

# PHRC News



The Pennsylvania Housing Research Center (PHRC) serves the home building industry and the residents of Pennsylvania by improving the quality and affordability of housing. The PHRC conducts applied research, fosters the development and commercialization of innovative technologies, and transfers appropriate technologies to the housing community.

## Getting in touch

Contact us to find out more about the PHRC or to seek assistance.

<http://enr.psu.edu/phrc/>

## PHRC in State College

The Pennsylvania Housing  
Research Center  
219 Sackett Building  
University Park, PA 16802

Tel: (814) 865-2341  
Fax: (814) 863-7304  
E-mail: [mlm3@psu.edu](mailto:mlm3@psu.edu)

Director: Eric Burnett  
Assistant Director: Mark Fortney  
Admin. Assistant: Michelle McMullen

## PHRC in Williamsport

The Pennsylvania Housing  
Research Center  
At Penn College of Technology  
Technology Transfer Center/  
Weatherization Training Center  
One College Avenue  
Williamsport, PA 17701

Tel: (717) 327-4768  
Fax: (717) 327-4515  
E-mail: [bvanderme@pct.edu](mailto:bvanderme@pct.edu)

Associate Director: Bill VanderMeer  
Assistant Director: Mark Fortney

## Innovation without headaches

Mark your calendars for the 1999 PHRC workshop "Innovation without Headaches" which will be held Friday, February 26, 1999, in State College. This workshop will address many of the underlying technical problems that builders are facing today with new and emerging technologies and construction practices. The information presented will provide you with an understanding of the potential problems and recommended practices to keep you out of trouble. Some of the subjects that will be covered will be exterior insulation systems covered with stucco, steel framing practices, housewrap, and HVAC systems. If you want to know how to use these new construction practices without getting burned, plan to attend.

## PHRC workshops get high marks

Two workshops were held this past spring at the Penn Stater Conference Center Hotel in State College. They were:

### Moisture: Concerns, Problems and Solutions Workshop

This day-long workshop was jointly sponsored by the Pennsylvania Builders Association and the Pennsylvania Housing Research Center. About 130 people attended, of whom 60 were builders. The following topics were addressed:

- ◆ Below-grade construction/basements
- ◆ Above-grade walls with some attention being directed at:
  - Exterior insulation and finish systems
  - Steel stud framing
  - Housewrap
- ◆ Windows

### ◆ Roofs

Responses to the workshop were very positive. We would like to extend our thanks to all of our speakers as well as our participants.

### Hygrothermal Analysis Workshop

This workshop was directed at the consulting and research community. The following software packages, which are available for the analysis/design of enclosure systems, were demonstrated and discussed:

- ◆ MOIST
- ◆ WUFI
- ◆ EMPTIED and RAIN
- ◆ LATENITE
- ◆ VISION and FRAME

## The search for energy-efficient houses

The US Department of Energy is attempting to develop a list of successful energy-efficient houses in Pennsylvania. If you have been involved in a house that is very energy-efficient, or uses a renewable energy source, this is your chance to gain widespread visibility. The houses selected will be highlighted in a publication on residential energy efficiency. Please contact Mark Fortney for additional information at [mrf106@psu.edu](mailto:mrf106@psu.edu) or (814) 863-2366.

## Penn College of Technology announces the Modular Housing Training Institute

The Modular Housing Training Institute (MHTI) is a partnership between the modular housing industry, state government, and Penn College. MHTI will provide voluntary training for manufacturers, builders and installers of modular homes. Contact Bill VanderMeer at (717) 327-4768.



## New PHRC Publications and Software

The PHRC has recently released the following technical reports:

	<b>Cost</b>
<b>Below-Grade Construction: Issues and Needs:</b> This report investigates existing construction practice with specific focus on whether a basement is designed to be habitable or not. The importance of basements, the existing situation, and alternatives are discussed within a technical and economic context.	\$25.00
<b>Economic Assessment of Basement Insulation:</b> This report evaluates the economic value of a variety of basement insulation practices and systems using life-cycle and simple payback analysis. Recommendations are included for insulation amount and placement.	\$25.00
<b>Foundation Wall Systems for Houses:</b> This report identifies and compares the various basement wall systems that are or will be soon available and the advantages and disadvantages of the various systems.	\$25.00
<b>Flood Damage to Basements: A Starting Point:</b> This report discusses flood damage to basements, the consequences, and some possible methods for minimizing flood effects. Included is a comprehensive list of resources and contacts in Pennsylvania.	\$25.00
<b>A Builder's Guide to Modular Housing:</b> This document discusses the advantages and disadvantages that builders will need to evaluate to determine if modular construction will be advantageous for them. It discusses building permits, design issues, the industrialized construction process, transportation, setting and finishing of the house.	\$25.00
<b>Estimating the Cost of Modular Housing and Stick Built Construction Using ACE:</b> The Alternative Construction Estimating (ACE) software package is a tool to help stick builders evaluate the cost of using modular construction compared to their current construction practices and costs. ACE can be run on a variety of IBM-compatible computers and requires a basic knowledge of Microsoft Excel spreadsheet operation. <i>A Builder's Guide to Modular Housing</i> is included with the software.	\$125.00

## Coming soon

The following work is in progress, and reports will be available by the end of 1998:

- The Importance of Modular Housing to Pennsylvania
- The Importance of the Manufactured Housing Industry to Pennsylvania
- House Building Industry: Educational Needs Assessment
- Implications of Using Housewrap – Phase 1
- Light Gauge Structural Steel Framing – Phase 1
- Multi-media Software Package for the Modular Housing Industry
- Training Needs when a Statewide Building Code is established in Pennsylvania.
- Wood I-Beam Floor Joist Systems: Recommendations

## New projects

The PHRC will be pursuing a variety of projects in 1998/99 fiscal year. The distribution of projects is balanced between applied research and education and technology transfer activities. The projects are listed below:

### Builder-requested Projects

- Builder Technical Briefs
  - Crawl Spaces
  - Truss Uplift
  - Transitional and Adaptable Housing
- Moisture Design Guide
- Housing Characteristics in PA

### Modular Housing

- Interactive Modular Training Software
- Technical Research Program for Modular

### Applied Research

- Steel Stud Framing
- Implications of Using Housewrap
- Remediation and Repair of Masonry
- Service System Needs for Below-Grade Spaces
- Glued Joints between Floor Joist - Sheathing
- Basement Performance Modeling

### Training and Education

- Building Code Workshops
- Training Initiative Consortium
- Act 222 Inspection Procedures

### Manufactured Housing

- Guide for HUD Code Foundations

**We're on the Web**  
<http://enr.psu.edu/phrc/>

The Pennsylvania Housing Research Center  
219 Sackett Building  
University Park, PA 16802  
Phone: 865-2341  
Fax: 814-863-7304

## Assistant Director

Join us in welcoming the PHRC's new Assistant Director, Mark Fortney. Mark officially came on board on June 1, 1998.

Mark will be assisting in the development, funding, and execution of projects and with servicing the technical concerns of the industry as well as the general public.

Mark will work to increase our visibility and significance to the home building industry. He will be working in State College and at the Penn College of Technology in Williamsport.

With his experience in residential construction, Mark will bridge the gap between academic research and the technical needs of the housing industry. His professional experience has focused on the application of innovative technologies and energy-efficient construction. He has an Associate Degree in Solar Engineering and a Bachelor's degree in Structural Design and Construction Engineering.

## Membership

A vital portion of the financial support for the PHRC is obtained from membership fees. Financial and other forms of support for the PHRC are very important. Industry-based funding, individual or corporate or association, is critical for our continued operation. We would like to thank the following organizations and individuals for their membership support of the PHRC and its efforts to serve the home building industry in Pennsylvania.

### New Member

Liberty Homes Custom Builders

### Existing Members

Armstrong World Industries  
Celotex Corporation  
CertainTeed Corporation  
Comfort Home Corporation  
Carl Flohr  
Curtis Schneck  
DuPont Nonwovens  
Elam Stoltzfus  
Edward B. Walsh & Assoc. Inc.  
Liberty Homes Custom Builders  
NVR Homes, Inc.  
PA Concrete Masonry Association  
Raycore, Inc.  
Ryland Group, Inc.  
S&A Custom Built Homes, Inc.

Builders Association of Central PA  
Franklin County Builders Association  
HBA of Chester and Delaware Counties  
HBA of Metro Harrisburg  
Lebanon County Builders Association  
Lehigh Valley Builders Association  
Pennsylvania Builders Association  
York County Builders Association