

**HOUSING EDUCATION AND RESEARCH CENTER (HERC)
Construction Management
School of Planning, Design and Construction
MICHIGAN STATE UNIVERSITY
101 Human Ecology Building
East Lansing, MI 48824**

<http://www.spdc.msu.edu/RealWorldApplicationsofKnowledge/OutreachEngagementExtensionPrograms/HousingEducationResearchCenter.aspx>

Mr. Paul Streng, Executive Director
Dr. Matt Syal, Research Director

Annual Report - 2009

ORGANIZATION

The Housing Education and Research Center (HERC) is a part of the Construction Management group in the School of Planning, Design and Construction. The center was established in 1995 and became a member of the National Consortium of Housing Research Centers in January 1996.

The School of Planning, Design and Construction was established at Michigan State University on July 1, 2004. It consists of majors in Construction Management, Interior Design, Landscape Architecture, and Urban & Regional Planning. The school began offering a new Ph.D. degree program in Construction Management from July 2005. Both, the school and the Ph.D. program have "Housing" as one of the key focus areas.

I. Funded Research and Outreach Projects

1. Sustainability

- Impact of LEED® projects on Electrical Contractors, 2008-09
ELECTRI International (NECA Research Foundation)
Project Investigator: M. Syal

- Sustainable Planning, Design and Construction: Value Added Impact on Built Environment Industries, 2006-09
Environmental Research Initiative, ESPP Program, Michigan State University
Project Investigators: M. Syal and R. LaMore

- Project Delivery Methods for Electrical Contractors in Energy Efficient Markets, 2008-09
ELECTRI International (NECA Research Foundation)
Project Investigator: S. Korkmaz

2. Technology

- Adoption of Convention Fall Protection Technologies in Residential Framing, Accepted CONCEPT research submitted to CPWR – The Center for Construction Research and Training
Project Investigators: P. Mitropoulos – ASU and T. Abdelhamid - MSU
- Michigan Energy Code Training Program, 2008-09
Department of Energy, Labor and Economic Growth, State of MI, Midwest Energy Efficiency Alliance, Dow Building Group, Guardian Industries
Project Investigator and Instructor: T. Mrozowski
(Presented 15 training sessions throughout MI with 949 attendees)

3. International

- Green Building Guidelines in the U.S. and India, 2007-10
GATI Initiative - MSU and U.S. Dept. of Education
Project Investigator: M. Syal
- Executive Training Program for professionals from Korean National Housing Corporation (KNHC) and Korean Land Corporation (KLC), 2009
Project Instructors: M. Syal and T. Mrozowski

II. Publications: Papers and Reports

- Sabharwal, A., Syal, M., and Hastak, M. (2009). "Impact of Manufactured Housing Component Assembly Redesign on Facility Layout and Production Process," Special Issue on Offsite Construction, Journal of Innovation in Construction, 9(1), 58-71.
- Jeong, J., Hastak, M., and Syal, M. (2009). "Framework of Manufacturer-Retailer Relationship in the Manufactured Housing Construction," Special Issue on Offsite Construction, Journal of Innovation in Construction, 9(1), 22-41.
- Ali, S., Hammad, A., Hastak, M., and Syal, M. (2010). "Analysis of a Modular Housing Production System Using Simulation," Accepted for publication in the Jordan Journal of Mechanical and Industrial Engineering (expected to appear in June 2010 Issue).
- Potbhare, V, Syal, M., and Korkmaz, S. (2009). "Adoption of Green Building Guidelines in Developing Countries Based on U.S. and India Experiences, Journal of Green Building, 4(2), 158-174.
- Potbhare, V. Syal, M., Khalfan, M., Arif, M. and Egbu, C. (2009). "Emergence of Green Building Guidelines in Developed Countries and their Impact on India,"

Journal of Engineering Design and Technology, Special issue on Green Construction, 7(1), 99-121.

- Korkmaz, S., Messner, J. I., Riley, D. R., and Magent, C. (2010). "High Performance Green Building Design Process Visualization and Integration". ASCE Architectural Engineering. Scheduled for publication in March 2010.
- Magent, C., Korkmaz, S., Klotz, L., and Riley, D. (2009). "A Design Process Evaluation Method for Sustainable Buildings". Architectural Engineering and Design Management 5: 62-74.

III. Student Activities

1. Student Builders and Contractors Association (SBCA)

SBCA is affiliated with NAHB and AGC with membership open to students from CM and affiliated majors. For many years, its membership has exceeded 100, placing it among the top 5 nationally recognized active student builder organizations. Some of the annual projects SBCA undertakes each year are - the Construction Management Career Fair (with over 40 employers attending), Habitat for Humanity, Safety Day, and sponsoring a team in the NAHB residential competition, etc. The MSU students secured 1st place in 2004 NAHB competition. In addition, four NAHB/ Greater Lansing HBA scholarships, totaling \$7,500, were awarded to MSU CM students in 2009. Mr. Paul Streng is serving as the faculty advisor and Mr. Ken Gotchalk is serving as the competition team coach for 2009-10.