Course GBCI ID: 0920007868

**Course Name: Integrated Wall Retrofit Solutions for Existing Masonry Construction for Commercial Buildings**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

The presenters will review air, thermal, and moisture performance impacts for a number of integrated retrofit packages and then discuss the best practice recommendations, which will be based on evaluation against critical parameters, simulation results, and laboratory tests, as well as field data collection.

**Objectives**

1. Discuss air, thermal, and moisture performance impacts for a number of integrated retrofit packages.
2. Identify best-practice recommendations for an energy-efficient, cost-effective retrofit on the interior of existing masonry wall system.
3. Review and validate the simulation analysis against laboratory test results performed for thermal performance and air leakage analysis.
4. Analyze potential energy savings achievable through an integrated energy-efficient retrofit.

URL: http://aiapgh.org/aia-programs-events/build-pittsburgh-2016/presenters-programming-2/

LEED Specific: No

CE Hours: 1.0

Course GBCI ID: 0920007827

# **Course Name: Transformation in Mobility: Impacts of Connected and Automated Vehicles in the Built Environment**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

Join this presentation to learn about future disruptive technologies of connected and automated vehicles, along with current trends in the shared economy and the proliferation of big data associated with mobility. The presenter will speculate upon potential positive and negative impacts of these disruptive technologies, particularly with regard to mobility and urban design, and discuss how architects and design professionals might prepare for the future.

### Objectives

1. Understand the connected vehicle technology and the federal regulatory action.
2. Recognize the difference between automated and driverless vehicles.
3. Identify examples of shared use and big data in relation to mobility.
4. Provide examples of positive or negative impacts of these technologies on urban design, with regard to mobility and urban design, and understand how architects and design professionals might prepare for the future.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.5

Course GBCI ID: 0920007826

# **Course Name: Tiny House Take Two**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

This course will provide a brief background on the history of the Tiny House movement, from roots in manufactured housing to modular homes, and discuss the pros and cons of the design, financial, permitting, and building processes. These case studies will share two very different experiences, driven by location and purpose, of an architect and a developer in the design and building of tiny homes.

### Objectives

1. Review the history of the Tiny House movement, from roots in manufactured housing to modular homes.
2. Discuss two case studies, noting the pros and cons of the design, financial, permitting, and building processes involved in building tiny homes.
3. Specifically, recognize the challenges of building tiny houses in cities per current zoning, IRC, and HUD building codes.
4. Discuss current and future issues, such as affordable housing, temporary shelters, or accessory units, where tiny houses provide solutions.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.0

Course GBCI ID: 0920007825

# **Course Name: Resilient Design: Considerations of Standard of Care, Contract Compliance, & Sustainable Initiatives**

Provided by: Green Building Alliance

Course Date: 04/21/2016

### Description:

### About

This program will examine the standard care in the practice of architecture, how it differs in various contexts such as location, and how the profession is evolving through increasing technology when delivering projects to clients. Participants will learn how architects are responding to resilient design challenges that impact the health, safety, and welfare of the public, and understand that the standard care of their profession can be changed by contract provisions in agreements between themselves and their clients. Additionally, this course will examine how resilient design requirements impact not only their practice, but also their clients and the public welfare.

### Objectives

1. Understand the standard care in the practice of architecture, how it differs in various contexts such as location, and how the profession is evolving through increasing technology when delivering projects to clients.
2. Discuss how architects are responding to resilient design challenges that impact the health, safety, and welfare of the public.
3. Understand that the standard care of the architectural profession can be changed by contract provisions in agreements between architects and their clients, including how other professional associations are responding to the changing environment around us.
4. Understand how resilient design requirements impact not only the architectural practice, but also clients and the public welfare.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.0

Course GBCI ID: 0920007823

# **Course Name: Saw Mill Run: A Case Study for Managing Issues of Stormwater Runoff Across Municipal Boundaries**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

During this session, you will hear how these organizations embarked on an ambitious collaboration for the mutual benefit of the watershed communities that addresses the issue of stormwater runoff and sewage overflows across jurisdictional boundaries. In addition, you will learn what a watershed is and some insights on how to deal with the challenges of developing sites along streams and waterways.

### Objectives

1. Define a watershed and a flood plain.
2. Understand EDS as an organization and how EDS benefited from collaboration with AIA.
3. Discuss how this collaboration of the municipalities mutually benefited the watershed communities by addressing the issue of stormwater runoff and sewage overflows across jurisdictional boundaries.
4. Understand how to deal with the challenges of developing sites along streams and waterways.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.0

Course GBCI ID: 0920007822

# **Course Name: Add Art, Add Value: Public Art for Architects**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

This course will introduce architects, landscape architects, and engineers to the value of working with artists on projects of various scales and typologies by looking at local and national examples. Through a series of case studies, attendees will learn about different project types, discuss best practices, and learn about local and national resources for public art.

### Objectives

1. Identify successful examples of public art projects both locally and nationally.
2. Discuss different project types for public art in architecture, landscape architecture, and engineering projects.
3. Discuss best practices for artist selection, artist fees, artist contracts, and project management.
4. Utilize local and national resources for public art.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.0

Course GBCI ID: 0920007821

# **Course Name: Re-Inventing Microgrid Power Systems for Net Zero Buildings**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

The focus of this course is on those used in buildings and their relationship to utility power grids. It is in buildings that the challenge of powering the “Internet of Things” will take place and where the sole reliance on hundred-year-old AC power technology is increasingly becoming wasteful and technically inadequate.

The course will give a basic understanding of the concepts involved and what technical characteristics of building/campus-level microgrids can be leveraged to achieve net-zero energy use. Several strategies that can allow a green building design professional to get involved in the continued growth and deployment of the ENERNET from a building design and construction perspective are presented. The course will include a live demonstration of a wirelessly controlled room-level microgrid powered by LVDC as typically sourced from a site-based solar PV system.

As an added feature, Gregory Reed, Ph.D., professor of electrical and computer engineering at the University of Pittsburgh’s Swanson School of Engineering and Director for Pitt’s Center for Energy in the Swanson School, will give a brief overview of the Hybrid AC/DC Microgrid activities at Pitt’s new Energy Innovation Center in downtown Pittsburgh. The Center is expected to be a continuing resource for course-related work and additional educational opportunities for interested participants. Also, at the conclusion of the course, a case study report on the net-zero solar-powered PNC Bank branch in Ft. Lauderdale, Florida, will be given.

### Objectives

1. Demonstrate a basic understanding of efficient, resilient hybrid power microgrids for use in commercial, residential, and off-grid building.
2. Understand and address the specific challenges and benefits of utilizing new hybrid utility/on-site power sourcing, storage, and use technologies within buildings.
3. Make a preliminary evaluation of and decide on applicability of the design and construction of hybrid power systems for commercial, residential, and off-grid buildings.
4. Understand the composition of and describe the basic operational modes of a hybrid AC/DC microgrid power system.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.5

Course GBCI ID: 0920007820

# **Course Name: The International Codes and Resilience: You Can't Have One Without the Other**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

The presenter will review the recent changes to the International Building Code (IBC), the International Residential Code (IRC), and the International Energy Conservation Code (IECC) that affect new construction and substantial renovations; the upcoming changes to the International Green Construction Code; and how all of the codes relate to green building rating systems. Highlights of pending or proposed Federal policies impacting building codes will also be discussed.

Take this course to again an understanding of the nature of resiliency, and how various definitions of the term affect what elements are seen as critical or important to new and existing buildings; the developing trends in the IECC, and how those trends intersect with other trends in residential and commercial construction; the development process of the International Codes, and how recent changes implemented by the organization make participation in code development easier and more accessible; and the issues and conflicts that affect the development of the codes, and how the resolution of such issues may impact future design and construction practices.

### Objectives

1. Understand the nature of resiliency, and how various definitions of the term affect what elements are seen as critical or important to new and existing buildings.
2. Recognize developing trends in the International Energy Conservation Code (IECC), and how those trends intersect with other trends in residential and commercial construction.
3. Understand the development process of the International Codes, and how recent changes implemented by the organization make participation in code development easier and more accessible.
4. Discuss issues and conflicts that affect the development of the codes, and how the resolution of such issues may impact future design and construction practices.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.0

Course GBCI ID: 0920007819

# **Course Name: Green Roofs: Hard Data to Support the Hype**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

In 2010, Allegheny County set out to test most of those claims by installing four different types of green roof systems on half of the County Office Building roof, leaving the remainder for comparison. An important part of the installation was an extensive data collection system. Members of the project team will explain the project concept and present the data in terms of water infiltration and thermal analysis, showing what has been learned to date from the different roof types and proving that there are definite advantages to green roofs.

### Objectives

1. Understand the composition of different types of green roofs.
2. Explain the performance differences in green roof types.
3. Present issues in the maintenance and construction of green roofs.
4. Substantiate the advantages of a green roof with hard data.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.5

Course Name: 0910001005

# **Course Name: The Race is Really the Prize: Ecodistrict Planning and Aggregated Action**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

This session will present the emerging trends that are defining ecodistricts and urban planning and how the concept is being implemented nationally and regionally. Learn how to: distinguish between various frameworks for addressing community sustainability and apply them in part or whole; identify the various physical systems and resource flows, i.e., the “hardware” that can be measured in ecodistrict planning; recognize the importance of the “software” of community capacity and how the design process can activate as well as engage a community; and understand the different types of ecodistrict metrics, processes, and outcomes through regional and national examples.

### Objectives

1. Distinguish between various frameworks for addressing community sustainability and apply them in part or whole.
2. Identify the various physical systems and resource flows, i.e., the “hardware” that can be measured in ecodistrict planning.
3. Recognize the importance of the “software” of community capacity and how the design process can activate as well as engage a community.
4. Understand the different types of ecodistrict metrics, processes, and outcomes through regional and national examples.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.5

Course GBCI ID: 0920007814

# **Course Name: Designing Smart Environments: Integrating Resilience, Sustainability, Information and Experience**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

The typical definition of a smart building is one that uses information technology and computing power to enhance building performance. However, a few years ago, when team members at CH2M began looking into smart buildings for their clients, the marketplace seemed confusing as manufacturers of everything from building management systems to window blinds were claiming to own the ‘smart building’ space. This confusion became the inspiration to begin a research project that would try to define what a truly ‘smart’ environment (room/building/campus/city) could be in terms that would actually help clients and direct change in the approach to design. This resulted in a group of thought leaders from different design and engineering disciplines to work on this problem.

During this presentation, the CH2M representatives will report the group’s findings to date, and present a comprehensive perspective that integrates system resilience, resource sustainability, information technology, and human experience. The presenters will discuss these four factors and how they influence each other, sometimes converging and at other times diverging, and then present a framework that can be useful in helping clients better define their needs while helping designers uncover emergent design opportunities.

### Objectives

1. Identify recent trends in the use of information technology and computing power to transform building systems into cyber-physical systems.
2. Understand resilient building systems and differentiate between risk assessment and fragility assessment, and the potential benefits of the latter.
3. Discuss the synergies and conflicts between resiliency and sustainability.
4. Describe how the occupant experience is impacted by the confluence and divergence of the factors of resource sustainability, system resilience, and information technology.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.5

Course GBCI ID: 0920007801

# **Course Name: Building a Resilient Pittsburgh**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

Grant Ervin, Chief Resilience Officer of the City of Pittsburgh, will provide a brief update on the Resilient Pittsburgh initiative; share insights into the practice of urban resilience, focusing on the challenges and opportunities that this new urban systems management process presents; and discuss the implications for southwestern Pennsylvania’s built and natural environments, as well as lessons being applied through the development of the City's first resilience strategy.

### Objectives

1. Understand the 100 Resilient Cities initiative and the current status of Pittsburgh’s first resilience strategy.
2. Recognize the challenges and opportunities of urban resilience.
3. Discuss the implications of urban resilience for the built and natural environments.
4. Understand how the application of the “resilience lens” and “resilience dividend” can integrate into transformations within the built and natural environments.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.0

Course GBCI ID: 0920007799

# **Course Name: Akron Children’s Hospital: Success Achieved through REAL Integrated Project Delivery**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

Join this presentation to learn how the composition of this IPD team—extending well beyond the owner, architect, and contractor—benefited from Lean Process Improvement principles to reduce waste and translate direct value back to the project. This methodology will continue to contribute to Akron Children’s success and ensure better quality and efficiency of the spaces within. Presenters also will discuss the importance of IPD as an extensive data-driven process and share the lessons learned from this recent journey where these newer approaches to design and construction were utilized.

### Objectives

1. Understand the Lean Process Improvement principals as applied to this project in order to reduce waste, cut costs, improve productivity, and create positive outcomes.
2. Identify the IPD team and the importance of the entire team’s input through the design and construction process.
3. Understand IPD as a data-driven process.
4. Explain the lessons learned from this case study in order to make more informed decisions during projects that utilize the IPD approach.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 1.5

Course GBCI ID: 0920007797

# **Course Name: The 2030 Challenge: Setting + Achieving Energy Goals with Integrated Design**

Provided by: Green Building Alliance

Course Date: 04/21/2016

Description:

### About

It is now well known that the Integrated Design Process (IDP) is a critical component of high-performance building design. We will explore how it can be used to select collaborative strategies that collectively achieve the latest targets outlined in the 2030 Challenge, which now require 70% energy reduction on newly constructed buildings. In particular, we will examine the utility of IDP, as well as new tools and processes that can be used in defining core, early design decisions such as building form and orientation.
Kicking off the 2030 Series will be Lance Hosey, FAIA, LEED Fellow, and Chief Sustainability Officer at Perkins Eastman. Author of “The Shape of Green,” his work challenges those who perceive beauty and sustainability as being mutually exclusive. Anna Siefken of the Green Building Alliance will describe the Pittsburgh 2030 Districts, the most ambitious in the nation. Marc Mondor, AIA, LEED Fellow of evolveEA, will describe the Integrated Design Process in theory and practice.

### Objectives

1. Explain how the Integrated Design Process differs from traditional design.
2. Provide examples of the most recent approaches to the Integrated Design Process to achieve higher-performing goals.
3. Identify specific characteristics of Integrated Design and its implications for building energy performance.
4. Understand how integrated design synthesizes climate, use, loads, and systems resulting in a more comfortable and productive interior environment, and a building that is significantly more energy-efficient than current best practices.
5. Summarize the potential benefits gained by employing the Integrated Design Process, including the potential to tunnel through the cost barrier and create buildings with lower first costs, better comfort conditions, and large energy savings.
6. Understand how the Integrated Design Process is a means of testing multidisciplinary impacts of design decisions prior to implementing them.
7. Understand how the Integrated Design Process helps to avoid missed opportunities and unforeseen circumstances or conditions.

URL: https://www.go-gba.org/events/build-pittsburgh-2016-bounce-forward-design-for-resiliency/

LEED Specific: No

CE Hours: 4.0