SYRACUSE UNIVERSITY | SYRACUSECOE center of excellence

14TH ANNUAL SYMPOSIUM

ADVANCED BUILDING SYSTEMS:

INTEGRATING EFFICIENCY, QUALITY AND RESILIENCY

WEDNESDAY, OCTOBER 15th - Crowne Plaza and SyracuseCoE HQ

1:00p	**Welcomes and introductions, Crowne Plaza, LaFayette Room** **Ed Bogucz,** SyracuseCoE and Syracuse University **Shere Abbott,** Syracuse University
1:15p	**Keynote Speaker:** *(Approved for 1 AIA LU, .5 GBCI CE Hours)* **William BahnflethPh.D, PE, FASHRAE, FASME, Penn State, Immediate Past President ASHRAE** *Are We Putting Enough Energy into Indoor Environmental Quality?*
2:00p	**Keynote Speaker:** *(Approved for 1 AIA LU, .5 GBCI CE Hours)* **JOSEPH LSTIBUREK, Ph.D., PE, ASHRAE Fellow and Principal, Building Science Corp.** *Innovations in energy efficient and resilient building enclosures*
2:45p	**Keynote Speaker:** *(Approved for 1 AIA LU, .5 GBCI CE Hours)* **CHRISTOPH REINHART, Associate Professor, MIT Sustainability Lab** Comfortable, Walkable and Efficient - Towards Sustainable Urban Architecture
3:30p	**Transition to SyracuseCoE Headquarters for break, posters and reception**
4:00 - 6:00p	**Building tours with Sneak Preview of new SyracuseCoE Labs and Poster Competition at SyracuseCoE Headquarters**
5:00 - 7:00p	**Symposium Reception at SyracuseCoE Headquarters**

THURSDAY, OCTOBER 16th - Crowne Plaza

8:00a	**Breakfast at Crowne Plaza Conference Center**		
8:30a	**Ed Bogucz,** SyracuseCoE and Syracuse University **Joseph Borowiec**, NYSERDA **Bess Krietemeyer**, Syracuse University		
8:45a	**Keynote Speaker:** **ANNA DYSON, Rensselaer Polytechnic Institute** *From Built Environments to Built Ecologies*		
9:30a	**Coffee and Transition to multi-track sessions**		
Tracks	**DESIGN**	**TECHNOLOGY**	**PRACTICE**
9:45a	**A.1** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*	**B.1** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*	**C.1** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*
ADVANCED SYSTEMS INNOVATIONS	**Design: Leveraging Scale**	**Technology: Frontiers in Low-Energy and High IEQ Design**	**Practice: Innovations in Space Conditioning Heat Pumps**
	This panel explores how innovations specifically outside the building scale - spanning from the molecular to the climatological - are being leveraged into advanced building design innovations and decisions.	This panel looks at the metrics, design factors and tools behind the latest innovations in low-energy and high IEQ integrative design	This panel explores some of the latest advances in cold climate heat pumps. New air-source heat pumps now offer the ability to provide significant heating even at low ambient temperatures -- for the first time making heat pumps practical in Northern Climates. Market interest is especially high in Northeast states where this technology is an alternative to oil-fired heating systems.
Covering topics ranging from the nano- to the campus and infrastructural, this session draws on speaker and audience expertise in technology, design and practice.	*Strategy for Harvesting Wind Energy in Tall Buildings* **Thong Dang**, Syracuse University, College of Engineering and Computer Science	*Airflow Modeling in OpenStudio for Integrative High-Performance Design* **William Bahnfleth**, Penn State	*Field Testing of Ductless Heat Pumps* **Hugh Henderson**, CDH Energy
	Nano to Meso | Emergent Materials in Architecture **Martina Decker**, New Jersey Institute of Technology	*Visualizing & Experiencing High Performance Building Design* **Bess Krietemeyer**, Syracuse University, School of Architecture	*Residential Cold-Climate Heat Pump using Compressors in Series* **Craig Messmer**, Unico, Inc.
	Native Plants on Green Roofs: A Case Study **Tim Toland**, SUNY College of Environmental Science and Forestry	*An Intelligent Virtual Design Studio ForIntegrative Design of Green Buildings* **Zhaozhou Meng**, Syracuse University, College of Engineering and Computer Science	*Laboratory and Field Testing of Gas-fired Heat Pumps* **Tim Kingston**, Gas Technology Institute
	Session Chair: Anthony Catsimatides, AIA, Open Atelier	**Session Chair: Jensen Zhang**, Syracuse University	**Session Chair: Rob Boyajieff**, Johnson Controls
11:00a	**Transition to Session #2**		
11:15a	**A.2** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*	**B.2** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*	**C.2** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*
ADVANCED BUILDING INNOVATIONS	**Design: Advancing the "Occupy" Movement**	**Technology: Fresh Indoor Air**	**Practice: Getting Into Hot Water with Combined Systems**
	This panel explores how occupant high-tech and/or low-tech design intelligence is fast becoming an integral partner in advanced building design.	This panel explores the latest in air cleaning technologies for advancing IAQ and energy efficiency	As space heating loads get smaller in modern houses, a single appliance that combines domestic water heating and space heating functions can lower installation costs and improve performance. Field testing of 'combi' systems has demonstrated their potential but have also highlighted the importance of proper integration and system sizing.
Covering topics specifically aimed at the building-wide scale, this session also draws on speaker and	*Adaptive Architecture: Nonlinear Nano-to-Micro Scaled Material Properties and Effects at the Human Scale* **Jenny Sabin**, Cornell University, School of Architecture	*Challenges & Opportunities in Air Cleaning for IAQ* **Jeffrey Siegel**, University of Toronto	*From The Ground Up Houses* **Hugh Henderson**, CDH Energy
	Thermal Form: Organized Knowledge in Building **Filip Tejchman**, University of Wisconsin - Milwaukee	*Low Temperature Catalysis for Formaldehyde Removal* **Jingjing Pei**, Syracuse University & Tianjing University, China	*Laboratory and Field Testing of Combi Systems* **Tim Kingston**, Gas Technology Institute

audience expertise in technology, design and practice.	*Examining the Environmental Effects of Human Interaction with Responsive Building Envelope Systems* **Bess Krietemeyer**, Syracuse University, School of Architecture	*Testing and Evaluation of Different Air Cleaning Technologies: Possibilities and Challenges* **Kwanghoon Han**, Syracuse University, College of Engineering and Computer Science	*Combi Field Experiences* **Ben Schoenbauer,** Center for Energy and the Environment
	Session Chair: Ed McGraw, Ashley McGraw	**Session Chair: Yahya Al Rayyes**, HealthWay Home Products, Inc.	**Session Chair: Joseph Borowiec**, NYSERDA
12:30p	**Lunch, Networking and Poster Viewing**		
1:45p	**A.3** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*	**B.3** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*	**C.3** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*
EFFICIENCY+ QUALITY= EFFICACY	**Designing Technology: Efficacy, Resilience and Delight, Part 1**	**Technology Practices: Advanced Sensing and Controls**	**Practicing Design: Realizing the Potential of High Performance Building Envelopes**
	This panel explores how habitability-centered thermal and luminous delights are integral to the design research ambitions of today's energy efficient envelope advances.	This panel explores novel approaches and devices in real-time measurements and their applications in intelligent building system controls.	In climates such as New York, space heating is one of the largest residential energy uses. High performance building envelopes significantly minimize heating loads, allowing for smaller, lower cost systems. Significant advances in high performance envelope designs, in both new construction or deep retrofits, must be cost effective and buildable, without compromising durability and indoor door air quality. Several projects which have built high performance homes and measured their performance will be featured.
Covering topics that address the integration of technological efficiencies with overall design quality to produce performative efficacies, this session fosters a crossover among speaker and audience interests in technology, design and practice.	*Giving Shape to Energy* **Sean Lally**, WEATHERS LLC	*Cost-effective, Miniature Fine Particle Sizer for Indoor and Ambient Particulate Monitoring* **Daren Chen**, Virginia Commonwealth University	*Real Results from Five High Performance Homes* **Jordan Dentz**, The Levy Partnership
	Energy Vernacular: A Simulation-Based Framework for Climate-Responsive Architecture **Holly Samuelson**, Harvard Graduate School of Design	*Green Human-Centric Sensing with Smartphones* **Jian Tang**, Syracuse University, College of Engineering and Computer Science	*Energy System Design for a US DOE National Award Winning Home* **Paul Crovella and Michelle Tinner**, SUNY ESF, Montage Builders
	Engaging 'Icicle Thermography' Audits **Rob Svetz**, Syracuse University, School of Architecture	*Model-Predictive Control for Energy Efficient IAQ* **Korbaga Woldekidan**, Syracuse University, College of Engineering and Computer Science	*Building in Nature's Image* **Kevin Stack,** Northeast Green Building Consulting and U.S. Department of Energy 2014 Challenge Team Advisor
	Session Chair: Jason Benedict, King & King Architects	**Session Chair: Chilukuri Mohan**, Professor and Chair, EECS, Syracuse University	**Session Chair: Ken Bobis**, Onondaga Community College
3:00p	**Transition to Session #4**		
3:15p	**A.4** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*	**B.4** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*	**C.4** *(Approved for 1.25 AIA LUs, 1 GBCI CE Hours)*
EFFICACY+ RESILIENCY= FUTURE OF INNOVATION	**Designing Practices: Efficacy, Resilience and Delight, Part2**	**Technology Designs: Cool Resilience - Control Local/Think Global**	**Practice: Scaling-Up Adoption of Energy Efficiency**
	This panel explores how climatological and financial crises are urgently reshaping the profession's ambitions to redesign itself in the interest of producing work that is delightfully resilient for the coming decades.	This panel looks at some of the latest innovations in localized thermal and air quality management and control, from wearable to personal environmental controls.	Energy efficiency programs in New York are seeking to speed up the adoption of promising technologies that save energy, reduce costs, and enhance resilience. Critical to this effort are NYSERDA and NYPA programs that identify and demonstrate the best commercially available technologies to facilitate their wider market acceptance.
Covering topics that address the integration of design quality with practical resiliency, this session fosters a crossover among speaker and audience interests in technology, design and practice.	*Design Within Reach: Case Studies in more Resilient Construction Methods* **Julie Larsen**, Syracuse University, School of Architecture	*Impact of Clothing on Thermal Comfort and Energy Saving in Indoor Environment* **Jintu Fan**, Cornell University	*DOE's Building Technologies Office: Bringing Next-Generation Innovations to the Market* **Karma Sawyer**, U.S. Department of Energy
	Relational Diagram of Building Low-Cost Homes in Rwanda: Materials, Technique, Power **Yutaka Sho**, Syracuse University, School of Architecture	*Chair Ventilation* **Meng Kong**, Syracuse University, College of Engineering and Computer Science	*Scaling Up Clean Energy Solutions* **Peter Savio**, NYSERDA
	Comparing Passive House to Passive Solar, Evidence of Efficacy Learned From the Hudson Passive Project **Dennis Wedlick**, **Barlis Wedlick**	*Local Exhaust Strategy for Improved IAQ* **Thong Dang**, Syracuse University, College of Engineering and Computer Science	*The Build Smart NY Energy Efficiency Innovation Collaborative* **Guy Sliker**, New York Power Authority
	Session Chair: Allen Rossignol, Edge Architecture	**Session Chair: Larry Wetzel,** Air Innovations	**Session Chair: Beth Mielbrecht,** Taitem Engineering
4:30a	**Keynote Speaker:** **CECIL SCHEIB, Urban Green Council** *Yes, We Can: Cutting Carbon 90% in an Ecovillage and in NYC*		
5:15 Program close and "No-Host" Happy Hour at Flame Restaurant 713 E. Fayette St. (1 block north)			