Andrew Äsk Building Science Symposium

Get the Science Right

AABSS-2027 Session Previews

Thursday and Friday, February 18th and 19th, 2027
Naples Hilton, Naples, Florida



Joe Lstiburek and John Straube

Since 1998, the Andrew Äsk Building Science Symposium has brought world-class building science education to Florida. AABSS-2027 continues that tradition on February 18th and 19th at the Naples Hilton, headlined by Joseph Lstiburek, whose work has shaped how North America builds for heat and moisture, with John Straube and a lineup of practitioners who measure, test and build for a living.

That was the mission when we started in 1998, and it's still the mission today: take the best available science and turn it into clear direction you can use on your next project. As Herbert Hoover, an engineer himself, once put it:

> "To the engineer falls the job of clothing the bare bones of science with life, comfort, and hope."

That's the spirit behind every session at AABSS. Full schedule, speaker bios and registration at climatezoneone.com.

Figure 1 Joe Lstiburek and John Straube lead seven of the twelve sessions, and each joins a Jam Session

Joe Lstiburek · John Straube · Guest presenters · Andy Äsk and the Jam Sessions

AI for Building Science Work, Wednesday, February 17th, 3:00 to 5:30 PM
Todd DeMonte, free for the first 40 registrants

Thursday, February 18th

Breakfast at 7:00 AM, then morning sessions — 8:00 AM to noon

AABSS-2027: Get the Science Right
Andy Äsk opens the symposium

Keynote: Why Building Science, and Why Now
Joe Lstiburek

Drain the Rain
John Straube

Open Mind, Closed Attic
Joe Lstiburek

Lunch, then afternoon sessions — 1:00 to 5:30 PM

Cleaning Up Our Act: Indoor Air Quality
Ian Cull and Todd DeMonte

Jam Session I
Joe Lstiburek and Kent Browning, moderated by Todd DeMonte

Cocktail hour, sponsored by Architecture Joyce Owens — 5:30 PM

Friday, February 19th

Breakfast at 7:00 AM, then morning sessions — 8:00 AM to noon

Keynote: Demand for Decarb
John Straube, 90 minutes

Keynote: Venting on Ventilation
Joe Lstiburek

Paneful Windows
John Straube

Lunch, then afternoon sessions — 1:00 to 5:30 PM

Finding Flow: Hands-On Airflow Measurement
Gary Nelson, The Energy Conservatory

Fun with Fyzics
John Straube

Jam Session II
Gary Nelson and John Straube, moderated by Andy Äsk

The sessions are listed in program order, inside the morning and afternoon hours shown for each day.

Thursday, February 18th

Keynote: Why Building Science, and Why Now

Joe Lstiburek

Older buildings leaked air, lots of it, and were rarely insulated. Heat moved freely through the walls: heat from outside dried wall cavities in summer, and heat from inside dried them in winter. Moisture rarely had a chance to settle in, and nobody talked much about "building science."

After the energy crises of the 1970s, we added insulation, and to let that insulation do its job, we tightened buildings up. That combination created a new problem: cooler cavities with a higher potential for condensation and less energy flowing through to dry them out. Building science exists to solve that problem, keeping tight, insulated buildings dry and free of rot and microbial growth.

Air conditioning added a twist. In a generation it went from luxury to expectation, and here in Florida nearly every home and commercial building now has it. That's wonderful for the people inside but harder on the building, because cooler interior surfaces sit closer to the dew point of humid outdoor air, and closer to trouble.

The fix comes down to four control layers, applied in this order of priority: water, air, vapor and thermal. Everything at AABSS-2027 starts from those four control layers.

And it's not just for waterfront estates. The same physics that protects a custom home on the water protects a duplex, a garden apartment or a 600 ft^2 unit downtown. This year, several sessions show how these principles translate directly into affordable and multifamily housing, because good building science shouldn't be a luxury amenity.

Drain the Rain

John Straube

Ask enclosure engineers for the three biggest problems in buildings and you'll hear the same answer: water, water and water. This session is John Straube's practical answer to all three. Drawing on his widely cited work on rain control, John covers how buildings actually shed rain: deflect it away from the surface, drain what gets through, and let the rest dry out.

Topics include sloped-roof drainage and what to do when slope alone won't do the job: interior roof drains, insulated drain bodies, and the leader-and-downspout systems that carry water safely away from the building (yes, including a decorative discharge detail or two; enclosure engineers have always known how to make function look good). John also covers the often-overlooked role of gutters, along with drainage strategies for curtain walls and window openings.

Open Mind, Closed Attic

Joe Lstiburek

Attics remain one of the most commonly mishandled assemblies in hot-humid construction. In this session, Joe compares vented and unvented (closed, conditioned) attics, vapor diffusion ports, and open- and closed-cell spray foam applied at the roof deck, including when code actually requires ventilation and when it doesn't.

He'll dig into the everyday symptoms of getting it wrong: sweating ducts, condensation at bathroom supply registers, and the "ping-pong" humidity effect that can plague a sealed attic without the right control strategy. You'll leave with a clear framework for deciding whether a sealed attic needs dedicated dehumidification and, if not, what to do instead.

Cleaning Up Our Act: Indoor Air Quality

Ian Cull and Todd DeMonte

Ian Cull of Indoor Science (Chicago) and Todd DeMonte of Overture Air Quality take on indoor air quality from the occupant's point of view: comfort, health, mold and mildew risk, the role humidity plays in all of it, lab testing, air filtration and fine particulate matter ($PM_{2.5}$).

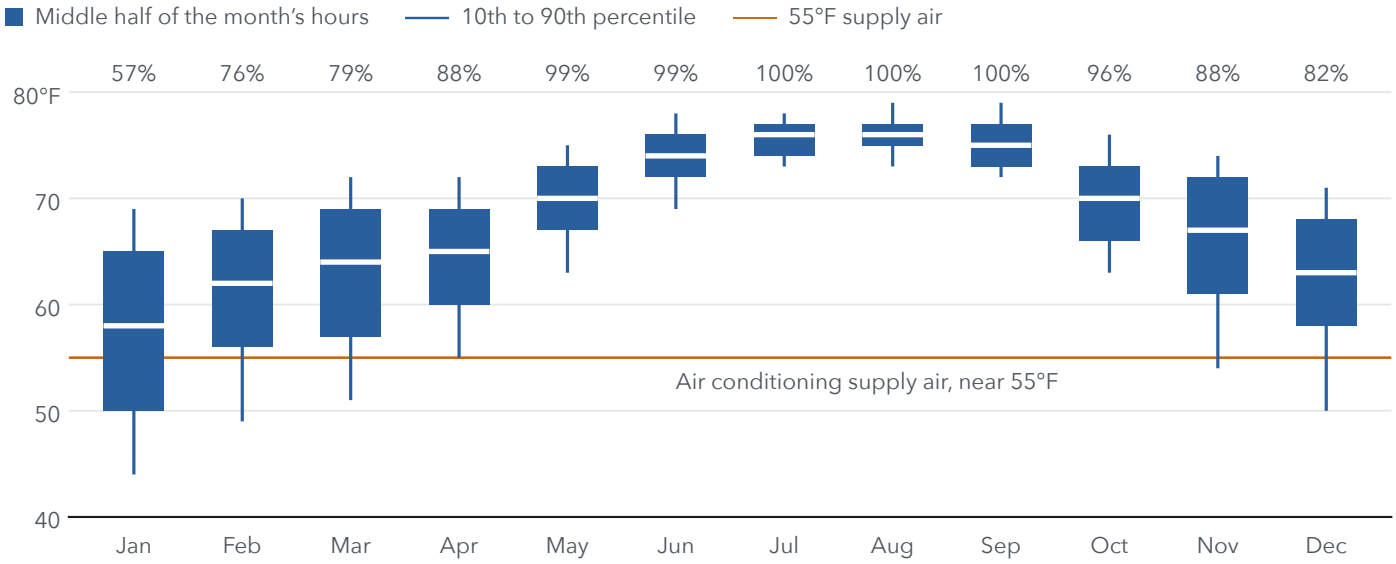
As enclosures get tighter, mechanical ventilation (ERV/HRV) stops being optional and becomes a core part of good design, a code-and-comfort issue this session takes on directly. Ian and Todd also look at IAQ in small urban apartments of roughly 600 to 800 ft^2, showing that the principles that protect a large custom home apply just as directly, and just as urgently, in affordable multifamily housing.

Jam Session I

Moderated by Todd DeMonte

Two respected voices, one live and unscripted conversation. Joe Lstiburek and Kent Browning of KWR Engineering Services in Austin, Texas, join moderator Todd DeMonte for AABSS's signature debate-style session, digging into where they agree, where they don't, and what it means for the next project you design or build.

Figure 2 Naples outdoor air has a dew point above 55°F, a typical air conditioning supply air temperature, for 89% of the hours in a year



Hourly dew point at Naples Municipal Airport, 2021 to 2025 (41,099 hourly readings); the white mark is the median for each month. Any surface colder than the dew point of the air around it collects water, so an air conditioning supply duct, boot or register near 55°F that is exposed to Naples outdoor or attic air can collect water in most hours of the year. The number above each month is the share of that month's hours with a dew point above 55°F. Joe Lstiburek's attic and ventilation sessions cover this problem. Naples (Collier County) is in Climate Zone 1A in the 2021 IECC. Source: NOAA ASOS observations, retrieved through the Iowa Environmental Mesonet. Data through December 31st, 2025.

Friday, February 19th

Keynote: Demand for Decarb

John Straube

A 90-minute, clear-eyed look at where decarbonization and electrification actually stand today, technically and economically, for the people who design and build real buildings. This is a practical session, not a political one.

John covers solar and wind power basics, the cost-effectiveness questions builders are asking, and where heat pump technology stands for water heating and space conditioning, including the challenges of retrofitting air-to-water heat pumps onto existing hydronic systems. He'll weigh in on wood's value for carbon storage, look at electric vehicles and utility rate structures, and preview next-generation refrigerants. He'll also cover VRF systems: where they perform well, and where practitioners increasingly add supplemental dehumidification to get the results occupants expect.

The session brings you current on the incentive landscape (what has expired, what remains at the state and utility level, and how to reset client cost conversations) and closes with a local issue many of us face: sea-level rise and stormwater drainage on low-lying coastal sites.

Keynote: Venting on Ventilation

Joe Lstiburek

Joe brings more than forty years as a building scientist to this keynote, and he built his reputation on telling audiences what the evidence shows rather than what's comfortable to hear.

This session traces residential ventilation science back to C.P. Yaglou's landmark 1930s research at Harvard on odor and occupant comfort, then follows the thread forward to today's ventilation codes and standards. Joe walks through what has changed, what much of the medical and regulatory community still gets wrong, and why "dilution" isn't automatically "the solution."

His central message: design to code, then commission to comfort, because a code tells you how to build something, not how to make it work once it's occupied. Expect a candid look at over-ventilation, a topic Joe has pushed back on hard in recent years, and a reminder that ventilation decisions carry real consequences for occupant health and safety.

Paneful Windows

John Straube

Windows sit at the intersection of nearly every control layer discussed at this symposium: water, air, vapor and thermal all meet at the rough opening. This session covers window selection and durability in hot-humid, hurricane-exposed climates, thermal performance and condensation risk at frames and glass, and how to integrate window flashing with the wall's drainage plane so the whole assembly works as one system.

Finding Flow: Hands-On Airflow Measurement

Gary Nelson

The construction industry still doesn't measure airflow the way it measures almost everything else in the field. Most systems are set up from fan tables, rules of thumb and assumed static pressures, and the actual airflow across the coil can be far from what the design called for. That gap shows up as poor dehumidification, shortened equipment life and capacity the owner paid for but isn't getting.

Accurate field tools now exist. In this 45-minute hands-on session, Gary Nelson of The Energy Conservatory demonstrates the TrueFlow Air Handler Flow Meter, DG-1000 digital pressure and flow gauge, and Duct Blaster duct-testing system, explained in plain language for architects, engineers and builders. With equipment from The Energy Conservatory and additional support from Johnson's Air Conditioning, the session gives you a hands-on feel for the tools that are changing what "verified performance" means.

John Straube's Fun with Fyzics follows this session on Friday afternoon.

Fun with Fyzics

John Straube

Fair warning: this is a physics class, but you may not notice. In fifty entertaining minutes, John shows how physics and thermodynamics quietly govern every decision we make about heat and moisture in buildings, and why understanding a handful of relationships pays off on every project you touch.

Expect a refresher on mass flow rate and why it matters more than the volume numbers (CFM, GPM) we're used to talking about; a sampling of psychrometrics, including relative humidity, dew point and temperature, and when each one is the right tool for the job; and a look at why the relative humidity "inside" a material behaves differently from the relative humidity of the air around it.

Jam Session II

Moderated by Andy Äsk

AABSS closes where Jam Session I left off: live, unscripted and expert-driven. Gary Nelson and John Straube take on airflow in HVAC systems: when you need to measure it accurately, when knowing it approximately is good enough, and what it costs when you know neither.

Join us in Naples

Whether you design and build upscale custom homes along the coast or affordable multifamily housing downtown, AABSS-2027 gives you the science, translated into direction you can actually use. Two days, February 18th and 19th, 2027, at the Naples Hilton, with breakfast and lunch both days and a Thursday evening cocktail hour sponsored by Architecture Joyce Owens.

Table 1 Symposium details

When	Thursday and Friday, February 18th and 19th, 2027. Breakfast is at 7:00 AM, and sessions run from 8:00 AM to 5:30 PM both days.
Where	Naples Hilton, 5111 Tamiami Trail North, Naples, FL 34103
Registration	$725 per person, which includes breakfast and lunch both days and the Thursday cocktail hour sponsored by Architecture Joyce Owens.
Hotel	Andy Äsk holds a block of hotel rooms at the Naples Hilton at the AABSS rate, which can be booked through January 17th, 2027. The booking link is on climatezoneone.com.
Continuing education	Continuing education credits are pending AIA approval. Andy Äsk answers questions about credits by phone or email.
Wednesday workshop	Todd DeMonte leads a free, hands-on workshop, AI for Building Science Work, on Wednesday, February 17th, from 3:00 to 5:30 PM. It is open to the first 40 registrants, and each participant brings a laptop.
Questions	Andrew C. Äsk, P.E., ASHRAE Fellow: 239-980-0028 or aaskpe@gmail.com

Register at climatezoneone.com

Scan the code to open the registration page, or go to climatezoneone.com/register.