. Ms. Linda was formerly in ME's Sustainable Energy Research Unit, following 13 years of work in the Forestry Department.

Tammy Coleman joined the department on August 16th to replace Beverly as the Administrative Assistant I. She comes by way of Electrical & Computer Engineering where she has been working with Mike Nossier, the undergraduate coordinator, and Dr. Nick Younan, graduate coordinator.

ACCOMPLISHMENTS OF NOTE:



We are exceptionally proud of all the members in the ME department, and we want to congratulate those who have been recognized on a national level for their great accomplishments.

OUR FACULTY MEMBERS

◆ Kalyan K. Srinivasan, Pedro J. Mago, Gregory J. Zdaniuk, Louay M. Chamra, and K. Clark Midkiff for winning the 2007 Best Paper Award titled “Improving the Efficiency of the Advanced Injection Low Pilot Ignited Natural Gas Engine Using Organic Rankine Cycles” in the track Energy Systems Miniaturization, Micro and

Nano Scale Energy Transport at the 2007 ASME International Conference in Long Beach, California.

◆ Keith Walters, Assistant Professor of Mechanical Engineering, received a 2007 National Science Foundation (NSF) Career Award.

◆ Recap on Fellows appointed:

2006/2007 ASME Fellows named from the MSU Dept. of Mechanical Engineering: Glenn Steele, B.K. Hodge, John Berry and Mark Horstemeyer.

◆ 2006 ASEE (American Society of Engineering Education) Fellow named from the MSU Dept. of Mechanical

Engineering: B. K. Hodge.

◆ David Marcum was named an Honorary Professor in the School of Engineering at the University of Wales Swansea. This 5-year appointment recognizes his significant collaboration with the faculty at Swansea.

OUR STUDENTS

◆ Jeremy Childers, a research assistant in Mechanical Engineering, and Chad Wheeley, a graduate student in Mechanical Engineering, both passed the training and examination to become a Department of Energy PHAST (Process Heating Assessment and Survey Tool) Qualified Specialist.

RESEARCH AWARDS (RECENT GRANTS EXCEEDING \$100 K):



(1/1/07 to 8/15/07)

◆ PERC, “Propane-Fueled Combined heat and Power (CHP) Systems,” PI-Mago, Chamra, Zdaniuk, Steele, (3/1/07-10/31/08)

◆ AFOSR, “The use of modeling based, physical simulation to reveal the relationship between process parameters and microstructural evolution in thermal stir processed (TSP) Ti-6Al-4V,” PI-Schneider, (4/1/07-3/31/09).

STUDENT PRESENTATIONS: (SPRING 2007 – PRESENT):



◆ Martin, H., Schulz, K., Bumgardner, J., Schneider, J., “Comparing The Mechanical Properties Of Chitosan Films Bound By Four Treatment Combinations On Implant Quality Titanium,” AICHE 2007 Annual Meeting.

◆ Querin, J.A., Davis, A.M., Schneider, J.A., “Effect of processing parameters on microstructure of the FSW nugget,” Friction Stir Welding and Processing IV, ed. K.V. Jata, M.W. Mahoney, R.S. Mishra, S.L. Semiatin, T. Lienert, pub. TMS, March 2007.

◆ Cannon, S., Schneider, J., “Evaluating Fracture Toughness of Polymers,” ASEE-SE Regional Conference, April 1-3, 2007, Louisville, KY.

◆ Merrill, M., Pardue, S., “How does helium affect grain size in lost foam cast aluminum,” ASEE-SE Regional Conference, April 1-3, 2007, Louisville, KY.

◆ Davis, A.M., Querin, J.A., Howard, A.M., Schneider, J.A., “Correlation of microstructure and mechanical properties with processing parameters in friction stir

welding”, 52nd International SAMPE Symposium, June 3-7, 2007, Baltimore, MD.

◆ Dyess, M., Hastings, W.C., Schneider, J.A., DeLay, T.K., “A Systematic Approach to Cryogenic COPV Design,” 52nd International SAMPE Symposium, June 3-7, 2007, Baltimore, MD.

◆ Fumo, N., Mago, P.J., and Chamra, L.M., “Evaluation of Cooling, Heating, and Power (CHP) Systems Based on Energy-Rating.” ASME Energy Sustainability 2007, Paper No.ES2007-36145, Long Beach, California, USA, June 27-30, 2007.

◆ C.M. Pita, E. Escobar de Obaldia and S.D. Felicelli, “Simulation of Hydrogen Porosity during Solidification”, The American Foundry Society - 111th Metalcasting Congress, Houston, Texas, May 15-18, 2007

◆ Cho, H., Luck, R., Chamra, L. M., Dynamic Simulation of a Micro-CHP Facility: A Case Study. ASME Proceedings of Energy Sustainability 2007, June 27-30, Long Beach, CA.