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## This Month at ASHRAE Iowa

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### March Super-Tech Meeting

[SIGN-UP LINK](#) - Sign-up closes MARCH 13th.

#### When

Wednesday March 20, 2019

- 1:00 – 1:30: Registration
  - 1:30 – 2:30: Session #1 - ASHRAE Standard 189.1 and the International Green Construction Code
  - 2:30 – 2:45: Break
  - 2:45 – 3:45: Session #2 - CO2 Monitoring for Outdoor Airflow and Demand-Controlled Ventilation
  - 3:45 – 4:00: Break
  - 4:00 – 5:00: Session #3 - Thermal Comfort as Related to Energy Consumption: What is the Balance
  - 5:00 – 6:00: Social Hour
-

## **Location**

Marriott Downtown Des Moines  
700 Grand Ave  
Des Moines, IA 50309

## **Program**

Speaker

Tom Lawrence, Ph.D., P.E.

ASHRAE DL

University of Georgia

### Session #1 - ASHRAE Standard 189.1 and the International Green Construction Code

ASHRAE, in conjunction with the U.S. Green Building Council and the Illumination Engineers Society, developed Standard 189.1 for the Design of High Performance Green Buildings with the initial release occurring in 2010. The Standard provides the minimum requirements for a high-performance green building, and was developed with the intent to provide a balance of environmental factors involved with designing, building, and planning for the operation of buildings. Since the initial release, the Standard has continually evolved as a result of changes in the industry and in relation to other Standards such as 90.1 This session provides a detailed summary of the key changes that are being incorporated in the release of the 2017 version of Standard 189.1 and how this Standard will relate to the International Green Construction Code with the 2018 code cycles revisions.

### Session #2 - CO2 Monitoring for Outdoor Airflow and Demand-Controlled Ventilation

A number of programs and standards that exist for buildings today specify the use of outdoor air monitoring. Monitoring is to be done either based on CO<sub>2</sub> levels in the occupied space or actual measurement of outdoor airflow, depending on the space design occupancy and ventilation type (mechanical or natural). Current standards or program descriptions do not provide detailed guidance for determining what level of

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CO<sub>2</sub> should be considered the maximum concentration to expect, and those that do provide guidance are generally based on a single value above the ambient concentration. This session describes how to determine a level for CO<sub>2</sub> concentrations for an outdoor airflow monitoring program or as part of the upper control limit for a demand-controlled ventilation system.

### Session #3 - Thermal Comfort as Related to Energy Consumption: What is the Balance?

Maintaining thermal comfort within an occupied building requires energy, thus optimized solution methods for balancing energy use with indoor environmental quality (adequate thermal comfort, lighting, etc.) are needed. Current building temperature control systems do not adequately take in account the adaptive capability of the occupants, but this concept can be used advantageously during implementation of demand response. Demand response programs commonly include temporary adjustments to space temperature set points and thus can affect the occupants' thermal comfort perceptions. How to balance out the overall energy consumption and peak demand for cooling or heating within buildings with the need for maintaining adequate thermal comfort in the built environment is an issue important to system designers, building operators and society as a whole. This session provides an overview of the historical development of thermal comfort perception, the two primary approaches used to predict and evaluate thermal comfort, and how these are incorporated in ASHRAE Standard 55. Also covered is a discussion of how thermal comfort considerations can be factored into demand response measures, addressing the conflicting balance between energy consumption and thermal comfort, and a vision on how to possibly achieve an overall optimized balance.

**Each Session is worth 1 PDH.**

**Cost**

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Free for ASHRAE Iowa members  
\$20 per session for non-members

## **Social Sponsor**

Trane

## **Registration**

Registration is open now – it will close on **March 13th**. Please note, when you register, you need to register for each session you plan on attending. You can not just sign up for one and assume you will go to all three. We need to make sure we have accurate counts to make sure we have room capacity.

**Please [register](#) online if you are attending.**

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## **YEA Spring Outing**

Monday, March 18th, 2019 5:30-7:30 PM

The Operating Room 5515 Mills Civic Parkway, Suite 130, West Des Moines, IA 50266

Join fellow Young Engineers in ASHRAE at The Operating Room. Play arcade games, enjoy some snacks and drinks, and socialize after a Monday back to the grind.

Registration will be capped at the first 30 YEA Members or students to sign up [online!](#)

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**The 2019 Product Directory is complete!**

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Thank you to all sales representatives for advertising. The directory is available in PDF format on our website - <http://www.ashraeiowa.org/wp-content/uploads/2019/02/2019-Product-Directory.pdf>

Printed copies should be delivered by mail in early March to all ASHRAE Iowa members and non-members who ordered the directory. If there are any questions, or you did not receive your directory please contact Holly Elbert at [helbert@bbsae.com](mailto:helbert@bbsae.com)

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## Technology Awards

ASHRAE IOWA Members. We are at that time of year again where we ask our Members to submit projects for the ASHRAE Technology Awards. The Technology Awards recognize ASHRAE members who are involved in the design or innovative and energy efficient buildings.

This year's chapter deadline is **April 4<sup>th</sup>, 2019**.

Projects may be new buildings, existing buildings, or commissioning of existing buildings and are divided into six categories:

- Commercial Buildings
  - Institutional Buildings
  - Health Care Facilities
  - Industrial Facilities or Processes
  - Public Assembly
  - Residential
-

Prize: We are giving away **\$100 prizes** to the first-place winner in each of the six categories.

All projects must be complete and a minimum of one year of energy data must be submitted. Submissions are first reviewed at the Chapter level. Winners from this level are then submitted to the Regional Level. Regional winners may then be submitted to the Society level where winners are then published in the ASHRAE Journal. There are two submission forms, a short form and a long form. The short form is acceptable for chapter and regional level submissions. In order for a project to be able to compete at the Society level, a long form submission must be completed.

Last year, Mark Hersch was our 2017 AHSRAE Iowa Technology Awards first place winner in the Commercial Buildings – Existing Category for his submission of the Market 1 Project. His submission then moved on to the Region VI level and the Society level where it also was a first-place winner in both competitions. As a first place Society Level winner, design team members Holly Stevens and Mark Hersch and Building Owner, Justin Doyle were invited to the 2018 ASHRAE Winter Conference in Chicago to receive their award. The Market 1 project will also be featured in the March 2018 issue of the ASHRAE Journal. You can read Mark's submission on the [Technology Awards](#) page on the ASHRAE Iowa website.

More information about the Technology Awards program and submission forms can be found on the [Technology Awards](#) page at the ASHRAE Iowa Website. Projects should be submitted electronically to Dan Ponxs. Contact information can also be found on the ASHRAE Iowa Technology Awards page.

The Technology Awards program is a great way for Members to gain recognition for their projects. The program also builds recognition for the member's employers and the

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owners of the buildings. I encourage all members take a look at their past projects and consider submitting any of them that are innovative or energy efficient.

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## President's Corner

Welcome to spring...*almost*...ASHRAE members!

First, I want to start off by thanking everyone that made it to our last chapter meeting. Hy-Vee graciously welcomed us and led a tour through their new commissary facility in Ankeny. If you made it out, you know it was both very interesting and impressive. We also can't forget to thank Hart-Hammer for sponsoring drinks at dinner afterwards. Thank you everyone!

With spring comes more great ASHRAE opportunities. I want to highlight a few of those here:

Young Engineers in ASHRAE (YEA) will be hosting an event at the Operating Room in West Des Moines on **March 18**. That means if you are 35 years old or younger, come on out and enjoy a couple hours of social time, drinks, and food. Be sure to get registered on our website.

### **ASHRAE Iowa Chapter**

[www.ashraeiowa.org](http://www.ashraeiowa.org)

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#### **- Committee Chairs -**

Attendance

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Also next week, on **March 20**, it's Super Tech time. Come out and earn 3 PDHs while learning about some great topics presented by ASHRAE DL, Thomas Lawance, PhD, PE. This is FREE to ASHRAE Iowa members and the seminars are only \$20 per session for non-ASHRAE members, so bring your co-workers and show them how awesome ASHRAE can be!

One note to all design firms and contractors out there: Please consider submitting a project for our annual chapter technology awards. It is an easy process to fill out the forms. Winners at the chapter level move on to the ASHRAE regional level. This is a free opportunity to gain valuable recognition for all the hard work your companies do in our industry. Get all the extra info and forms you need on our website at [http://www.ashraeiowa.org/?page\\_id=911](http://www.ashraeiowa.org/?page_id=911).

When you're ready to submit, or if you have additional questions, contact our technology award chair, Dan Ponxs ([dponxs@woodmaninc.com](mailto:dponxs@woodmaninc.com)).

Submissions are due **April 4, 2019**.

Are you signed up for this year's ASHRAE Region VI Chapters Regional Conference (CRC)? The Wisconsin chapter is hosting this year in Milwaukee, WI. It will be held **May 2-4**. Additional

Dan Zaug

Auditing

Joe Moench

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Education

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Matt Gumm

GAC

Matt Swenka

Historian

Luke Miller

Honors & Awards

Andrew Pospisal

Membership

Tim Conrad

Product Directory

Holly Elbert

Refrigeration

Justin Barrett

Research Promotion

Michael Gustafson

Ted Gerber

Student Activities

Mike Wolfe

Joe Nielsen

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details can be found here: <https://crcmke.org/>.

Thanks,

Brian Steffens ([bsteffens@shive-hattery.com](mailto:bsteffens@shive-hattery.com))

Iowa Chapter President 2018-2019

TEGA

Dan Ponxs

Emmett Konrad

YEA

Heidi Turner

AG Fleckenstein

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Luke Miller 2017-2018  
Andrew Pospisal 2016-2017  
Matt Gumm 2015-2016  
Justin Barrett 2014-2015  
Tim Conrad 2013-2014  
Matt Jesson 2012-2013  
Kelly Crow 2011-2012  
Holly Elbert 2010-2011  
Roger Leshner 2009-2010  
Kit Cartwright 2008-2009  
Jerrod Sieverding 2007-2008  
Jason Kems 2006-2007  
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Jeff Gross 2004-2005  
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Dan Zaug 2002-2003  
Susan Oltrogge 2001-2002

Verne Stewart 1976-1977  
Curtis Hammer 1975-1976  
Ralph Schilling 1974-1975  
Donald Bonicamp 1973-1974  
Kent Mosher 1972-1973  
Thomas Van Hon 1971-1972  
Robert McBride 1970-1971  
William Whitman 1969-1970  
Einar Dahl 1968-1969  
Eugene O'Neil 1967-1968  
James Green 1966-1967  
Neil Hanson 1965-1966  
Bob Flanagan 1964-1965  
Lyndon Kelley 1963-1964  
Elwood Giberson 1962-1963  
Vern Polly 1961-1962  
John Bain 1960-1961

Christopher Nelson 2000-2001  
Donald Swanson 1999-2000  
Edward Truslow 1998-1999  
    James Hall 1997-1998  
Robbin Vannoy 1996-1997  
    Mark Conway 1995-1996  
    Paul Melton 1994-1995  
Gregory Maxwell 1993-1994  
Jeffery Hammer 1992-1993  
    Jack Culp 1991-1992  
    James Lee 1990-1991  
    Clint Leonard 1989-1990  
Charles Pedersen 1988-1989  
Gary Reynolds 1987-1988  
Dennis Hogan 1986-1987  
Eugene Zefron 1985-1986  
Donald Hagge 1984-1985  
    Robert Rist 1983-1984  
Joseph Proctor 1982-1983  
    Mark Allen 1981-1982  
Curtis Klaassen 1980-1981  
Gerald Anderson 1979-1980  
    C.W. Miller 1978-1979  
Richard South 1977-1978

Crom Campbell 1959-1960  
    R.T. Howard 1958-1959  
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D.E. Schroeder 1956-1957  
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C.H. McGuinness 1951-1952  
    R.S. Stover 1950-1951  
    D.E. Wells 1949-1950  
D.C. Murphy 1948-1949  
C.A. Wheele 1947-1948  
    E.O. Olson 1946-1947  
    B.E. Landes 1945-1946  
    W.W. Stuart 1944-1945  
C.W. Helstrom 1943-1944  
    P.E. Triggs 1942-1943  
    Perry LaRue 1941-1942  
    R.A. Norman 1940-1941  
Tracy Johnson 1939-1940  
    W.R. White 1938-1939

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## Upcoming Meetings

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Mark your calendars! The chapter is working hard to put on a great set of events this year and we hope to see you there.

## Iowa Chapter Future Meetings

Month	Date	Location	Topic
September	12	The Legacy Golf Club	Fall Frolic Golf Outing
October	17	Ramada Tropics	Membership & RP Night
November	14	Ames	Student Night & Tour
December	12	Holiday Inn	SMCI / CSI Joint Meeting
January	23	Hotel Renevo	UFAD Systems
February	12	Hy-Vee Commissary Tour	Refrigeration Meeting
<b>March</b>	<b>18</b>	<b>Operating Room</b>	<b>YEA Spring Outing</b>
<b>March</b>	<b>20</b>	<b>Des Moines Marriott Downtown</b>	<b>Super-tech MP, RP, &amp; History Project</b>
April	18*	Val Lanes	Chapter Meeting and Bowling Tournament
April	19*	At Your Desk!	ASHRAE Webcast
May	14*	TBD	Spring Fling Golf Outing

## Society & Region Events

Month	Date	Location	Topic
January	12-16	Atlanta, GA	2019 Winter Conference
May	2-4	Milwaukee, WI	Region VI CRC
June	22-26	Kansas City, MO	2019 Annual Conference

\*Tentative dates

**What's New in the Iowa Chapter?**

## February Refrigeration Meeting

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The Iowa Chapter toured the new Hy-Vee Commissary Building in February. Big Thank You to Hy-Vee and everyone involved for putting this together!







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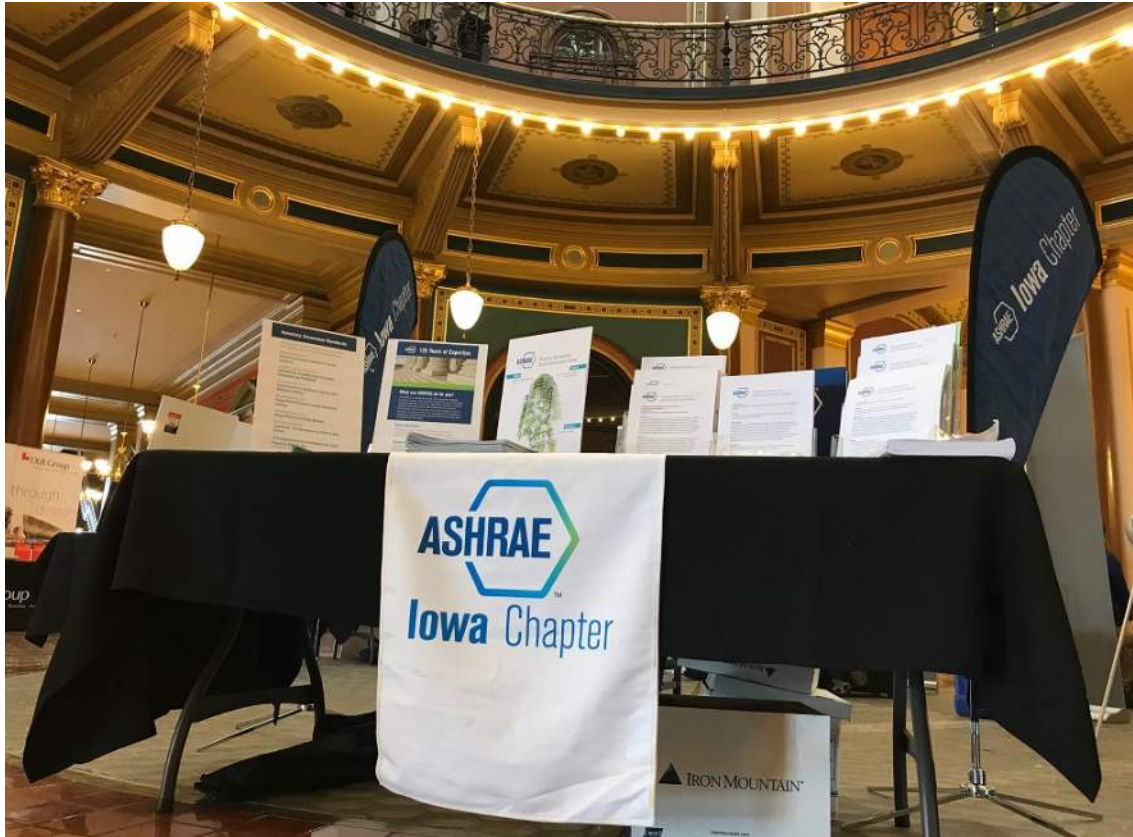
## Iowa Day on the Hill

The ASHRAE Iowa Chapter held its first Day on the Hill Tuesday, February 26, 2019. The event was sponsored by the Iowa AIA Chapter and included several design professionals and firms. The Iowa ASHRAE Chapter sponsored an exhibit table where 4 members were able to share and discuss ASHRAE's design guidelines, standards, and knowledge about the built environment with legislators. Each legislator was presented with a packet of information about the organization and contact information for further discussion.

The Chapter looks forward to making this an annual event.

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## Research Promotion

Please consider donating to RP if you haven't already. With the new year, we have a new goal. Any donation is helpful and appreciated. If you have any specific questions about how your donated money will be used, [please contact Michael Gustafson](#).

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ASHRAE Iowa Research Investors 2018-2019				
Go to <a href="http://ashraerp.com">http://ashraerp.com</a> to donate online. Please contribute all donations to the Endowed Research via ASHRAE Foundation.				
Individual Investors		36.0% OF GOAL \$12,790.55 - TO GO!	Company Investors	
HR = Honor Roll participants \$100 min			HR = Honor Roll participants \$250 min	
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Updated: 06-03-19

This year, the BOG is encouraging you to donate online in an effort to save paper and increase the efficiency of the RP donation process. Please visit the ASHRAE RP Donation page [here](#). ASHRAE provides options for you to determine where to place your donation. The Iowa Chapter is looking to increase its endowment and would appreciate it if you would place your donation in the box available next to “Endowed Research via ASHRAE Foundation”, check the box indicated that you understand that those funds are restricted for the support of ASHRAE Research, and put “Iowa Chapter” in the “Existing Fund Name (If known):” box. From there it’s as simple as any other online purchase with a credit card.

Don’t forget that ASHRAE is a 501(c)(3) organization. Contributions are deductible as allowed by law. A receipt will be sent to the address listed above.

If you would still prefer to donate by check or have any further questions about the donation process, [please contact Michael Gustafson](#).

**Thank you for your donation!**

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## ASHRAE Society News

### Industry News

#### [Sequence of Operation for Mission Critical Building Automation Systems](#)

*By Edward L. Gutowski, P.E., Member ASHRAE*

At the heart of the control system is a set of program instructions called the Sequence of Operations (SOO). Its primary function is to communicate directions written by the design engineer to the building automation programmer. The author notes that using a consistent method of written instructions will ensure that everyone who needs to use the SOO has a greater chance at achieving success in building, testing, and operating mission-critical control systems. [Read More.](#)

#### **Building Energy Savings in the Forecast**

Buildings can waste energy when the weather forecast is imperfect. So, a Cornell University engineering professor developed a [smart control system that can reduce energy usage by up to 10%](#). If a building can be smart enough to know the weather, it could adjust to automatically control its heating and cooling systems to save energy and make occupants more comfortable, the researcher said. The system combines weather forecasting with a model that considers building characteristics.

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### **Hybrid Cooling System Reduces Energy Use**

The National University of Singapore launched [Singapore's first net zero energy building](#) to be built from scratch. The building's hybrid cooling system is designed as a single-pass system with no recirculated air as it continuously supplies fresh air to building users. An *ASHRAE Journal article* from May 2018 explores how the [largest zero energy elementary school](#) in the U.S. has become a model for other schools to reduce their energy consumption.

### **Heat Exchangers Slash Emissions in Factory**

Heat-pipe technology is fueling a new generation of low-energy, low-emissions kilns in Europe's ceramics industry. A working Italian tile factory saved on energy, costs and emissions after [installing a heat pipe exchanger](#). The system has helped cut emissions by 205.5 tonnes a year. An article from August 2014 details how a [cheese factory reduced its heating](#) oil use by using biogas to heat its production.

### **Imagining Environmentally Friendlier NHL Arenas**

Rink refrigeration systems use about 40% of hockey arenas' energy. Instead of forcing rink refrigeration systems to mitigate fans' body heat, CO<sub>2</sub> emission and a more than comfortable indoor temperature, keeping some doors open could [lower energy costs and emissions](#) associated with maintaining the playing surface. An article from April 2018 explores how [displacement ventilation and cooling](#) made a Canadian hockey arena more efficient.

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## **ASHRAE Learning Opportunities**

**2019 Building Performance Analysis Conference**  
[www.ashrae.org/BuildPerform2019](http://www.ashrae.org/BuildPerform2019)  
**September 25-27 · Denver, Colorado**

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**Unleash your innovative design and modeling skills, collaborate with project team members and showcase your building design to conference attendees!**

[Sign up NOW for the 5th Annual LowDown Showdown that will take place at the 2019 ASHRAE Building Performance Conference September 25 – 27th in Denver, Colorado.](#)

Here's your chance to join an integrated team that will compete for fun and prizes in the annual LowDown Showdown modeling competition. This year's 2019 Building Analysis Conference (BPAC) will center on the integration of building science into the design process. Innovation in modeling and analysis will be a driving force in defining high performance buildings of the future!

In that spirit, the 2019 LowDown Showdown model building will not only challenge participants to achieve "near net zero" but also to include design and modeling elements to create a resilient building capable of withstanding natural disasters and providing prolonged emergency operations.

And the **2019 model building** is a:

**90,000 sf town hall (new construction) located in San Diego, California**

The facility will be a multi-functional building, housing many of the cities vital public services including being an Emergency Operations Center in times of disaster or crisis.

Bring your creative ideas and analytic thinking to the table as you design a new town hall for San Diego, California.

**Overview**

The goal of the 2019 LDSd competition is to engage participants in a collaborative and fun learning experience that explores new advances in building science, modeling and technology. Teams are comprised of building analysts, designers, architects, engineers and other participants. Teams will be responsible for creating the architectural design and a performance analysis model based on model building data. The teams may use any software or a combination of software to complete their projects.

Each team will create and submit a poster of their building design, complete the performance analysis model and results spreadsheet and write a one-page narrative on project workflow. Teams will present their projects at the BPAC conference and be judged by a panel of industry experts who will select the winners. Teams will be judged on seven categories: Creativity, Innovative Approaches, Resilience, Workflow, Energy Use, Teamwork and Presentation.

Sign up now and be assigned to a team OR sign up with your friends and colleagues and create your own team.

**The deadline to sign up to participate in the 2019 LowDown Showdown is April 1, 2019.**

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