

CIBS

MESSAGE FROM THE DIRECTOR

Dear Friends,

I am very pleased to share with you the vision of the Center for Integrated Building Systems (CIBS). CIBS is an exciting new industry/university partnership with the mission to serve the industry with high-quality, tangible outcomes that are focused on your needs. CIBS has a technical and operational vision that evolved from discussions with hundreds of stakeholders. I am proud to say that the result of this effort is a center which can provide unequalled value to its members in a downright enjoyable environment.

Inside, you will find a summary of how this is possible. This includes the mission, vision, and value proposition that CIBS provides for your company as well as a small collection of the infrastructure we will leverage to execute our mission. I encourage you to consider if CIBS can make a positive contribution to your company and please do reach out to discuss membership.



Go Pokes!

A handwritten signature in black ink that reads "Craig R. Bradshaw". The signature is fluid and cursive.

Craig Bradshaw

CIBS Director

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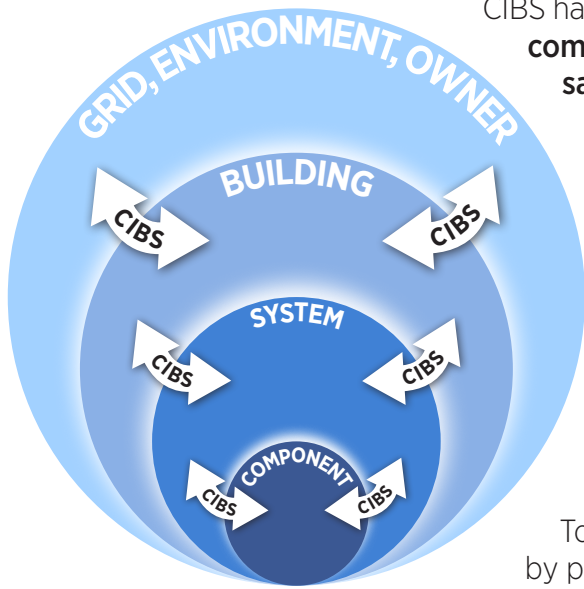
THE CIBS VISION AND MISSION

Mission

Serve our membership by providing tangible outcomes and manpower to improve the integration of components, systems, and the built environment through an exploration of the fundamental mechanisms of interaction from component to building scales.

Vision

A built environment that is holistically connected from component to grid-levels, that maximizes energy utilization without sacrifice to occupant comfort or equipment performance.

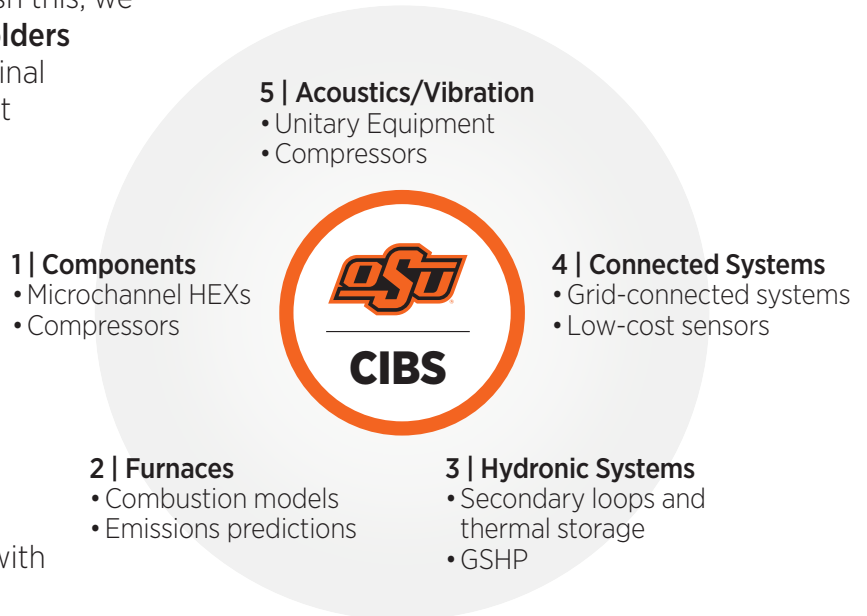


CIBS has a **vision of a built environment that is holistically connected from component to grid-levels that maximizes energy utilization without sacrifice to occupant comfort or equipment performance.** The center will develop the physical/cyber-physical models and datasets which are required to assess and suggest appropriate integration of equipment and systems with the structures and surrounding environment. These models and datasets will be disseminated in a common data framework that is accessible to the breadth of stakeholders in order to inform and evolve all aspects of the building design process. Further, the models and datasets will be codified and disseminated to our members with the objective of delivering recurring, tangible, center outcomes to support the member companies' long-term objectives.

To address this vision, CIBS has a mission to serve our membership by providing tangible outcomes and manpower to **improve the integration of components, systems, and the built environment through an exploration of the fundamental mechanisms of interaction from component to building scales.**

To accomplish this, we will bring together **researchers and stakeholders** from across the spectrum (Component Original Equipment Manufacturer (OEM) - Equipment OEM's - Architecture and Engineering Firm (A&E)) to address the lack of integration and feedback in a rigorous way that is governed by a common mission.

Our stakeholders have helped us arrive at a list of **5 research thrusts** that will be the focus of the center over its first years. We commit to deliver relevant research outcomes, manpower, and an exciting environment for creativity and collaboration between our stakeholders and researchers with a focus on these research thrusts.

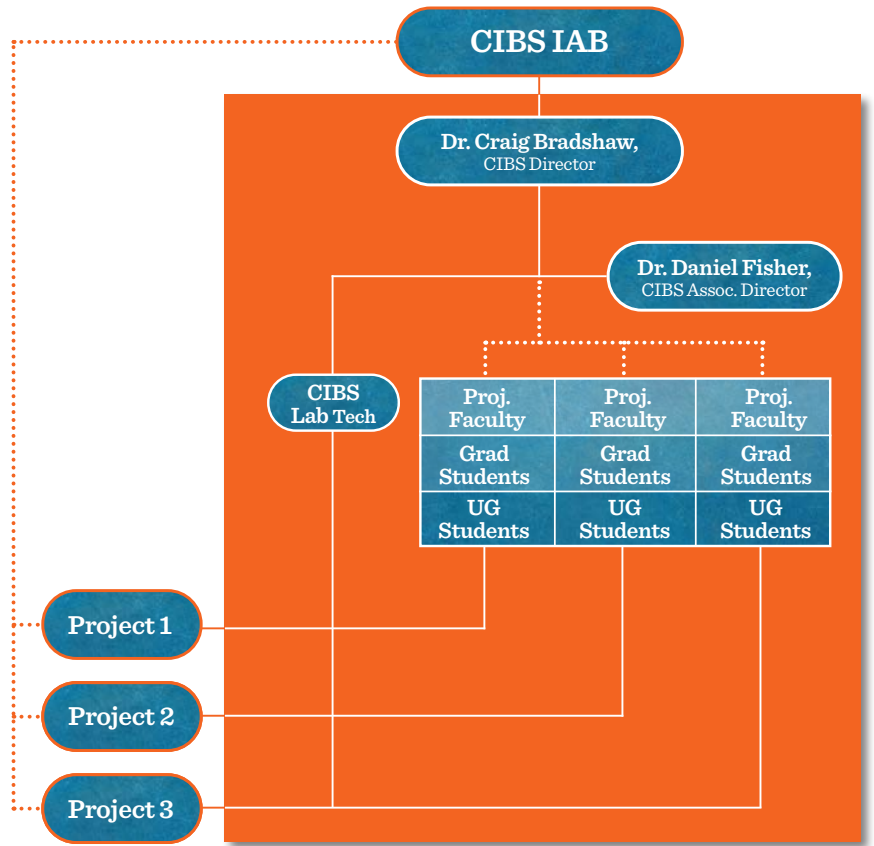


VALUE TO OUR MEMBERSHIP

As a member of CIBS, your organization will become part of the **CIBS Industrial Advisory Board (IAB)**. The CIBS IAB will become a critical part of the operation of the center and includes a voice in the overall center strategy and direct influence on individual projects through our mentorship model.

Industry Membership

One of the most critical roles of an IAB member will be interacting with the faculty and students on projects, as **industry mentors**. This is a unique opportunity to **get to know the students** well and help shape the projects to suit your company needs.



Broadening Participation



A feature unique to CIBS is the requirement of **undergraduate student involvement in every CIBS project** through our broadening participation mechanism. The faculty are asked to creatively engage the next generation of students by sponsoring capstone design projects, providing internships, or using center outcomes in our undergraduate curriculum.

Competitive centers utilized graduate students and post-doctoral researchers nearly exclusively to execute project outcomes. CIBS has committed to go above and beyond that norm and extend our center's involvement to the undergraduate level, as well. This provides a unique opportunity for members to interact with an increased number of students across a wider range of education levels than other centers.

MEMBERSHIP LEVELS

There are four membership levels as denoted by the table below. The memberships are annual with no long-term commitment required.

Membership Level	Fee	Applies to	Project Voting (points to allocate)
Full Member	\$50k	All firms/organizations	50
Small Business or A&E/Construction Services	\$10k	Any firm/organization that qualifies as a small business per the USSBA and/or provides construction, engineering, or architectural services as its primary source of revenue.	10
Double Full Member	\$100k	All firms/organizations	100

LEADERSHIP, FACULTY AND STAFF

Leadership Team

Craig Bradshaw | CIBS Director
Dan Fisher | CIBS Associate Director

CIBS Staff

Jennifer Holcomb | CIBS Administrative Staff

Faculty Advisory Board

Christian Bach
Jeff Spitler

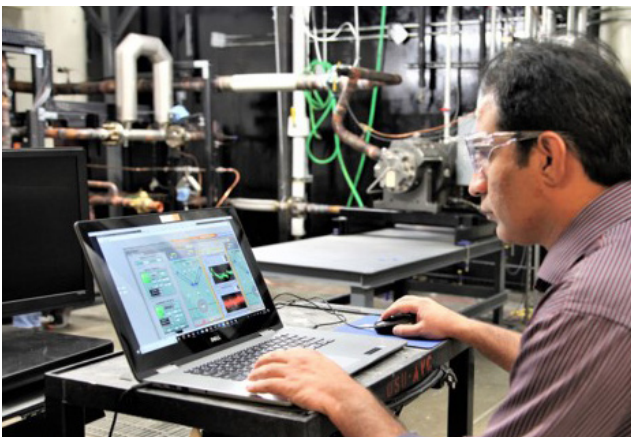
SUPPORTING INFRASTRUCTURE

AAON PSYCHOMETRIC ROOMS



NI Data Acquisition

- 300+ Channels
- Up to one scan per second
- Labview interface and controls



Outdoor Room

- 20 ton capacity
- -40 F to 120 F

Indoor Room

- 20 ton capacity
- -40 F to 120 F



PSYCHROMETRIC COIL TEST FACILITY

Precision Control and DDAQ

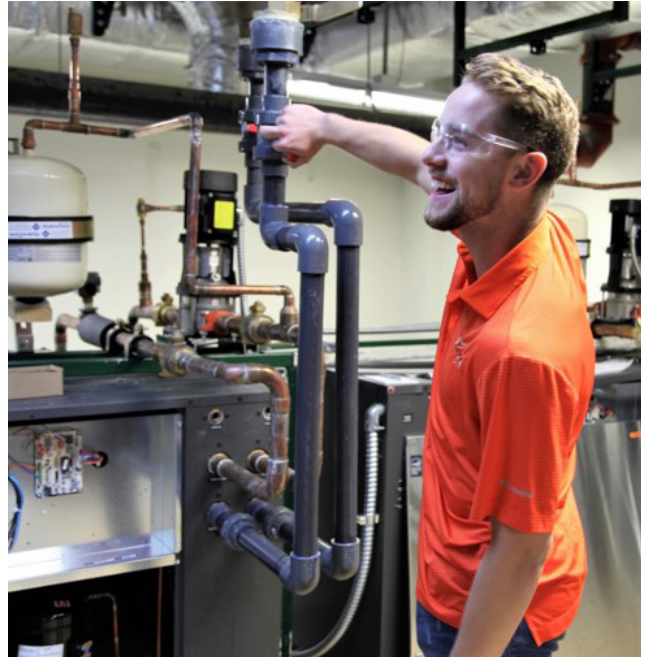
- 160 Channels
- Up to one scan per second
- Labview interface and controls

Conditioning Section

- 20 ton capacity
- 10 F to 120 F
- Independent conditioning control loops

Measurement Section

- 7ft by 8ft cross section
- 8000 CFM maximum airflow
- PIV ready

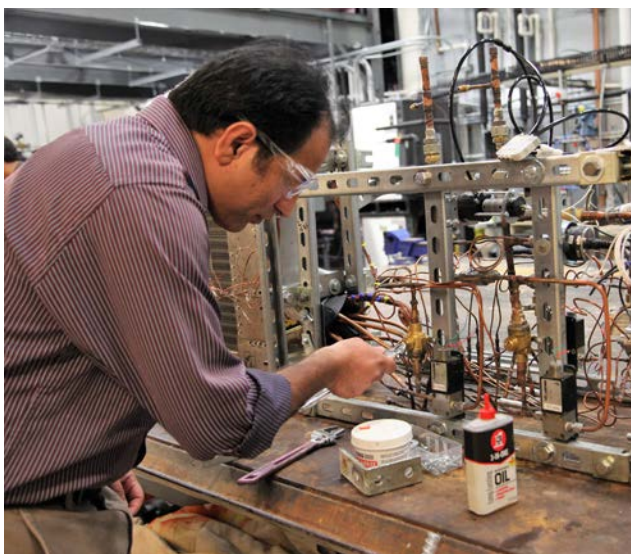


HVAC SYSTEMS



Heat Exchanger Testing

- Small tonnage heat exchanger wind tunnel
- Frost/Defrost control capabilities



Ducted Systems

- Airflow measurement and mixing environment



Ground-loop and Hydronic Systems

- Borehole test field
- Water-source heat exchanger test facilities

COMPRESSOR TEST CAPABILITIES

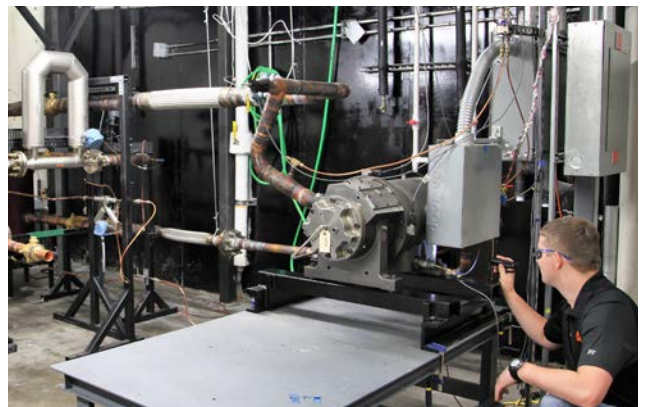
Light-Commercial Compressor Load Stand

- 10-80 tons of capacity
- Pressure-rated up to R32 pressures
- A2L capable
- Economization/vapor injection included
- Independent oil management and injection



Fractional Compressor Load Stand

- Up to 3/4 ton
- Inverter-driven
- R410A capable



Contact Us:

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**CENTER FOR INTEGRATED
BUILDING SYSTEMS**

College of Engineering, Architecture and Technology

