

Housing Education and Research Center Michigan State University

2004 Annual Report

A. Organization

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

The School of Planning, Design and Construction was established at Michigan State University on July 1, 2005. It consists of programs in Construction Management, Interior Design, Landscape Architecture, and Urban & Regional Planning. Presently, proposal to establish a Ph.D. degree program in Construction Management is awaiting approval at the university level. Both, the newly formed school and the proposed Ph.D. program have “Housing” as one of the key focus areas.

B. Activities

I. Funded Projects

1. Research Agenda

National Housing Research Agenda Workshop, 2003-04

National Science Foundation and MSU

Project Investigators: M. Syal, M. Hastak (Purdue), and M. Mullens (UCF)

2. Manufactured Housing

Manufactured Housing Production Process Analysis and Facility Layout, 2002-05

NSF-PATH

Project Investigators: M. Syal and M. Hastak (Purdue University)

E-Factory Layout Design Software Bundle, 2003-04

PACE Program, GM-EDS

Project Investigator: M. Syal

3. Energy

Michigan Energy Codes and Standards Implementation & Training Project, 2004-05, State of Michigan Energy Office/US DOE

Project Investigators: T. Mrozowski, D. Cron, P. Streng

Energy Efficiency in University Housing, Rebuild Michigan, 2003-04
State of Michigan Energy Office/US DOE

Project Investigators: T. Mrozowski, D. Lawrence, D. Johnson

4. Urban Housing

Technical Assistance to Detroit Housing Commission, 2004-05

Detroit Housing Commission, Detroit, MI

Project Investigators: A. Seidel and M. Syal

Joint U.S.-India Symposium on Urban Housing and Infrastructure, 2004

NSF – International Division

Project Investigators: M. Syal, M. Hastak (Purdue) and M. Mullens (UCF)

Building Rehabilitation-Based Built Environment Factor as Complementary Factor to Social Aspects of Urban Revitalization in Detroit, Michigan, 2003-04

Institute for Public Policy and Social Research, Michigan State University, MI

Project Investigators: M. Syal, L. Anjaneyulu, and J. Schweitzer

5. Land Development and Underground Infrastructure

Refinement and Synthesis of Sewer Infrastructure Cost Analysis for the City of Grand Rapids, 2004-05

Michigan State University Land Use Program

Principal Investigator: M. Najafi

Revitalization of Michigan Cities by Proactive Requirements for Buried Infrastructure Inventory, Condition Assessment, Rehabilitation, Special Use, and Decision Making, 2004-05

Michigan State University Land Use Program

Principal Investigator: M. Najafi

Impact of Density on Infrastructure, 2004-05

Michigan State University Land Use Program

Principal Investigator: M. Najafi

Sewer Pipeline Condition Prediction Using Neural Network Models, 2003-04

Center for Underground Research and Education (CUIRE)

Project Investigators: G. Kulandaivel and M. Najafi

C. Outreach Projects

Technical assistance for one year programs on Construction Project Management and Construction Risk Management, New Delhi, India, 2004-09, M. Syal

Executive Training Program for officials from L & G Engineering and Construction Corporation, Korea, Summer 2004, R. von Bernuth, A. Seidel and M. Syal

Training conducted in revised Michigan Residential Energy Code for building officials and inspectors, 165 attendees, Crystal Mountain, Michigan, September 2004, T. Mrozowski

Training Conducted in Revised Michigan Residential Energy Code Training for homebuilders and building officials, 50 attendees, Commerce Township, Michigan, December 2004, T. Mrozowski

Training seminars on - Pipeline Rehabilitation, Inspection, Testing and related areas. Six seminars in 2004 at CA, IL, TX and MI.

D. Theses and Project Reports

Sabharwal, A., and Syal, M. (2004). "Manufactured Housing Components Assembly Redesign Process and its Impact on Production Process and facility Layout," M.S. Construction Management Thesis, Michigan State University, MI

Carson, C., and Syal, M. (2004). "Residential Redevelopment Decision Support System Framework for the City of Detroit, MI., M.S. Construction Management Project Report, Michigan State University, MI

Noorie,N. and Mrozowski, T. (2004). "Application of an Andragogical Approach to Developing and Delivering a Revised Michigan Residential Energy Code Training Curriculum for Building Officials and Inspectors in Michigan", , " M.S. Construction Management Thesis, Michigan State University, MI

Moosa, T., and Abdelhamid, T. (2004). "Production Planning Process in Residential Construction Using Lean Construction and Six Sigma". M.S. Construction Management Thesis, Michigan State University, East Lansing, MI.

Kulandaivel, G and Najafi, M. (2004). "Sewer Pipeline Condition Prediction Using Neural Network Models," M.S. Construction Management Thesis, Michigan State University, MI

Syal, M., Anjaneyulu, L., and Schweitzer, J. (Fall 2004). "Building Rehabilitation-Based Built Environment as a Complementary Factor to Social Aspects of Urban Revitalization in Detroit, Michigan," Policy Paper, Series on Relationship between Urban Built Environment, Social capital, and Human Health, IPPSR, MSU, MI

Syal, M., Hastak, M, and Mullens, M. (August 2003). Final Report, NSF-PATH Housing Research Agenda, NSF and U.S. Department of HUD, Washington DC.
(<http://www.pathnet.org/sp.asp?id=12201>)

E. Student Associations

1. Student Builders and Contractors Association (SBCA)

The Student Builders and Contractors Association (SBCA) is affiliated with NAHB and AGC with membership open to students from CM and affiliated majors. One of the primary goals of this association is to promote activities for the membership that compliment, enhance and expand upon our academic program along with employing high ethical standards, professionalism and sound business methods. SBCA is involved in a number of projects in association with Greater Lansing Association of HomeBuilders and the Michigan Association of HomeBuilders. 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 \$7,000, were awarded to MSU CM students in 2004. Mr. Douglas Cron, undergraduate program coordinator, serves as the faculty advisor and competition team coach.

2. Student Chapter - North American Society for Trenchless Technology (NASTT)

The student chapter of the NASTT at Michigan State University was established in 2002. The goal of this student chapter is to educate and train graduate and undergraduate students in the field of Underground Construction and Trenchless Technology. The chapter has been engaged in a variety of activities, and will continue to provide opportunities for involvement in the future. To date, the chapter has sponsored several student field trips and tours of project sites, and has attended three national and international conferences and conducted several industry guest speaker meetings at MSU. These activities have provided members with exposure to a range of experiences, enriching their interests in the field of Underground Construction. Dr. Mohammad Najafi serves as the faculty advisor.