



Pennsylvania Housing Research Center

# Magazine

PHRC.PSU.EDU

Fall 2024

## New Faces



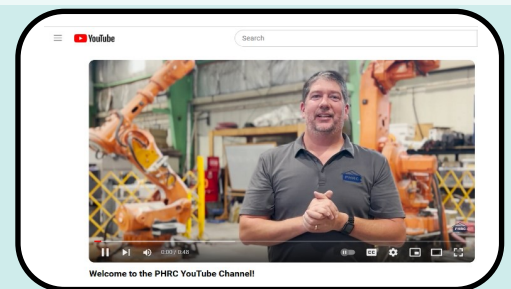
Meet PHRC's newest team member,  
Residential Design & Construction  
Specialist Pam Slusser, page 6



## New Spaces

Read about our new offices, page 16

## New Resources



Quick video help for your next project! Introducing PHRC's YouTube channel, page 4



Fall  
2024

# Magazine

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# PHRC Associate Director Update

From all of us here at the Pennsylvania Housing Research Center, we hope 2024 has been a safe and successful year so far. Similar to 2023, this past year has seen many changes within the PHRC. These changes include new staff, new locations, and a new associate director. Brian Wolfgang moved on from the PHRC to reenter the private sector of residential construction. Brian's leadership as the associate director over the past seven years has propelled the PHRC to what it is today, and we would like to thank him for his dedication to the industry. As of June 3, I stepped into the associate director role and hope to continue moving the PHRC forward as we embark on exploring new ways to provide the industry with knowledge through social media and video content. Now with some breaking news hot off the press! We are happy to announce that we have filled the open position of Residential Design & Construction Specialist! Pam Slusser will be joining us in the middle of October. Be sure to read more about Pam on page 6. New faces aren't the only thing that has changed. We also have new spaces! The second half of our team has just completed the move from our on-campus offices at University Park to our new location at the Lidia Manson Building on Research Drive.



Associate Director Chris Hine

The year ahead is setting up to be a rather busy one with plenty of opportunities as well as challenges on the horizon. As you may already be aware, Pennsylvania will be entering into a new code cycle with the base code moving to the 2021 International Residential Code (IRC) with an anticipated date of implementation of July 2025. We will be developing our 2021 Code Update series training modules, and pending the RAC report submission to the Department of Labor & Industry in October 2024, we will begin delivering these sessions in late fall/early winter. You can schedule these sessions through our new online speaker request form (see page 6 for more information.)

One thing is certain: the PHRC is positioned very well to continue to offer excellent educational programming and activities to the residential construction industry. There are many ways that you can keep in touch with the PHRC as we roll into fall, including our emails, our website, and our social media (Facebook, Instagram, X, LinkedIn, and YouTube). Keep an eye out for new campaigns this year and beyond as we continue to expand our reach and our impact. We are eagerly looking forward to a productive year, and hope that you can be a part of it!

# PHRC 2025 Housing Conference

## Save the Date!

### March 26–27, 2025

**Best Western Premier The Central  
Hotel & Conference Center**  
Harrisburg, PA

The **2025 PHRC Housing Conference** will highlight best practices, regulation, and innovation in the housing industry. This conference brings together all design and construction sectors of the housing industry, including builders, design professionals, remodelers, code officials, educators, factory-built housing manufacturers, and product manufacturers.

- Registration opens in late 2024!
- PHRC and Pennsylvania Builders Association (PBA) members, code officials, nonprofit staff members, and students receive a registration discount.
- Continuing education is available for sessions, which may include AIA, ICC, PA L&I, NARI, and PA PDHs for engineers.
- A hotel discount is offered with code HOUS24A through February 24, 2025.
- RLA CEUs for Landscape Architects in the Land Development & Planning track
- More information is available at <https://bit.ly/HOUSINGCONFERENCE>



## Session Topics

Speakers present on a wide range of topics about regulation and best practices in the industry. If you are interested in speaking at future PHRC Housing Conferences, contact Chris Hine, [chine@psu.edu](mailto:chine@psu.edu). Session topics may include:

**High-performance homes**  
**Codes and construction**  
**Weatherization and building science**

**Land development and planning**  
**Innovative technologies and materials**

## Sponsorship & Exhibitor Opportunities

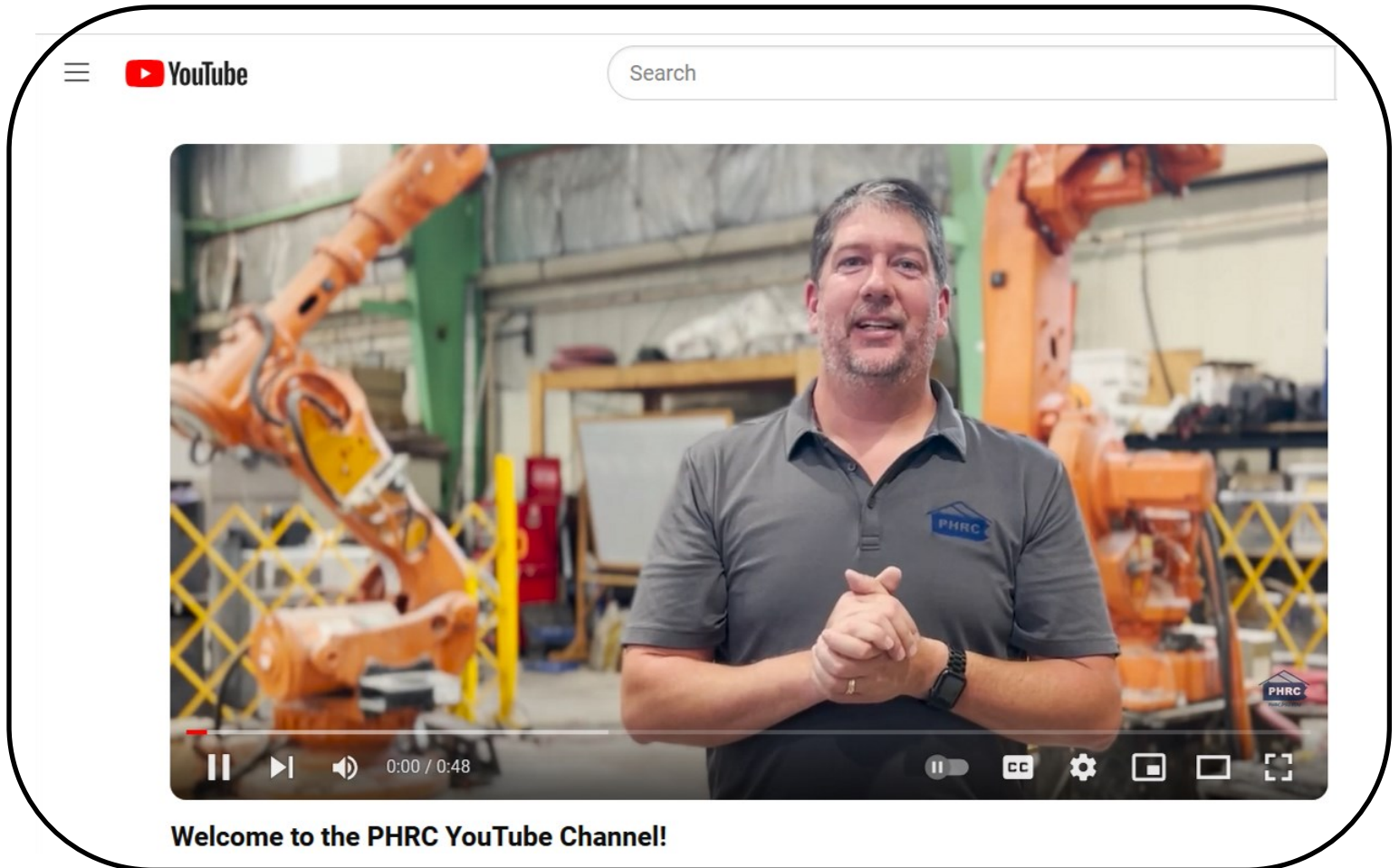
To sponsor, or to have a table at our Networking on the Exhibit Floor reception, contact Darrin Wright at [dtw153@psu.edu](mailto:dtw153@psu.edu).



# Just Press Play!

## New PHRC YouTube Channel Offers Instructional Videos for the Industry

Great news! The PHRC has officially launched its very own YouTube channel! This exciting new platform will enhance our mission to deliver top-notch educational content for the residential industry. Our channel will feature a variety of playlists to help you easily navigate our videos.



**Toolbox Tips:** Short, focused videos covering specific code provisions and essential details.

**Full Webinars:** Watch our complete recorded webinars in one convenient place.

**Webinar Clips:** Catch key moments and highlights from our webinars, complete with introductory context to make finding relevant information a breeze.

**Promotional Videos:** Stay up-to-date with the latest PHRC updates and industry news.



To make sure you never miss out on our new content, be sure to like and subscribe to our channel. You can find us by searching @PHRCPennState or simply scan the QR code to dive right in.

# A Fond Farewell

## from Brian Wolfgang

Over the years, one thing has become clear and consistent as it relates to the homebuilding industry: it is all about people and relationships. Whether those relationships are between a contractor and a supplier, a builder and a code official, or between colleagues within the same team, a successful homebuilding industry relies on robust and lasting relationships. The past six months have furthered this idea for me, personally, as I departed from the PHRC after nearly 11 years on the team. This decision was for many personal reasons, all positive and unrelated to the PHRC team, but was also incredibly bittersweet.

The PHRC has been around since 1988 and has a storied reputation for supporting and educating the residential construction industry. Although many people are familiar with the PHRC's programs and output, including publications and events, the PHRC is ultimately defined by people. PHRC leadership, team members, Industry Advisory Council volunteers, instructors, partners, and ultimately attendees and stakeholders are what define the true success of the PHRC. Now that I am in a different chapter in my career, away from the PHRC but still engaged, the importance of people continues to be apparent.



Ali Memari has always promoted the idea of a PHRC family. Family is family regardless of distance and changing circumstances. For me, this means that I will continue to prioritize engagement and remaining active with the PHRC. But this opportunity isn't limited to former PHRC team members. The PHRC table is large, and there are open seats waiting to be filled. Becoming part of the PHRC family is a way to build a network, grow in your career, and contribute to our homebuilding industry.

The PHRC has entered a new era of leadership with Chris Hine as associate director. Having worked with Chris for well over a decade, I can confidently say that the future for the PHRC team is bright. I will forever be grateful for my former PHRC colleagues and am eager to see what is next for the team. As I think about attending the next PHRC webinar, conference, or other event, I hope to continue to see new faces and see that network grow. The question is: will you be there, too? There's room at the table.

# Meet Pam Slusser

Born and raised on a farm in eastern/central Pennsylvania, I found myself having a passion for architecture at a young age. I would spend down time sketching homes I called my dream home; this led to me studying drafting and design technology at my local vocational school. I found myself employed in the modular home industry in the spring of my junior year in high school, and from there I continued learning as much as I could on the job. I was fortunate to work for a wonderful log home company, along with dabbling some in the glazing industry, drawing folding glass walls, solariums, skylights, etc. I was passionate to learn more; therefore, I took on the civil world and worked for a civil engineer, drawing subdivisions, land development plans, sewer extensions, and various other projects. It was during this time I ventured out as an entrepreneur, starting a residential design business and starting a track toward teaching. For the past 20 years, I have been teaching students the basics of drafting and design technology, including mechanical, architectural, and civil design.

In my personal life, I have raised three amazing children, two girls and a boy. All have graduated high school and are working toward their own careers. My older daughter graduates this spring from the Pennsylvania College of Technology with a certificate in brewing and fermentation, along with an associate's degree in business and finance. My

younger daughter is graduating in the spring with a bachelor's degree in early elementary education from Marywood University; she also plays field hockey with the university. My son is earning his CDL at the moment and works as a mechanic in his father's septic business. I still reside on a farm, where I have a horse and two miniature donkeys, along with three dogs and five barn cats. I help my father on his farm, where we raise grain, such as wheat, oats, barley, corn, soybeans, hay, etc. In the winter months, you can find me every other weekend in the butcher house, processing pork and beef beside my father and brothers. In the summer months, you will find me in any of my three gardens or working in my flower beds, as I love being outside and watching plants grow. I can't wait to see what is next for me in my career with PHRC and am looking forward to expanding my knowledge, as well as sharing my knowledge with other professionals.



## Speaking Engagements

The PHRC offers a speaker service, providing short technical presentations to companies, organizations, or associations related to the residential construction industry. Most of these presentations are for local, regional, or state groups or associations. These 30-to-60-minute programs are ideal for lunch-and-learns, dinner meetings, or other gatherings of your members and are also available for virtual delivery. Our team can create a private online meeting space where your team, audience, or members can log in to participate in a session delivered by a member of the PHRC staff.

One free speaking engagement will be provided to all Pennsylvania-based companies, organizations, and associations each year, independent of PHRC membership, which does not include overnight travel. Additional speaking engagements may be subject to a negotiated fee in order to cover travel and development costs. To schedule a speaking engagement, complete the PHRC Speaking Request form on our website (<https://bit.ly/PHRC-Speaking-Engagements>). The PHRC provides this service on a first come, first served basis.



## PHRC NEWS

Our PHRC News service features articles on trending topics, announcements on code changes, upcoming events, and more, allowing the PHRC team and guest authors to share time-sensitive information and technical content in a readable blog-style format. The mobile-friendly website allows you to stay up to date when you are on the go. You can search for content by relevant keywords, general categories, or an easy-to-use search bar. Keep checking back to the website (<https://sites.psu.edu/phrcnews>) as we continue to develop and customize it to meet the education and training needs of the residential construction industry!



# Become a Member!

Join the PHRC as a member today! Members receive additional access to trainings, discounts, and advertisement opportunities. PHRC membership fees support the outreach activities of the PHRC, students involved in the National Association of Home Builders Student Chapter at Penn State, and more.

Benefits available to PHRC members:

- Additional speaking engagement
- Annual conference discounts
- Workshop discounts
- Recognition in annual magazine, conference program, and PHRC website



<b>PLATINUM</b>	<b>\$5,000</b>
<b>GOLD</b>	<b>\$2,000</b>
<b>SILVER</b>	<b>\$1,000</b>
<b>BRONZE</b>	<b>\$500</b>
<b>ASSOCIATION</b>	<b>\$200</b>
<b>INDIVIDUAL</b>	<b>\$125</b>

## 2024 Members

### Platinum



### Gold



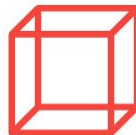
### Bronze

Sukonik Building Companies

### Association

Adams Township (Butler County)  
Blair-Bedford Builders Association  
BIA of Philadelphia  
Builders Association of Central PA  
Pocono Builders Association  
West Branch Susquehanna  
Builders Association  
York Builders Association

### Silver



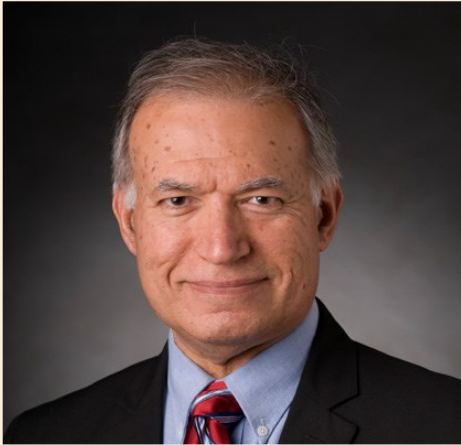
**BLOCKHOUSE**  
residential



### Individual

Steve Fleming  
Jim Franey  
Richard Hankin  
Dean Hilliard  
John Hudak  
Thomas McCosby  
Frank Thompson

# Hankin Chair Update



*Hankin Chair Ali Memari*

It is a great pleasure to have the opportunity to share a brief report on the progress of our activities in support of the residential construction (RC) program at Penn State during the 2023-24 academic year. The activities under the RC program include

offering multiple courses related to residential building design and construction, offering a minor in residential construction, managing and coaching participation of our students in two national competitions, carrying out research projects with the involvement of master's and doctoral students that will help advance state-of-the-art technologies in the residential construction field, and planning and holding the biennial academic conference, Residential Building Design & Construction Conference (RBDCC).

Some courses offered under the RC program include AE 470: Residential Building Design and Construction; AE 471: Construction Management of Residential Building Projects; AE 449: Ultra-High-Performance Buildings: Passive House Principles & Design; CE 410: Sustainable Residential Subdivision Design; and AE-CE 542: Building Enclosure Science and Design. With a critical mass of these residential-related courses, the RC program currently offers a 22-credit residential construction minor. We are pleased to share that over the past nine years since the start of the minor, over 91 students have been awarded the RC minor and 18 students are currently enrolled in the program.

Over the last few years, we have had a large number of doctoral students and a few master's students engaged in our ongoing research projects. Our main R&D focus has been on developing new construction materials, systems, and methods. In particular, we have been exploring the use of 3D-printing technology in construction and developing new and innovative sustainable construction materials, such as low carbon content concrete, hempcrete, cross-laminated timber, and use of recycled plastic in making concrete mixtures. Another focus area is natural hazard resistance, including evaluation of hurricane loading and effects on coastal homes. Another example focus area combines sustainability and resiliency by evaluating air barrier tapes and sealants for passive house design under earthquake-induced drift conditions and the development of retrofit methods for energy-deficient homes to upgrade to near-Passive

House standard. Finally, an ongoing track related to our practice-oriented research and publication efforts includes work on developing reports showing practical design of homes using different framing or wall systems, such as conventional wood framing, cold-form steel framing, CLT home design, panelized home systems, hempcrete home design, and insulated concrete form home design.

Continuing on the success of the past 17 years since the start of our Annual Hankin Distinguished Lecture that is held in honor of the late Bernard Hankin and his family, last year, we were honored by hosting our distinguished speaker Theresa Weston, who presented her lecture titled "Residential Innovation Challenges & Opportunities." Weston is the founder of The Holt Weston Consultancy and is a building science research professional specializing in durability and energy efficiency of buildings. Those interested can watch the recorded lecture on the PHRC website (<https://bit.ly/HankinLecture>).

The last item I would like to share is to report on the highly successful 2024 biennial Residential Building Design and Construction Conference (RBDCC) that was held March 27-28, 2024. The event featured two keynote speakers, Vivian Loftness, Paul Mellon Chair and professor in the School of Architecture at Carnegie Mellon University, and Graham Finch, principal and senior building science specialist at RDH Building Science Inc. Loftness' lecture was titled "Environmental Surfing at Home for a Resilient Future," while Finch's lecture was titled "Lessons in the Development of Innovative Prefabricated Façades for Mass Timber Buildings." The success of the conference is owed to the dedicated authors of the papers and presenters at the conference, which yielded six posters, 55 R&D presentations, and 59 full papers published in the Proceedings.

As in the past RBDC conferences, presentations and posters are based on abstract submissions, while full papers go through a peer review process. The 729-page proceedings document is freely accessible to the public from the PHRC website under the Publications tab. As in the past six RBDC conferences, the 2024 conference provided unique opportunities for the attendees to benefit from presentations on a wide variety of R&D topics related to residential buildings, including the following general areas: Building Science, Building Envelope, Airtightness, Energy Efficiency, Building Design and Climate, Healthy Homes, Housing and Society, Housing and Affordability, High-Performance Housing, Disaster Resiliency, Structural Design and Wind Loading, Building Materials and Hempcrete, 3D printing, MEP and Residential Construction Education. The 2024 RBDC Conference was held concurrently with the our annual PHRC Housing Conference, which is geared more toward the residential construction industry.



# On-Demand Courses



Do you have a busy schedule that makes the pursuit of continuing education difficult? You are able to receive continuing education credits from the PHRC at any time or day of the week! In addition to live webinars for continuing education, the PHRC offers on-demand courses to assist residential construction industry professionals in meeting ongoing continuing education requirements. Typical continuing education approvals include PA Department of Labor and Industry contact hours, PA professional development hours for licensed professional engineers, American Institute of Architects learning units, International Code Council contact hours or continuing education units (CEUs), and National Association of the Remodeling Industry CEUs. Upon completion of all course requirements, you can download your continuing education certificate. The on-demand courses are available through Penn State Extension. Course pricing varies upon the length of the course and applicable continuing education credits available. Check the specific course webpage for its cost.

<https://bit.ly/PHRC-On-Demand>

- **Mold Awareness in Residential Construction (coming late 2024)**
- **Understanding and Addressing Air Leakage in Attached Dwellings (coming late 2024)**
- **Decked Out: A Dive into the Updated 2021 IRC Residential Deck Code Provisions (coming early 2025)**
- **2021 PA UCC Residential Code: Update 1 (coming early 2025)**
- **2021 PA UCC Residential Code: Update 2 (coming early 2025)**
- **Navigating the Ever-Changing Energy Code Landscape, the 2021 IRC/IECC Edition (coming spring 2025)**
- **Mastering Exterior Insulation: Navigating PA's New UCC Code Requirements (coming spring 2025)**
- **Open Concept Floor Plan Considerations (coming spring 2025)**
- **Solar PV in PA: Intro to the Design of New Construction and Retrofit Residential Systems**
- **Reducing Thermal Bridging with Continuous Exterior Insulation**
- **High-Performance Walls in Pennsylvania**
- **Control Layers: Vapor Barriers, Vapor Retarders, & Air Barriers**
- **The Do's and Don'ts of Crawlspace Design and Construction Revisited**
- **Healthy Homes: Insights for Existing Construction**
- **Wall Bracing in the UCC**
- **Air Sealing Tips, Tricks, & Details**
- **All-Electric New Homes in PA**
- **Adapting to Tighter Enclosures through Scopes of Work**
- **Adapting Stucco & Stone Assemblies to Changing Codes**
- **Moisture Control Layers & Materials**
- **Attic Ventilation: Understanding the Why**
- **The Cost of Airtight Homes**
- **Comfort in a Bonus Room? It's in the Details**

# Q&A CATCHING UP WITH CHRIS HINE

*This summer, Chris Hine transitioned from residential design & construction specialist to associate director of the PHRC. Chris got into the residential construction industry after studying architectural technology at Penn College and working first at Toll Brothers, then at S&A Homes, where he worked his way up to the tech service management position. His first experience with the PHRC was being asked by Mark Fortney to serve as the builder expert on a panel at the PCCA Symposium, which led to teaching blueprint reading classes, overcoming a fear of public speaking, and discovering a sense of fulfillment in teaching industry professionals. Chris and his wife Kristy have been married over 20 years and have three children, Ryan, who is a sophomore studying pharmacy at Wilkes University; Riley, a senior in high school, who is very "driven," enjoys sports, and works at Geisinger-Lewistown Hospital; and Reese, a high school junior who plays golf and tennis and is "extremely musically talented."*

## What year did you start at PHRC? In what ways has PHRC changed over the years you've been here?

In 2013, so it's been 11 years. When it comes to the educational content of the PHRC, they've always been top notch. Throughout the years, we've added something new. We've gone from a strictly educational institution to really being a stakeholder in the education and building science portions of the residential industry, not only just in Pennsylvania but across the country.

## What's something valuable you've learned during your career?

Don't think you know everything, because the moment you think you know everything, you'll be reminded that you don't. So don't be afraid to take a chance on learning something new, because you may find that it is extremely valuable in what you do. So just because you may not be interested in it, doesn't mean that you shouldn't learn about it, because I've found that's really the case with me. There are several things that I found — like "I don't need to learn about energy efficiency or passive house" or whatever it is, until you realize that to be well-rounded in the industry, to help people, you need to know a lot of that stuff.

## Who, or what, do you draw inspiration from?

My wife. She's an amazing person that is really the foundation of our family, and I always look to, "what would Kristy's reaction be,"



Chris and Kristy Hine

or "how would she pursue answering this question or tackling this idea." And I bounce a lot of things off of her just to get her opinion, because she's the smartest person I know, and I really look up to her.

## What's number one on your bucket list?

Number one on my bucket list since *Top Gun* came out was to become a private pilot. At the age of 45, that hope and dream is dwindling, but that's still number one.



Riley, Kristy, puppy Paisley, Ryan, Reese and Chris Hine

## What do you like doing in your spare time?

Being with family. We do several different things together. We often all golf together. We are a very competitive family. It doesn't matter if it's on the gold course, on the basketball court, or playing cards — we are a very, very competitive family, and we all have so much fun doing it. We are all very athletic, and we don't stray too much away from a challenge, so I love spending time with my family.

## What are two of your biggest pet peeves?

Hearing people chew is one of them. Folks in public that have their phone call on speaker phone or someone watching videos in public without earbuds or headphones. Have some respect for the people around you. I truly believe respect across the board is not what it used to be. Respect for people and respect for opinions. I don't have to agree with the opinion, but I should still respect the person.

### What sports and teams do you follow?

I've always been a Notre Dame football fan. When I first interviewed with the PHRC, word got back to them that I was a Notre Dame fan, and they said that part of my hiring process would be to be converted from a Notre Dame fan to a Penn State fan. It's always been the running joke, for 11 years. I'm currently a Philadelphia Phillies baseball fan. They're a fun team to watch. They're not doing the greatest right now, but there's a lot of personalities on that team that I find exciting to watch.

### What makes you laugh the most?

I'm pretty sarcastic with my family, and I catch flack from them quite often, because they're like, "Dad, why can't you just be serious," until they pull some practical joke on me. When they get me back, that is a highlight, that does make me laugh. You would think I would learn by now that every year for April Fools, my daughter puts tape on the spray nozzle for the kitchen sink, and I go over and flip it on, and I get soaked. Practical jokes—I love them and it's one of those things that I've passed along to my kids, and they love doing it back, so that always makes me laugh.

### If you could make friends with any fictional character who would it be?

Iron Man, for sure. That entire group, they all look up to him as a leader, and that, to me, is very important.

### If you could have any talent what would you choose?

I wish I could play the piano. I could listen to piano music all the time.

### What do people overestimate or underestimate about you?

They probably overestimate my level of patience. I'm not a very patient person. I've been working on that for a very long time.

### If you could send a message to the entire world what would it be?

Don't be so serious. I get that there are times to be serious. There are so many things that happen that if people would just take a step back and realize that it's not all about them, it's about letting people just be people. I don't mean everything to be a joke, it's just, don't take everything so internally, it's not all about you.

### If you could dedicate a year of your life to a cause, what would it be?

Probably a mission trip to a third world country. If I could go and contribute some of my knowledge to improving their construction or their way of life, I think that would be absolutely amazing.

### What's a tradition in your family that you cherish?

Cutting down a Christmas tree. We all go together, the dog included, and we go tromping through, find a tree, and then we spend the next 45 minutes looking at 100 other trees, and we always go back to cutting the first one down. That is a tradition that I look forward to, and I absolutely cherish.

### Describe your long-term vision for PHRC? In what ways would you like to see it expand or improve? What do you hope will be the legacy you leave?

We have always seen new construction as our target market. [...] Everybody before me built an amazing foundation, and they've created it, and everybody has picked that up, and they carried that forward. However, I would say one of the biggest things we could include is the existing home market. There are a lot of remodelers out there; there are a lot of trade contractors that do remodeling; there are a lot of companies that solely do design and construction work for remodels. That is a market that I would love to tap into. [...] If we could help improve the affordability, constructability, and energy efficiency of existing product in remodels, I think that would be a huge contribution to the industry.



Chris and Kristy Hine

### Do you have any favorite moments so far at PHRC?

We started doing video series quite a few years ago, and we were doing air barriers behind tubs and showers, and we had to do multiple takes because [former PHRC Associate Director Brian Wolfgang] kept calling them "shub towers" instead of tub showers. That's a fun moment, and that was the beginning of our content for creating videos. Our conference is always a highlight. I've taken a lot of pleasure in coordinating, pulling together, and ultimately delivering the conference, and I would say that is probably one of my favorite things to do with my job here at the PHRC.



# Crowdfunding Campaign

Join in for the third crowdfunding campaign to support the Residential Construction program at Penn State! Funds raised benefit student activities, competitions, scholarships, and courses related to residential construction. The campaign ends on Friday, October 18, so don't miss out on this opportunity. Some specific items that you're supporting:

- Scholarships for NAHB student chapter members
- NAHB student chapter annual registration (\$400)
- Site visits to construction sites and finished projects
- NAHB Student Competition: Registration fee (\$400) and travel funds to the International Builders' Show
- Volunteer opportunities with Habitat for Humanity and other local organizations
- Community building activities for students

Don't forget to ask your employer if they would match your donation. Involvement in this program offers students the opportunity to grow in their understanding of residential construction and prepare them for their careers.

Thank you for investing in the next generation of residential construction industry professionals!

**Donate by October 18**

[bit.ly/2024-25CrowdfundingCampaign](https://bit.ly/2024-25CrowdfundingCampaign)



# 2024 NAHB Student Competition

The National Association of Home Builders (NAHB) student chapter at Penn State participated in the production homes category of the NAHB Student Competition held at the 2024 NAHB International Builders' Show (IBS) in Las Vegas. There were 24 universities from across the United States who participated in this annual competition. The competition challenges student teams to solve a real-life construction management problem and develop a proposal for a residential subdivision. The provided competition site was a 49-acre site located in West Summerlin, Nevada. The team developed a 50-page proposal for a 144 single-family unit subdivision that included four single family floor plans, ranging in square footage from 3,754 up to 4,656 square feet. All floor plans were designed with the goal of efficiency, fostering family bonding and relationships, and meeting the silver rating from the National Green Building Standard. Additionally, the proposal included thoroughly vetted market, financial and risk analyses, and a land development plan.

The 2024 presentation team included: Alexander Smith, architectural engineering as project manager; Diana Gomez-Fonseca, architectural engineering; Sumner Hosterman, civil engineering; Justin Miller, architectural engineering; Paris Pavelchik, architectural engineering; and Jonathon Bodenschatz, finance. The student team was coached by staff of the PHRC: Brian Wolfgang, associate director; Chris Hine, residential design & construction specialist; Darrin Wright, high-performance housing specialist; and Carl Bankert, an RC program instructor. "The 2024 competition was a difficult one. The students had to complete a site design on a challenging plot of land where they had to combine the two parcels and then develop product at a specific market driven price point," said Hine. "Our goal as coaches is to provide the atmosphere of a lifelike corporate board room and construction meeting room experience. Team travel support was generously provided by the National Housing Endowment IBS Travel Award, the University Park Allocation Committee, and the PHRC."



## 2024 DOE Solar Decathlon

The PHRC supported the Stormbreak Team in the U.S. Department of Energy Solar Decathlon Design Challenge. For last year's competition, Penn State partnered with the Centre County Youth Service Bureau (YSB), a nonprofit that helps ensure children, youth, and families have every opportunity to reach their full potential. They proposed a design for a comprehensive retrofit solution on a historic brick single-family home that was converted into a girls' shelter by YSB. The team was led by undergraduate students in architectural engineering, Eric Cheng and Paris Pavelchik, and architecture, Nina Ferrante. Intended to meet 2021 IECC standards, the project team's goal was to redesign the home offering a more comfortable, usable, and sustainable living environment for the residents and staff while maintaining the historic character of the structure. For the initial assessment, Chaz Steffan of Ideal Living Environments Inc. generously worked with the student team and PHRC staff to conduct a blower door test on the home, which informed design choices of the project. As a shelter, the retrofit was a phased project, which would allow residents minimal disruptions and continued occupancy. Some project features included accessibility upgrades, a complete revision of the basement floor plan, an additional stud on the interior of exterior walls, reconfiguring bathrooms, and updating the MEP systems.

The annual competition features a one-credit course in the spring semester, CE 411: Residential Construction Design Project, to help align student skills and foster collaboration across disciplines. Last year's course was taught by Brian Wolfgang, former associate director of the PHRC, with assistance from Rachel Fawcett, housing affordability specialist of the PHRC. Ali Memari, Bernard and Henrietta Hankin Chair of Residential Construction and director of the PHRC, served as the head competition adviser. Students, faculty, or industry interested in participating in the 2025 competition as a member or adviser should contact Memari, [amm7@psu.edu](mailto:amm7@psu.edu).



# 2024-25 Webinar Schedule

Tune in every second Tuesday of the month, 1:00-2:00 p.m. (E.T.), and occasionally on the last Thursday of the month, 11:00 a.m.- noon (E.T.), for free webinars! Live webinars are approved for American Institute of Architects (AIA) learning units, International Code Council (ICC) contact hours or continuing education units (CEUs), Pennsylvania Department of Labor and Industry (L&I) contact hours, National Association of the Remodeling Industry (NARI) CEUs, and PA professional development hours (PDHs) for licensed professional engineers, which includes certificate for \$25. Past webinars are available to view on our website under "Industry."



Join  
Webinars



<https://bit.ly/PHRCWebinars>

**9/26 @ 11 a.m. ET**

## ***Mold Awareness in Residential Construction***

This webinar on "Mold Awareness in Residential Construction" aims to educate construction professionals about the risks, identification, prevention, and remediation of mold in residential buildings. Mold can pose significant health hazards and structural issues if not properly managed.

Attendees will learn about the conditions that promote mold growth, methods for identifying mold, strategies for preventing mold in new and existing constructions, and the best practices for remediation when mold issues arise.

**10/8 @ 1 p.m. ET**

## ***Understanding & Addressing Air Leakage in Attached Dwellings***

This session will review areas within attached dwelling units where air sealing can be difficult. These areas include the wall assembly separating two-family dwellings and the rated wall assembly required in townhouses not more than three stories in height. We will assess areas of air leakage in commonly used wall assemblies and review ways to reduce air infiltration. Finally, we will look at additional wall assemblies that may not be commonplace but have the potential to help with reducing high air leakage rates.

**10/24 @ 11 a.m. ET**

## ***Critical Understandings for Land Development***

Over the past few decades, stormwater management requirements have become more complex as flooding, drought, and extreme weather frequency have become more apparent. This presentation will cover the basics of stormwater management permitting; changes to the NPDES permitting process; legal aspects and documentation needed for developers during design, construction, and property settlement; compliance trends for common developer situations during permit close-out; and some lesson's learned over the years.

**11/12 @ 1 p.m. ET**

## ***2021 PA UCC Residential Code: Update 1***

In accordance with the requirements of Act 45 of 1999 as amended, the Pennsylvania Uniform Construction Code (UCC) Review and Advisory Council (RAC) completed the review of the 2021 I-Codes on June 13, 2024. The code provisions that were adopted during this process are anticipated to take effect in July 2025. This session will review implications of transitioning to 2021 ICC base codes, discuss Pennsylvania legislative and RAC amendments, and dive into some highlights of the new code provisions for residential construction.

**12/10 @ 1 p.m. ET**

**2021 PA UCC Residential  
Code: Update 2**

Building upon the previous webinar of the 2021 PA UCC Residential Code: Update 1, this session will dive deeper into implications of transitioning to the portions of the 2021 ICC base codes that were approved for adoption. It will dive into some highlights of the new code provisions affecting residential construction.

**1/14 @ 1 p.m. ET**

**Decked Out: A Dive into the  
Updated 2021 IRC Residential  
Deck Code Provisions**

Join in for an overview of the updated 2021 International Residential Code (IRC) deck provisions! This session will highlight past deck failures while exploring their root causes and crucial lessons learned. Next, dive into the current and updated provisions of Chapter 5 of the 2021 IRC along with additional guidelines to ensure our future designs and builds are “decked out” for safety as well as functionality.

**2/11 @ 1 p.m. ET**

**A Call to Action on Opioids  
& Naloxone**

The construction industry has been adversely impacted by the ongoing opioid crisis. Opioids impact both overall mental health and wellbeing of the workforce, as well as company performance. The intersection between substance misuse and suicide is well known. In 2022, there were approximately 50,000 suicides in the U.S., and over 108,000 overdose deaths. Construction has the second-highest rate of suicide among major industries and the highest rate of death from overdose among 20 industries, with over 70% of these related to opioids and the synthetic fentanyl comprising not less than 75% of these.

**3/11 @ 1 p.m. ET**

**Navigating the Ever-Changing  
Energy Code Landscape, the 2021  
IRC/IECC Edition**

One of the more challenging parts of the UCC (Uniform Construction Code) for residential builders is navigating the evolution of energy code provisions. This session will provide an overview of energy-related provisions in the UCC, with an emphasis on changes associated with the 2021 IRC/IECC adoption. Learn about some of the ongoing challenges faced by builders and contractors, including new climate zone maps, continuous insulation requirements, increased slab insulation, energy code compliance paths, and Pennsylvania Alternative

**4/24 @ 11 a.m. ET**

**Mastering Exterior Insulation:  
Navigating Pa’s New UCC Code  
Requirements**

This webinar will explore the latest updates in the Pennsylvania Uniform Construction Code (UCC), specifically concerning continuous exterior insulation. You’ll learn about the key changes, compliance strategies, and best practices to optimize energy efficiency and meet the new energy standards. Whether you’re a contractor, architect, or building professional, this webinar will provide essential insights to keep your projects up to date and in compliance with the new requirements.

**5/13 @ 1 p.m. ET**

**Open Concept Floor Plan  
Considerations**

Tune into this session to learn about open concept floor plans in residential construction. You will gain an understanding in how to effectively assess if an open concept floor plan is a good choice for a home and its occupants. We will begin with an overview of the history on the concept and when it rose to popularity in the United States. Next, the session will address common uses and overarching goals for an open concept floor plan in the overall function of a home. Finally, we will discuss opportunities and challenges for the builder and occupant that should be considered when designing an open concept floor plan.

# We've Moved!

The start of the 2024-25 academic year finds the PHRC staff in new surroundings, as Sackett Building undergoes a complete renovation this year. Memari's office is now located in the new Engineering Collaborative Research and Education (ECoRE) Building on the west side of the University Park campus. The rest of PHRC's staff is now housed in the Lidia Manson Building, off campus at CATO Park. Named for an Apollo engineer and the first woman to earn a master's degree in engineering at Penn State, the Lidia Manson Building also houses several laboratories, including the Building Enclosure Testing Laboratory (BETL).



*Lidia Manson Building*



*ECoRE Building*

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The PHRC collaboratively engages with the residential construction industry to catalyze advancements in homebuilding through education, training, innovation, research, and dissemination. The PHRC envisions a residential construction industry equipped with the knowledge, skills, and technology to build better homes.

*Director:* **Ali Memari**

*Associate Director:* **Chris Hine**

*Meeting & Events Coordinator:* **Alayna Kilic**

*Financial & Communications Coordinator:* **Mindy Boffemmyer**

*High-Performance Housing Specialist:* **Darrin Wright**

*Housing Affordability Specialist:* **Rachel Fawcett**

*Residential Design & Construction Specialist:* **Pam Slusser**