



# COTE Intensives Series

Join us for the final session only offered at Build Pittsburgh 2015!

As requested by our members, AIA Pittsburgh's Committee on the Environment (COTE) developed the COTE Intensives, a three-part series of lectures and workshops designed to dive deeply into various sustainability topics of interest.

## COTE Intensive III

1:30–5:30 p.m.



### **Innovative Strategies for High-Performance Envelopes: Effective Design, Testing, and Inspection**

**4 LU/HSW HOURS AND 4 GBCI CE UNITS**

**PRESENTED BY:** Lisa Adkins, AIA, Gensler; Rob Hosken, Building Performance Architecture; Sanyog Rathod, AIA, Sol Design and Consulting; and Jeremy Snyder, P.E., Buro Happold

**COURSE DESCRIPTION:** Developed by AIA Pittsburgh's Committee On the Environment (COTE), this course will take an extended look into innovative strategies for high-performance envelopes that focus on effective design features and testing and inspection methods to be evaluated and incorporated into projects. This two-part course will present strategies and technical guidelines for designing environmentally sensitive energy-efficient facades based on scientific principles. Participants will gain insight into Pittsburgh's newest skyscraper, PNC Tower 4, and the climate-specific approach implemented for minimized energy consumption.

This course will then focus on inspecting and testing building envelopes, interpreting results, understanding problems and making practical recommendations to correct those problems, and key steps in the successful creation of high-performance building envelopes, which reduce building energy use and improve occupant comfort. Participants will learn about building envelope testing and inspection practices for low-rise and mid-rise multifamily, commercial, and institutional buildings.

No need to have attended the first two Intensives. This course begins with basic educational information, moves to an intermediate level, and is geared to all firm sizes. Additionally, this course can be beneficial to all project types. The material will be drawn from multifamily residential projects, more than other types, and also will be beneficial to engineers, contractors, and other design/build professionals.

## Key to Courses



### **BUILDING PERFORMANCE**

focuses on systems integration, materials and methods, operations, and metrics of a viable building that contributes to a healthy work and living space.



**DESIGN** topics include project planning, either new building or existing, from concept design through design development and documentation.



### **LEADERSHIP**

is knowledge that inspires changes and transformations in thinking and practice, in regard to issues of society, firms, and organizational entities.



**PRACTICE** topics address processes, procedures, and policies involved in running a firm and/or managing projects, and may include discussions regarding safe and sustainable built environments, project delivery systems, contracts and agreements, intellectual property, ethics, and risk management as they are practiced within firms, corporations, government agencies, and other organizations.

# Session One

9:30–10:30 a.m.



## DEEP ENERGY RETROFITS: FROM DESIGN TO DATA COLLECTION AND ANALYSIS

1 LU/HSW HOUR

**PRESENTED BY:** Rich Baker, Anastasia Herk, Assoc. AIA, and Andrew Poerschke of IBACOS

The presenters will walk through a case study of a deep energy retrofit installed on nine homes in the Syracuse, New York, area. This case study will include a review of the client's (NYSERDA) project goals as well as IBACOS's plan to meet those goals. The presenters will compare and contrast two different approaches to deep energy retrofit design: rigid foam and spray foam insulation. They will evaluate the relationship between structure, HVAC systems, and building envelope design. Lastly, they will discuss lessons learned from design to installation, including a cost-benefit analysis.

9:30–10:30 a.m.



## BECOMING A WORLD-CLASS PERFORMER

1 LU HOUR

**PRESENTED BY:** Buddy Hobart, Solutions 21

Learn how to focus and reduce the noise within a creative environment.

Let's face it: becoming the best at what you do is hard work. The rewards and honors, however, more than outweigh the blood, sweat, and healthy self-reflection that it requires. During the past few years, the presenter has spent countless hours researching World-Class Performers and what sets them apart. After having interviewed dozens of people who perform on the world stage, including athletes, actors, musicians, politicians, and business executives, the findings led Solutions 21 to the creation of this professional development strategy.

All World-Class Performers have a certain amount of talent, but often it is not the most talented who succeed. Creative World-Class Performers have found ways to become laser-focused, "reduce the noise," and maximize both their time and energy management. Join this session to learn how to become a World-Class Performer for continued success.

9:30–10:30 a.m.



## CREATING A POSITIVE IMPACT: BUILDING PERFORMANCE ANALYSIS IN EARLY DESIGN

1 LU/HSW HOUR

**PRESENTED BY:** Steven G. Haines, Assoc. AIA, Centerbrook Architects & Planners, LLP; Pete Jefferson, M.E. Group; Jeff Light, AIA, MacLachlan Cornelius & Filoni; and Jon Szczesniak, Bohlin Cywinski Jackson

Some architecture firms are using building performance analysis software in-house, such as Sefaira or IES-VE, while many others are asking if they too should be using building analysis tools, and those that have purchased these types of programs are struggling with how to incorporate the process into their firms.

This panel discussion will address the reasons to use such tools and how these tools can be used in-house versus outsourcing to modeling firms. Panelists representing different viewpoints and approaches will provide information relevant to many firms deciding whether or not to invest resources into these tools. Additionally, the panelists who utilize in-house personnel will discuss how those individuals learned or were trained to use these new programs. Further discussion will focus on how early analysis tools can be leveraged by A/E teams early on in pre-schematic design to shift construction costs from mechanical systems to architecture with the benefit of improving envelopes. This typically results in "cost savings" in lieu of "paybacks" because the relative costs of active systems (mechanical/electrical) are typically very high.

Through this course, participants will be able to identify the key benefits of early Building Performance Analysis, recognize where in the process it is most beneficial to incorporate Building Performance Modeling, discuss key steps in the performance analysis process, and identify the key important output of software analysis.

9:30–10:30 a.m.



## INTEGRATIVE DESIGN: FLEXIBILITY TO CHANGE WITH REALITY, NEEDS, AND TECHNOLOGY AT CHATHAM'S EDEN HALL CAMPUS

1 LU/HSW HOUR

**PRESENTED BY:** Walter Fowler, Chatham University and Jay Harris, Sota Construction Services, Inc.

Chatham University's Eden Hall is one of the most comprehensively sustainable university campuses being built in the nation. This 388-acre campus north of Pittsburgh will have a negligible environmental footprint while immersing teachers and students into sustainable living of the future. Hear the insider perspectives of the owner and contractor as Eden Hall's master plan is discussed.

Participants of this presentation will gain an understanding of how planning, designing, and building this campus in a competitive higher education market is a complex challenge and how the plan, created with the integrated design process, has shown to be adaptable in response to varying forces. This session will explain how architectural design is addressing future living patterns of classrooms, support buildings, and residence halls, with a campus that, when complete, will be off the grid. The presenters also will review completed site work and buildings, buildings under construction, and buildings being designed in concert with this ambitious vision and the long-term vision for the campus.

## Session Two

11:00 a.m.–12:00 p.m.



### 3D MODELING TO ACHIEVE NET-ZERO AND MAINTAIN CRADLE TO GRAVE

1 LU/HSW HOUR

**PRESENTED BY:** Brenda Morawa, IES

Integrated project delivery has never been more important, especially if the aim is to be net-zero. Today the building industry must focus on creating value, not only in terms of economics, but also comfort, health, and environment. This requires new skills together with a major behavioral shift.

Worldwide, energy regulations and usage assessments within voluntary rating systems have begun to put the emphasis on high performance, not only during design, but also across cradle-to-grave. LEED v4 is driving this by mandating performance across design, commissioning, and operation. It demands increased monitoring, improvement, and verification with an emphasis on installing technologies, or a technology infrastructure that equips buildings to do this.

It is clear that the industry must be ready to use a performance-based simulation approach across the building lifecycle. Using a real-life net-zero and LEED project case study, IES experts will demonstrate how you can use the same 3D simulation model throughout the lifecycle of a building to inform concept design, operation, commissioning, and retrofit all while optimizing the building to maintain net-zero status. In addition to the featured project, other project examples will be examined throughout the session.

11:00 a.m.–12:00 p.m.



### LEARNING THE PROCESS: BEING AN EFFECTIVE VOICE IN HARRISBURG

1 LU HOUR

**PRESENTED BY:** Stephen M. Swarney, JD, Executive Director, AIA Pennsylvania

Building codes, multiple prime contracts, historic tax credits, continuing education, and a professional service sales tax affect the practice of architecture in ways that appear to be beyond our control. How these regulations are structured rests

with the Pennsylvania State Legislature. Learning the process is critical to understanding how we can impact the decision-making process to obtain favorable results.

AIA Pennsylvania is thoroughly involved in placing our opinions before the Representatives and making our case. In this one-hour course, Executive Director Stephen M. Swarney, JD will discuss the status of current legislation and give participants the tools needed to positively influence the process in ways that will benefit our clients and the general public.

During this presentation, Mr. Swarney will present the following five components in understanding and producing effective legislative action: a basic understanding of how legislation is passed including process, negotiations, finding sponsors, and roadblocks; influences of the AIA Pennsylvania agenda and how it is generated; an explanation of the impact of a variety of methods of contacting legislators including Architect's Action Day, emails, and letters; case studies of successful and unsuccessful initiatives; and the 2015 AIA Pennsylvania agency items before the Legislature.

11:00 a.m.–12:00 p.m.



### HEALTH IN THE BUILT ENVIRONMENT

1 LU/HSW HOUR

**PRESENTED BY:** Jaclyn Whitaker, AIA, LEED AP BD+C, Delos

Wellness is emerging as an important new trend in building design and operations, one that builds upon sustainability initiatives focusing in on the health and well-being of people, and how buildings can support that. This course will look at some of the associated concepts, tools, and frameworks that are emerging, including the new WELL Rating System that is designed to complement green building tools like LEED.

This course will provide participants with an understanding of the issues related to wellness in the built environment; strategies to promote wellness in buildings; the tools available, including the WELL Building Standard, to support wellness in buildings; and how wellness fits into standards like LEED.

11:00 a.m.–12:00 p.m.



### CONNECTING GREEN BUILDING OUTCOMES TO ENTERPRISE SUSTAINABILITY PROGRAMS

1 LU/HSW HOUR

**PRESENTED BY:** E. Mitchell Swann, P.E., MDC Systems, LLC

Green, or high-performance design, has become a target norm for almost any sizable capital project for most world-class business enterprises. The reasons for this focus can vary from broad-based environmental concerns to establishing a positive public persona to a more laser-like focus on bottom line impacts on the balance sheet. However, it is sometimes difficult to translate what a new brick-and-mortar office building or plant really means to overall corporate value and sustainability. Energy and resource savings can be carried cleanly to the bottom line, but there are other impacts that may not be readily captured and recorded. Properly assessing and capturing the impacts of green buildings in procurement, execution, and operations on enterprise-wide sustainability metrics is essential to successfully measuring and monitoring a program's real performance and value. This program will identify multiple impacts of green buildings on overall sustainability and how those impacts relate to key performance indicators as a part of an overall enterprise sustainability program.

# Session Three

1:45–3:15 p.m.   

## DESIGN STRATEGIES FOR THE BIM WORKFLOW

1.5 LU HOURS

**PRESENTED BY:** Mark Dietrick, Assoc. AIA, LEED AP, Case Technologies, Inc., and Drew Weinheimer, AE7

The Building Information Modeling (BIM) paradigm of producing information-rich design documentation raises the question of the flexibility of the technology—can it be supportive of the creative design process that traditionally uses many representational techniques to fluidly study and communicate design? This presentation will illustrate BIM as a process that incorporates many tools (not all digital) that are most appropriate to analyze and document design at various stages throughout the design process.

1:45–3:15 p.m.  

## PERSONAL AND PROFESSIONAL TIME MANAGEMENT STRATEGIES FOR TEAM LEADERS

1.5 LU HOURS

**PRESENTED BY:** Carolyn Maue, The Maue Center and Rosemarie Perla, The Perla Group

Do you want to learn how to increase your time and project management techniques? This interactive workshop, led by two experienced leadership coaches/consultants, will engage participants in activities and discussions that will help them identify and evaluate successful project outcomes and shortcomings, use prioritization and goal setting as time management tools, manage oneself while managing a team, and utilize available time management resources.

1:45–3:15 p.m.  

## PLAN REVIEW AND THE PERMITTING PROCESS: RECOMMENDATIONS FOR A THOROUGH SUBMISSION

1.5 LU/HSW HOURS

**PRESENTED BY:** Erik Harless, City of Pittsburgh BBI; Maura Kennedy, Chief of Building Inspection, City of Pittsburgh; Dina Snider, AIA, Strada Architecture LLC; and Keith Coll, Ed Cardy, and Robert Kauer of Building Inspection Underwriters (BIU)

Maura Kennedy, Chief of Building Inspection, will provide an update on the current and proposed changes to the City of Pittsburgh plan review and permitting process. Erik Harless, City of Pittsburgh BBI, will discuss plan review submission requirements for the City of Pittsburgh, highlighting items that are key to making a comprehensive plan review submission. Representatives from BIU will review typical plan review submission oversights for municipalities outside of the City of Pittsburgh that utilize the 2009 International Building Code.

Upon completion of this course, participants will be able to identify key building code requirements that must be present in submissions to the City of Pittsburgh under the new plan review submission process, recognize text and drawing features that make up a comprehensive plan review submission, eliminate common oversights in code review and documentation, and streamline the design and documentation process to better explain the safety and code compliance aspects of a design.

## Session Four

3:45–5:15 p.m.



### INTEGRATIVE STORMWATER DESIGN & IMPACTS OF DEVELOPMENT IN THE FLOODPLAINS

1.5 LU/HSW HOURS

**PRESENTED BY:** Joshua Lippert, City of Pittsburgh Planning Department and Claudia Saladin, ASLA, LEED AP BD+C, ND, Strada Architecture LLC

In Pittsburgh, with some of the wettest weather and the most iconic rivers in the country, there's a need to treat and infiltrate stormwater on site as well as responsibly develop along streams and rivers to mitigate flood hazards, which is an important factor to future development. Oriented to designers and project managers, this training will outline Pittsburgh's stormwater management requirements and the floodplain overlay ordinance for private property. It will include a case study of the district-wide approach to stormwater management at the Bakery Square 2.0 redevelopment project and highlight the early inclusion of stormwater and floodplain design on small- to large-scale projects.

Additionally, various strategies for managing stormwater will be discussed as well as site conditions that affect facility size and configuration. Information on how to document stormwater plans in a design report will be provided with suggestions on how to efficiently convey stormwater concepts to reviewers. The required Maintenance Plan also will be reviewed. In terms of floodplain ordinance, presenters will cover conditions of different land uses, renovations, and new construction. They also will advise on how to complete the floodplain overlay development permit application.

3:45–5:15 p.m.



### THE PURPOSE-DRIVEN PROJECT: KEYS TO BUILDING HIGH-PERFORMING TEAMS

1.5 LU HOURS

**PRESENTED BY:** Robert L. Bostwick and Pamela J. Neckar of Bostwick Design Partnership

Traditional project delivery methods are inefficient, frequently contentious, and often unsuccessful. With the design profession in a time of change, the architect has the unique opportunity to lead the industry through collaboration. This presentation will engage the audience through a discussion of success factors, the initiatives to achieve them, and how they support the project mission. Using case studies, the focus will be on the process of team development—a clear, specific, and valuable methodology for structuring a true project team. The presenters will show how team development skills enhance both conventional and alternative project delivery methods while improving the practice of architecture, and illustrate the process and tools needed to successfully implement innovative techniques, motivate the team, and measure its performance. From the perspectives of a Chief Financial Officer and Director of Design, the presenters will share specific project examples to show how effective collaboration helped to manage risk and increase financial success, while enhancing the quality of design. Architects are uniquely skilled in fostering teamwork, and this course will demonstrate how the profession can lead the industry toward innovation and success in project delivery. Finally, attendees will learn how to drive communication, collaboration, accountability, and pride into every level of the project team.

3:45–5:15 p.m.



### A/E STAMPING AND SEALING: SATISFYING STATUTES AND STANDARDS OF CARE

1.5 LU/HSW HOURS

**PRESENTED BY:** Mike Cremonese, Esq., Burke Cromer Cremonese and Eric Pempus, AIA, Esq., Oswald Companies

Since stamping and sealing construction documents is a significant act that carries with it far-reaching implications, design professionals should have a clear understanding of the requirements for this part of their professional practice. Among all professionals, only architects and engineers are required to stamp and seal their instruments of their service. Practices vary not only from design firm to design firm, but so do the laws and codes from jurisdiction to jurisdiction and state to state. This program identifies the importance of how the stamping and sealing of construction documents impacts design professionals, construction contractors, project owners, and the public. Armed with an understanding of the requirements of stamping and sealing construction documents, architects and engineers can manage their practices relating to licensing, professional discipline, and potential liabilities in their standard of care.