

# HOUSING RESEARCH CENTER

PURDUE UNIVERSITY

Department of Building Construction Management

401 North Grant Street

West Lafayette, In 47907-2021

## ANNUAL REPORT – 2005

### ORGANIZATION

The Purdue Housing Research Center is located in the Building Construction Management Program in the School of Technology. The Center activities are directed by Prof. Stephen Schuette as the Executive Director. This center works in conjunction with the Division of Construction Engineering & Management, School of Civil Engineering with Professor Makarand (Mark) Hastak serving as the Research Director for Manufactured Housing. Professor Joseph Orczyk and Mr. Mark Schauette, both from the Department of Building Construction Management, serve as Co-Research Directors for Re-Construction.

### 2005 ACTIVITIES

1. Manufactured Housing Production Process Analysis and Facility Layout (2002-2005), Funded by NSF-PATH  
Principal Investigators: Dr. M. Hastak (Purdue) and Dr. M. Syal (MSU)
2. Joint U.S. – India Symposium on Urban Housing and Supporting Infrastructure (India, October 2005)  
Principal Investigators: Dr. M. Syal (MSU), Dr. M. Hastak (Purdue) and Dr. M. Mullens (UCF)
3. State of the Manufactured Housing Industry in Indiana (Report in final review)  
Principal Investigator: Dr. M. Hastak (Purdue)
4. Financial Analysis of the Manufactured Housing Industry (Report in final review)  
Principal Investigator: Dr. M. Hastak (Purdue)

### Reports and Publications

1. Barriga, Edgar, Jae Jeong,\* Makarand Hastak, and Matt Syal. (2005). “Material Requirement Planning for the Manufactured Housing Industry.” *ASCE Journal of Architectural Engineering*, Vol. 11, No. 3, September 2005, pp. 91-98.
2. Jae Jeong, Makarand Hastak, and Matt Syal. (2005). “Supply Chain Analysis and Modeling for the Manufactured Housing Industry.” Paper scheduled for publication (March 2006) in the *ASCE Journal of Urban Planning and Development*.

3. M. Syal, M. Hastak, M. Mullens, S. Cramer, E. Burnett, T. Koebel, M. O'Brien, and C. Martin. (2005). "Housing Research Agenda for NSF-PATH." *ASCE Journal of Architectural Engineering*, Vol. 11, March 2005, p.1-7.
4. Barriga, Edgar, Jae Jeong, Makarand Hastak, and Matt Syal. (2005). "Material Control System for the Manufactured Housing Industry." *ASCE Journal of Management in Engineering*, Volume 21, Issue 2, April 2005, pp. 91-98.
5. Mehrotra, N., M. Syal, and M. Hastak. (2005). "Manufactured Housing Production Layout Design." *ASCE Journal of Architectural Engineering*, Vol. 11, March 2005, pp.25-34.
6. Banerjee, D., M. Syal, M. Hastak. (2004). "Material Flow Based Facility Layout Analysis of Manufactured Housing Production Plant." Paper accepted for publication in the *ASCE Journal of Architectural Engineering*.
7. Hastak, M., Mullens, M., and Syal, M. (2004). "National Housing Research Agenda for Construction Management and Production" *Proceedings of the Construction Congress 2005*, April 5-7, 2005, San Diego, CA.
8. Syal, Matt and Hastak, Makarand and Abhi Sabharwal and Gopu Pillai. (2005) "Manufactured Housing Components Assembly Redesign Process and Its Impact on Production Process and Facility Layout" Continuation Education Module, NSF Project Report, MSU and Purdue, March 2005
9. Jae Jeong, Makarand Hastak, and Matt Syal. (2005). "Supply Chain Simulation Modeling for the Manufactured Housing Industry" Paper submitted to the *ASCE Journal Urban Planning and Development*
10. Juan Pablo Garcia, Jae Jeong, and Makarand Hastak (2005). "Alternative Housing System: The Hybrid Home" (Paper in preparation)

### **Center of Re-Construction**

- A Center of Re-Construction is in the process of being established.
- On a broad basis the Center will work in the areas building rehabilitation as the result of disaster or natural deterioration.

### **NAHB Student Chapter**

- 102 members
- Meetings are held each month with speakers, participation in the local chapter of NAHB, and fund raising activities to off set costs to travel to the national convention.
- Professor Dale Koehler is the faculty advisor