

PHRC NEWS



The Pennsylvania Housing Research Center (PHRC) serves the home building and remodeling industries and the citizens 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.

Inside this Issue

Page 2

- Conference info—cont'd
- Personnel Changes

Page 3

- Message from the Associate Director

Page 4

- Changing Building Codes

Page 5

- New Programs
- Webinar Series

Page 6

- Land Development Update

Page 7

- Upcoming PHRC/PCCA Training Programs

Page 8

- Residential Construction Program Receives Grant

Page 9

- Scanlon Symposium

Page 10

- PHRC Membership

Page 11

- Hankin Lecture

Page 12

- Upcoming Meetings

20th Annual

PA Housing and Land Development Conference

On February 22 & 23, the PHRC will hold its 20th annual conference in State College, PA. The conference strives to be the premier technical conference for housing and land development issues in Pennsylvania. This 2-day conference provides the latest information on emerging technologies and how to resolve problems facing the housing and land development industries.

Register Now!



Feb 22&23, 2012

Save the date!

DAY 1 (WEDNESDAY) - LAND DEVELOPMENT

Day One of the conference focuses on emerging planning, design, and regulatory issues affecting the land development industry in Pennsylvania. Come hear about challenges facing the industry and network with other professionals. This day's programs are intended for anyone involved in land development activities, including builders, developers, design professionals, planners and regulatory officials.

DAY 2 (THURSDAY) - HOUSING

Day Two of the conference focuses on technical issues related to the delivery of houses. Plan on attending this year's conference to get the latest information on emerging technologies and learn how to resolve problems facing the industry. This conference is intended to bring together all sections of the housing industry including builders, remodelers, code officials, educators, design professionals and modular and HUD code builders and manufacturers.

DAY 1 - TECHNICAL TRAINING

Advanced Framing
~~2012 IRC Sneak Peek~~
 Exterior Plaster Finish Systems
 Solar Hot Water

Continuing Education Credits available!

COME CELEBRATE OUR 20TH YEAR WITH US IN STATE COLLEGE!

FOR MORE INFORMATION & TO REGISTER GO TO WWW.ENGR.PSU.EDU/PHRC

Day 1—Wednesday—Training Topics

- | | |
|-----------------------------------|------------------|
| • Advanced Framing | 8:30 am—11:30 am |
| • Exterior Plaster Finish Systems | 1:00 pm —4:30 pm |
| • Solar Hot Water | 8:30 am—4:30 pm |

Draft Land Development and Housing agendas on next page.....



Draft Agenda for Land Development Conference (Wednesday, February 22)

8:30 – 10:15		10:30 – 12:00		1:00 – 3:15		3:30 – 5:00
The Good, the Bad and the Ugly - panel discussion on stormwater BMPs	Break	Implementation of Ch 102 – Update of the PA Stormwater Technical Workgroup and efforts to revise the BMP Manual	Lunch	LEED & NAHB green land development standards Life cycle assessment of BMPs	Break	PHRC Standards for Residential Site Design Market report and Analysis

Draft Agenda for Housing Conference (Thursday, February 23)

8:30—10:15	10:30—12:00			1:50—3:10	3:15—4:30
Remodeling/Housing Market Outlook	Finishing a Basement: Insulation/Moisture Control	LUNCH	ROUNDTABLES	Flashing Details: Are your Subs Getting it Right?	Universal Design and Aging in Place
	2012 IRC Sneak Peek/RAC Update			UCC Q & A	Deck Design Construction and Code Compliance
	Air Sealing and the IECC			Whole-House Mechanical Ventilation and Other Ventilation Issues	Sealing Ducts to Meet Code

Round Table Sessions: To be determined (related to above topics)

PERSONNEL CHANGES



Katie Blansett joined the Pennsylvania Housing Research Center (PHRC) full-time in August as the Land Use and Development Specialist. Her work includes projects related to development design standards and the land development process, stormwater management, and water quality. She serves on several statewide committees related to the Chesapeake Bay TMDL and stormwater management practice and regulation. Katie also teaches CE 410W Sustainable Residential Subdivision Design.

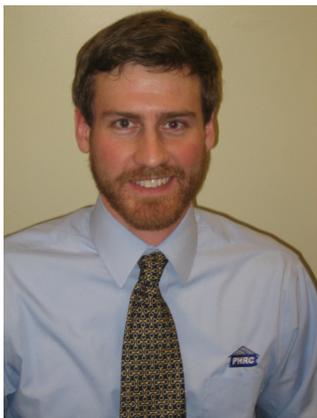
Before joining the PHRC Katie worked as a consulting engineer on projects including residential and commercial land development, stormwater and watershed management, floodplain analysis, hydrology and hydraulics studies, and stream restoration. She is a licensed Professional Engineer in Pennsylvania. Katie holds a B.S. degree in Environmental Systems Engineering and an M.Eng. degree in Civil Engineering. She recently defended her dissertation entitled *Flow, Water Quality, and SWMM Model Analysis for Five Urban Karst Watersheds* and will receive her Ph.D. in December in Agricultural and Biological Engineering from Penn State.



Bryan Heitzmann, the Training and Education Development Specialist, has been with the PHRC since February of 2011. His primary responsibilities consist of the development and delivery of training programs for the residential building industry, as well as performing technical and policy research. After graduating from The Pennsylvania State University in 2001, Bryan secured employment in the residential housing industry with NVR in the Washington DC area. Subsequent to the completion of an 18 month Production Training Program, consisting of classroom training as well as field proficiencies, Bryan worked as a Project Manager in the Northern Virginia market, later helping to establish a new division of the company in Central Virginia. Most recently, Bryan was employed by S&A Homes as a Project Manager in their Western Region. Bryan has had extensive interaction with code officials, builders, subcontractors, and homeowners, and has remained current on changes in the code, changes in the market, as well as advancements in energy efficient building practices throughout his career.

A MESSAGE FROM THE ASSOCIATE DIRECTOR

Dear members and friends of the PHRC,



This year marks a milestone in the PHRC's ongoing mission to serve the housing industry by providing relevant, high-quality training and educational programs. On February 22nd and 23rd the PHRC will celebrate the 20th anniversary of our annual Housing and Land Development Conference. Appropriately, this year's conference will take place on the home territory of the PHRC, the campus of Penn State University. With topics ranging from finishing a basement to Universal Design to energy codes, this year's conference looks to attract a diverse audience of builders, remodelers, design professionals, code officials, and others.

A lot has changed for both the PHRC and the housing industry since the first Housing Conference in 1991. After 15 years of nearly constant growth in the housing market, the housing activity has declined nationally by nearly 75 percent. With no end to the downturn in sight, how should the industry respond? In the words of Frank Anton, the CEO of Hanley Wood, LLC, who delivered the Hankin Distinguished Lecture at Penn State in November, "Think the unthinkable... You can't retreat your way to victory. Stand your ground. Assess the situation then attack. Attack in housing markets that are relatively strong, attack where the competition is relatively weak, look to the remodeling market, commercial construction and multifamily development. Introduce new products and promote them, support your dealer network, lose poor performers, hire some stars, fight for budgets you need to get the job done."

Now may also be the time to retool operations and train staff. The PHRC's free monthly webinar series is one way to stay current on the latest building codes, legislation, and construction techniques. For more in-depth training, the PHRC offers a variety of training programs aimed to help the housing industry avoid the mistakes of the past and prepare for the future. The new PHRC training program, *Exterior Plaster Finish Systems: Code Requirements and Avoiding Moisture-Related Failures*, teaches the lessons learned from costly failures involving stucco and related products in Pennsylvania and elsewhere. Two other programs, *Advanced Framing: Reducing Costs and Improving Building Performance*, and *Building with Exterior Rigid Foam*, look to the future by explaining building techniques that address increasingly stringent energy codes, fuel price volatility, and consumer demand for energy efficient and green products.

The rising cost of land is another issue that could have a great impact on the housing industry once the market recovers. One way the PHRC's Land Use and Development Specialist, Katie Blansett, is working to address that issue is through reviving and updating the *Pennsylvania Standards for Residential Site Development* – a science- and engineering-based document that aims to promote environmentally responsible and cost-effective land development. This work will aid municipalities in updating their land development standards to simultaneously allow for lower cost and lower impact development.

This newsletter contains more detailed information on these and other PHRC projects, so please read on to learn more about the services offered by the PHRC and how they might benefit you and your organization. Finally, help us celebrate our 20th year of hosting the premier technical housing-related conference in Pennsylvania by attending the PA Housing and Land Development Conference on February 22nd and 23rd. See you in Happy Valley!

Sincerely,

Mike Turns
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CHANGING BUILDING CODES IN PENNSYLVANIA —WHAT DOES THE FUTURE HOLD?

Changing Building Codes in Pennsylvania – What does the future hold?

The Pennsylvania Construction Code Act (Act 45 of 1999) established the basic requirements of the Uniform Construction Code. Since becoming law, the Act has been altered 11 times. In several instances, these amendments to the UCC were in response to building code requirements that legislators considered too onerous or problematic. For example, in response to the impact of International Residential Code stair geometry requirements on house layouts, Act 13 of 2004 replaced the requirements of the IRC with those from the 1992 CABO. Later, Act 9 of 2007 amended the UCC in response to excessive anchor bolt requirements.

The ongoing need to amend the UCC prompted the Pennsylvania legislature in 2008 to establish the UCC Review and Advisory Council (RAC). This 19-member council was tasked with advising the General Assembly and the Department of Labor and Industry (L&I) as to whether Pennsylvania should adopt the latest triennial International Codes, as published, or with modifications. In its first review, the RAC did not vote to remove any of the requirements of the 2009 IRC, including the controversial requirement for residential fire sprinklers. This prompted industry stakeholders to encourage the legislature to make modifications to the RAC and the code adoption process by passing Act 1 of 2011.

In April of 2011, Governor Tom Corbett signed into law Act 1 (a.k.a House Bill 377), which modified the composition of the RAC and inverted the adoption process. Previously, all of the provisions of the latest International Codes were automatically adopted, unless the RAC voted by simple majority not to adopt certain new provisions. Act 1 changed the process so *none* of the provisions are automatically adopted and the RAC must vote by *two-thirds* majority to adopt individual new code provisions. This significantly increased the scale of the task with which the legislature has charged the RAC. In addition, the Department of Labor and Industry was not able to provide any staff support regarding the research involved in assessing all of the new provisions contained in the 2012 International Codes.

To help fill this void, the PHRC offered its assistance to the RAC, which they gladly accepted. The PHRC consolidated into one document all of the code change proposals that were accepted to the 2012 IRC during the International Code Council's code development process. This is not as simple a task as it might seem; the PHRC extracted 202 provisions out of at least seven separate documents and compiled them into one easy-to-use document. Having all the accepted proposals in one document spares the reader from having to page through all 904 pages of the IRC searching for changes from the previous version. Also, the proposals indicate specifically what was changed and include the proposer's reasoning.

In addition to the compilation of accepted IRC code change proposals, the PHRC created an index of those proposals, which included a brief description of each proposal and the PHRC's assessment of whether the proposal would have a low, moderate, or high impact on the construction industry. The PHRC also developed a half-day informational program, titled *2012 IRC Sneak Peek*, to inform stakeholders of high-impact code provisions that could be adopted in Pennsylvania. This program was attended by over 200 industry professionals.

With the time period for comment having expired on December 31, 2011, all the public can do now is wait for the RAC to make its decisions and file its report, which is due to L&I by July 31, 2012. The earliest likely adoption of any new code provisions is January 1, 2013. Depending on the outcome of the review process, the PHRC will consider developing an IRC Transition program to educate people about the coming changes.

NEW TRAINING PROGRAMS

Exterior Plaster Finish Systems: Code Requirements and Avoiding Moisture-Related Failures

In his 2008 article entitled, *The Perfect Storm*, internationally renowned building scientist, Joseph Lstiburek called eastern Pennsylvania the “stucco failure capital of the United States.” Improper installation of exterior plaster finish systems, like hardcoat stucco and adhered stone veneer, can lead to severe moisture problems and cracking. Many installations do not meet code and result in the need for costly remedial work. This program covers relevant code requirements, proper flashing and drainage, treatment of joints between dissimilar materials, rainscreen installation, plaster thicknesses, and lath requirements.

Solar Domestic Hot Water System Installation and Inspection

Consumer demand, helped along by state and federal incentives, has spurred the growth of residential renewable energy systems like solar domestic hot water (SDHW) systems. This one-day program will provide an overview of SDHW systems, including solar collector types, plumbing requirements, roof integration and structural loading considerations. Reviewing SDHW system diagrams and inspecting key system components will be covered. This program was developed in partnership with the Pennsylvania Construction Codes Academy.

Building with Exterior Rigid Foam (coming soon)

The use of foam sheathing achieved a degree of popularity beginning with the oil embargo of the late 1970s. Today, increasing stringency in energy codes along with heightened consumer expectations regarding energy efficiency and comfort are causing more builders and remodelers to consider using exterior rigid foam. While the use of foam sheathing can result in a more efficient building enclosure, it is not without its practical hurdles. Window and door jamb extensions, flashing details, surface burning characteristics, consumer perceptions, siding attachment, wall bracing, and material selection are all potential hurdles to the effective use of exterior rigid foam.

For more information or to schedule a program—please go to <http://www.engr.psu.edu/phrc>.

PHRC WEBINAR SERIES

The PHRC is halfway through the 2011-2012 PHRC Webinar Series. These web-based training programs meet participants’ demand for free, interactive training that is available both live and archived on our website for on-demand viewing. The following is a list of recorded and upcoming webinars in the 2011-2012 PHRC Webinar Series:

Upcoming		Archived	
Date	Topic	Date	Topic
Jan 10, 2012	Site preparation: visualizing the finished product	Sept 13, 2011	Spray foam—thermal barriers, ignition barriers/specific approval
March 13, 2012	Radiant barriers: Do they make sense in PA?	Oct 11, 2011	Solar energy economics in PA
April 10, 2012	How to properly insulate a slab	Nov 4, 2011	Key changes in the 2012 IRC—and an Overview of the UCC adoption process
May 8, 2012	Makeup air and large kitchen exhaust systems	Nov 8, 2011	Manufactured stone veneer: avoiding moisture related failures
		Dec 13, 2011	Building with exterior rigid foam

LAND DEVELOPMENT UPDATE

Land development activities have returned to the PHRC! Last spring we formed a new subcommittee of the PHRC Industry Advisory Council (IAC) to focus on Land Development. The new Land Development Subcommittee met in March to discuss the Land Development strategic plan and prioritize project for the 2011-2012 fiscal year. Joe Harcum of the Duck Harbor Group was selected as the chair of the Land Development Subcommittee and also serves as the liaison between the PHRC IAC and the Subcommittee. The Land Development Subcommittee members represent the various sectors of the land development field including engineers, planners, developers, lawyers, local government officials, and regulators.

One of the main focuses of Land Development in the coming year is a refocus on the Standards for Residential Site Development. This document was written by the PHRC and the Hamer Center in Landscape Architecture at Penn State in the mid-2000s and published in 2007. Because of market issues and personnel changes at the PHRC, the document wasn't well publicized. The PHRC will be revisiting this document, evaluating format, revising out-dated content, and then will work to publicize and offer training to get this document to be a readily accepted reference for land development in Pennsylvania. If you wish to review and offer comments on the Standards, the document is available on the PHRC website www.engr.psu.edu/phrc. From the homepage, click on the cover graphic of the Standards. Then, under Option 1, create a user name and password for yourself to download the document for free. Click the "Feedback" button to open a survey form to provide comments on the document.

Other projects for the year include a review of the International Stormwater BMP database to find data that are relevant to residential applications in Pennsylvania and the development of a flow chart with timeline outlining the land development process including a comparison to the process in some other states.

Land Development activities will be discussed during the Land Development Day of the 2012 conference, Wednesday, February 22, 2012 at the Nittany Lion Inn in State College. Topics to be addressed include a panel discussion of practical lessons learned on stormwater BMPs, implementation of Ch 102, a life-cycle assessment of BMPs, and update on the work of the Pa Stormwater Technical Workgroup and their attempts to update the BMP Manual, LEED and NAHB green standards for site/neighborhood design, the EPA stormwater rule (if released at that time), and the PHRC Standards for Residential Site Development. A certificate for 8 PDHs will be available for PEs. See the newsletter insert or website for more information about the conference.

For information about Land Development at the PHRC contact Katie Blansett at 814-863-2990 or kblansett@engr.psu.edu.



On Oct 18th, the Katie Blansett took the students in CE 410W Sustainable Residential Subdivision Design on a construction site tour of an S&A Homes development. The students got an up-close look at the installation of pipe trenches and the construction of storm-water management facilities. It was a great opportunity for the students to see how their design calculations and line work in AutoCAD become a real community.

TRAINING SCHEDULE

Upcoming PHRC/PCCA Training Programs

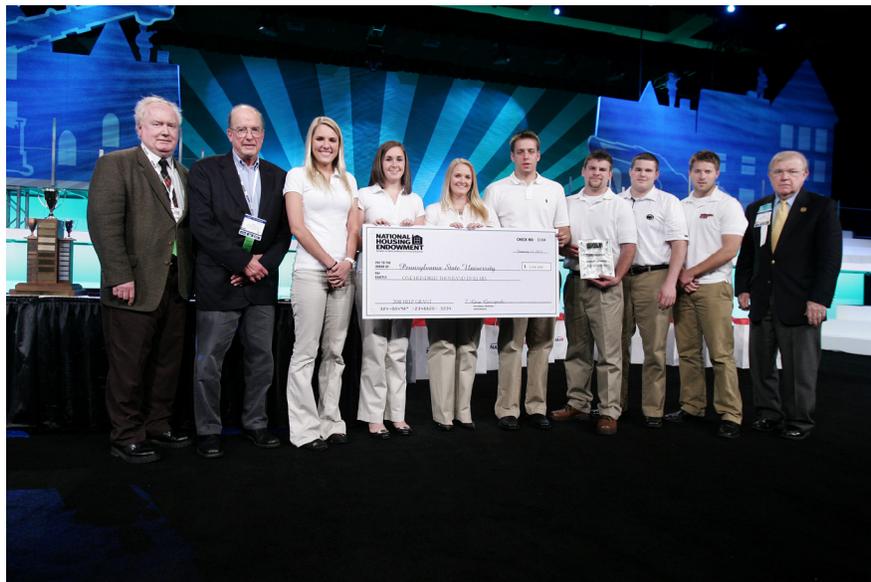
Date	Course Title	Location
January 17 – 18, 2012	Residential Inspections	City of Philadelphia
January 31 – Feb 1, 2012	Residential Inspections	Luzerne County
February 13, 2012	Blueprint Reading	Enola, PA PSATS Education Center
February 14-17, 2012	IRC Building Essentials Academy	Enola, PA PSATS Education Center
February 22, 2012	Solar Hot Water	PHRC Conference State College
February 28-29, 2012	Commercial Energy (IECC)	Lehigh County
March 6-7, 2012	Commercial Energy (IECC)	Allegheny County
March 7, 2012	Solar Hot Water	Luzerne County
March 13 – 16, 2012	IRC Plumbing Essentials	Enola, PA PSATS Education Center
March 15, 2012	Advanced Framing (PennBOC Region 2)	Allentown
March 21, 2012	PCCA Symposium	Delaware County
March 22, 2012	Solar Hot Water	Delaware County
March 28, 2012	Solar Hot Water	Enola, PA PSATS Education Center
March 29, 2012	Advanced Framing (PennBOC Region 2)	Poconos
April 3 – 6, 2012	IRC Mechanical Essentials	Enola, PA PSATS Education Center
April 11, 2012	PCCA Symposium	Allegheny County
April 12, 2012	Solar Hot Water	Allegheny County
April 18, 2012	Solar Hot Water	Lehigh County
April 25, 2012	Solar Hot Water	Crawford County
June 5-6, 2012	Residential Energy Essentials	Enola, PA PSATS Education Center

For more information visit: www.paconstructioncodesacademy.org

Penn State Residential Construction Program Awarded \$100,000

In January 2011 the Penn State Residential Construction Program was awarded a \$100,000 Housing Education Leadership Program (H.E.L.P.) grant by the NAHB/NHE to establish an endowment for support of a Residential Construction Management course to be taught through the Practitioner Instructor (PI) program in Architectural Engineering.

The Homebuilding Education Leadership Program, launched in 2006, establishes closer relationships with institutions of higher education by awarding major seed grants to leading two- and four-year colleges and universities to help them create, expand, or enhance existing residential construction management programs. HELP's key goal is to increase the number of qualified college graduates entering the residential construction profession and becoming future members of NAHB.



SCANLON SYMPOSIUM AT ACI 2011 FALL CONVENTION

The American Concrete Institute honored Dr. Andrew Scanlon, Professor of Civil Engineering, and Hankin Chair of Residential Construction with a four part symposium and reception at the ACI Fall 2011 Convention in Cincinnati, Ohio, in October, 2011.

The Andy Scanlon Symposium on Serviceability and Safety of Concrete Structures: From Theory to Practice, Parts 1-4 covered issues related to serviceability and safety of concrete structures from both a theoretical and design perspective. Part one was held Oct. 16, parts two and three were held Oct. 17, and part four was held Oct. 18. Presentations were delivered by individuals from the U. S., Canada, U. K., Australia, and Korea who have worked closely with Scanlon in his areas of interest. Peer reviewed papers from the symposium will be published in a Special Publication (SP) of the American Concrete Institute.

A Reception in Honor of Andy Scanlon took place from 6 - 7 p.m. Oct. 17, with over 80 attendees. The convention was held at the Millennium Hotel and Duke Energy Convention Center, Cincinnati.



PHRC Members

Leadership

City of Philadelphia
 Curtis E. Schneck, Inc.
 Dow Chemical Company
 DuPont Building Innovations
 Electra-Save, Inc.
 George Morio Builder & Developer
 Glunt Development Co., Inc.
 Governor's Center for Local Government Services
 Hankin Group
 iLevel by Weyerhaeuser
 J.E. Greishober Plumbing Hydronics
 JHW C/M Consultant
 JRG Advisors
 Kreitzer Construction
 Laskey Properties
 Lebanon County Builders Association
 Liberty Homes Custom Builders
 Modular Building Systems Association
 PA Department of Community & Economic Development
 PA Manufactured Housing Association
 Pennsylvania Association of Bldg. Code Officials
 Pennsylvania Building Officials Conference
 Pennsylvania Builders Association
 Pennsylvania College of Technology
 Pennsylvania Construction Codes Academy
 Pennsylvania State University
 Sota Construction Services, Inc.
 Start-Living Homes
 Tepes Construction Company, Inc.
 The Duck Harbor Company
 The Housing Alliance of Pennsylvania
 Upper Darby Township

Supporting

Builders Association of Central PA
 Central Susquehanna Builders Assoc.
 City of Uniontown
 Comfort Home Corporation
 Commonwealth Code Inspection Service
 Lackawanna HBA
 Muncy Homes, Inc.
 Pennsylvania Concrete Masonry Association
 Pennsylvania Housing Finance Agency
 Pulte Homes Corporation
 S&A Homes
 York County Builders Association

Patron

Adams Township
 Alan Hawman Architect
 Benjamin Obdyke Inc.
 Building Industry Assn of Northeastern PA
 Cedar Knoll Builders
 Columbus Property Management & Dev., Inc.
 Design Build by Robert P. Baney, LLC
 E&M Engineers and Surveyors, P.C.
 Engineering Projects Incorporated
 Fine Line Homes, Inc.
 Gluszko Architects, P.C.
 Lackawanna Home Builders Association
 Lower Swatara Township
 Mesa Wood, Ltd.
 Nittany Homes
 Peter Joseph Brown
 Peters Township
 Pulte Homes Corporation
 Pure Energy
 Queen Engineering
 Richmond Township
 Riverview Homes, Inc.
 Somerset County Builders Association
 Stewart Cluck, Architect
 Upper Darby Township
 UpStreet Architects, Inc.
 Wayne County Builders Association
 Whitehall Township
 Woodhaven Contractors, LLC

**Not a member?
 Join the PHRC today!**

Name _____
 Address _____

 Phone _____

Method of Payment:

Check

Total: _____

Membership Levels:

Corporate or Trade Associations:

- Leadership \$2,500
- Supporting \$1,000
- Patron \$500

Local Associations:

- Leadership \$1,000
- Supporting \$500
- Patron \$250

Individuals:

- Leadership \$500
- Supporting \$250
- Patron \$100

HANKIN DISTINGUISHED LECTURE



On November 9th, 2011, Frank Anton was the Keynote Speaker on the topic: *'Where Do We Go From Here or The Dumbbell Theory of Housing'*. This was held at the Nittany Lion Inn. Mr. Anton is the Former Editor/publisher of Builder Magazine and Chief Executive Officer, Hanley Wood LLC.

This lecture is now available to view online at <http://www.cnet1.org>. Click on *'Click here to watch'* and search **'Hankin Distinguished Lecture'**.

Don't forget to register for this year's 20th annual PA Housing and Land Development Conference

February 22-23, 2012





www.engr.psu.edu/phrc

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Upcoming Meetings

February 22, 2012	PA Housing and Land Development Conference Day 1– Land Development + Technical Training	8:30 – 4:30 p.m.
February 22, 2012	PHRC Leadership Reception–Penn State-State College	6:00 – 9:00 p.m.
February 23, 2012	PA Housing and Land Development Conference Day 2– Housing–Penn State-State College	8:30 – 4:30 p.m.
April 11, 2012	Operations Committee Meeting – State College	6:00 – 9:00 p.m.
April 12, 2012	Industry Advisory Council Meeting – State College	9:30 – 2:00 p.m.
October 10, 2012	Operations Committee Meeting – Harrisburg	6:00 – 9:00 p.m.
October 11, 2012	Industry Advisory Council – Harrisburg	9:30 – 2:00 p.m.

For additional details on training programs, visit www.engr.psu.edu/phrc