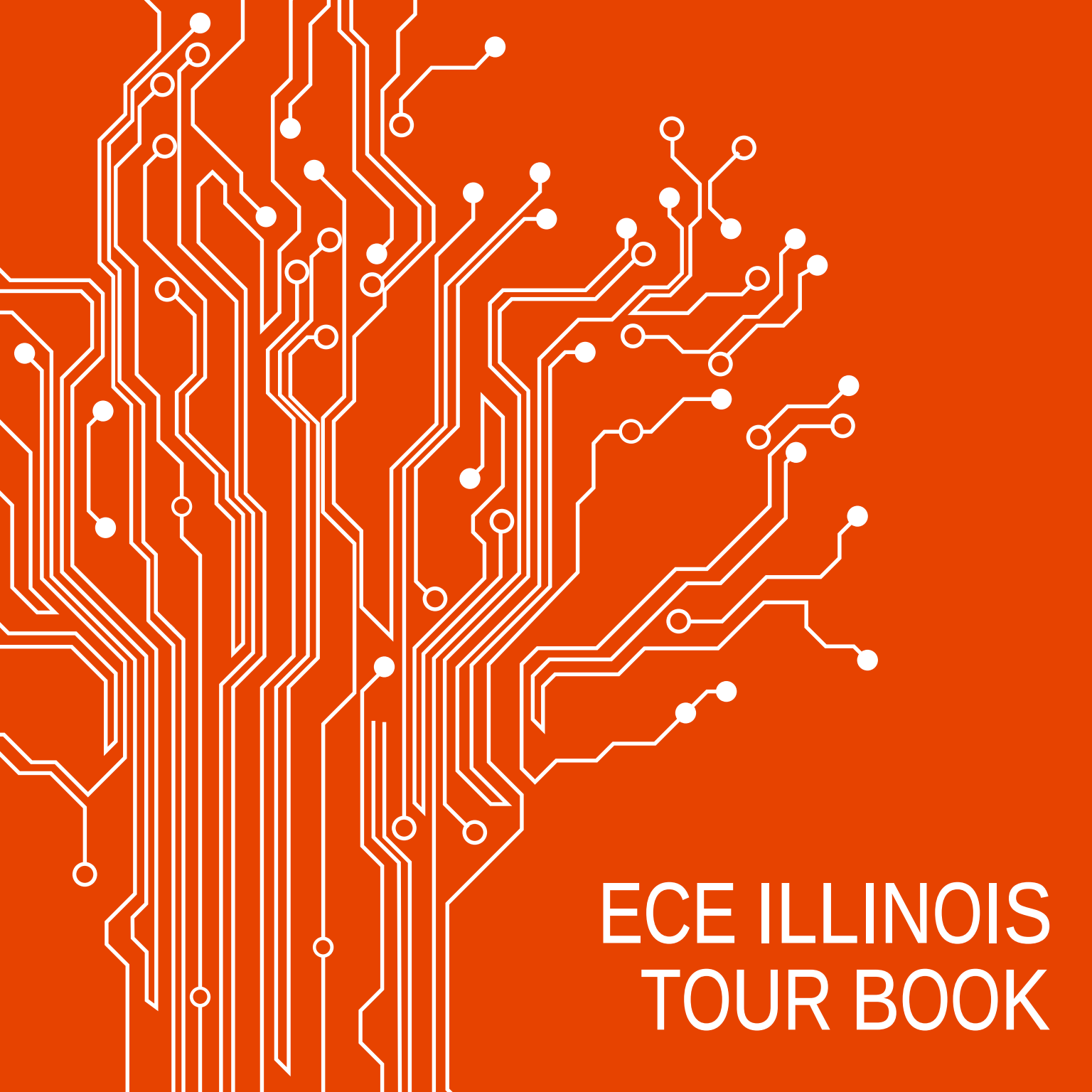
ECE ILLINOIS
TOUR BOOK

WELCOME TO THE ECE BUILDING

Decades in the making, the Electrical and Computer Engineering Building at Illinois is now a reality. This building was designed with students in mind. From its soaring lobby to its abundant hands-on labs and modern classrooms, the facility is designed to help students maximize their time here.

The building was also designed to set a new standard in energy efficiency. You'll note the ample use of natural light throughout the facility. Many more subtle features—from a chilled beam cooling system to lighting sensors to the terra cotta paneling on the exterior—play an important role in helping us meet our energy goals.

The building is 230,000 square feet, almost twice the size of the ECE Department's prior home, Everitt Lab. It may not be possible to see the entire building, so this guide highlights key features.

We encourage you to have a look around. Whether you're with a tour group or exploring on your own, please keep in mind that classes may be in session during your visit.

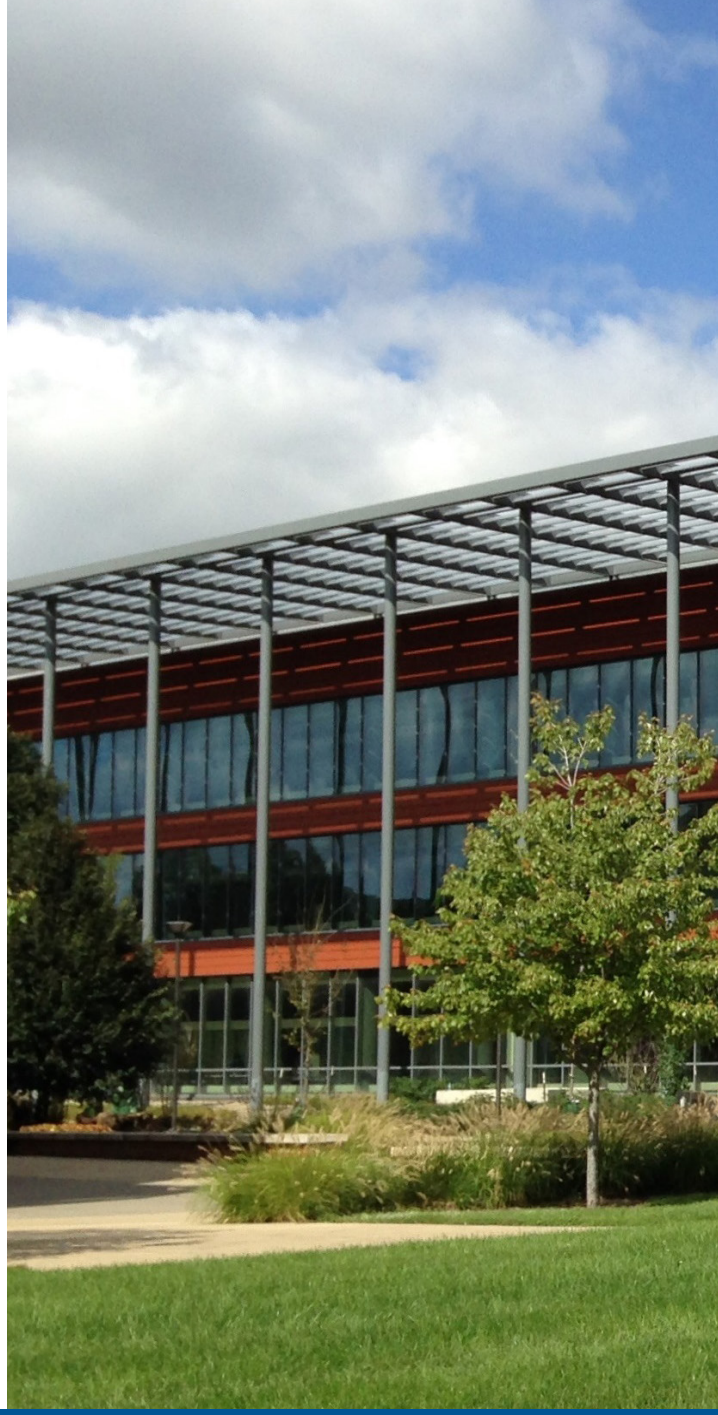

Photo courtesy of SmithGroupJJR

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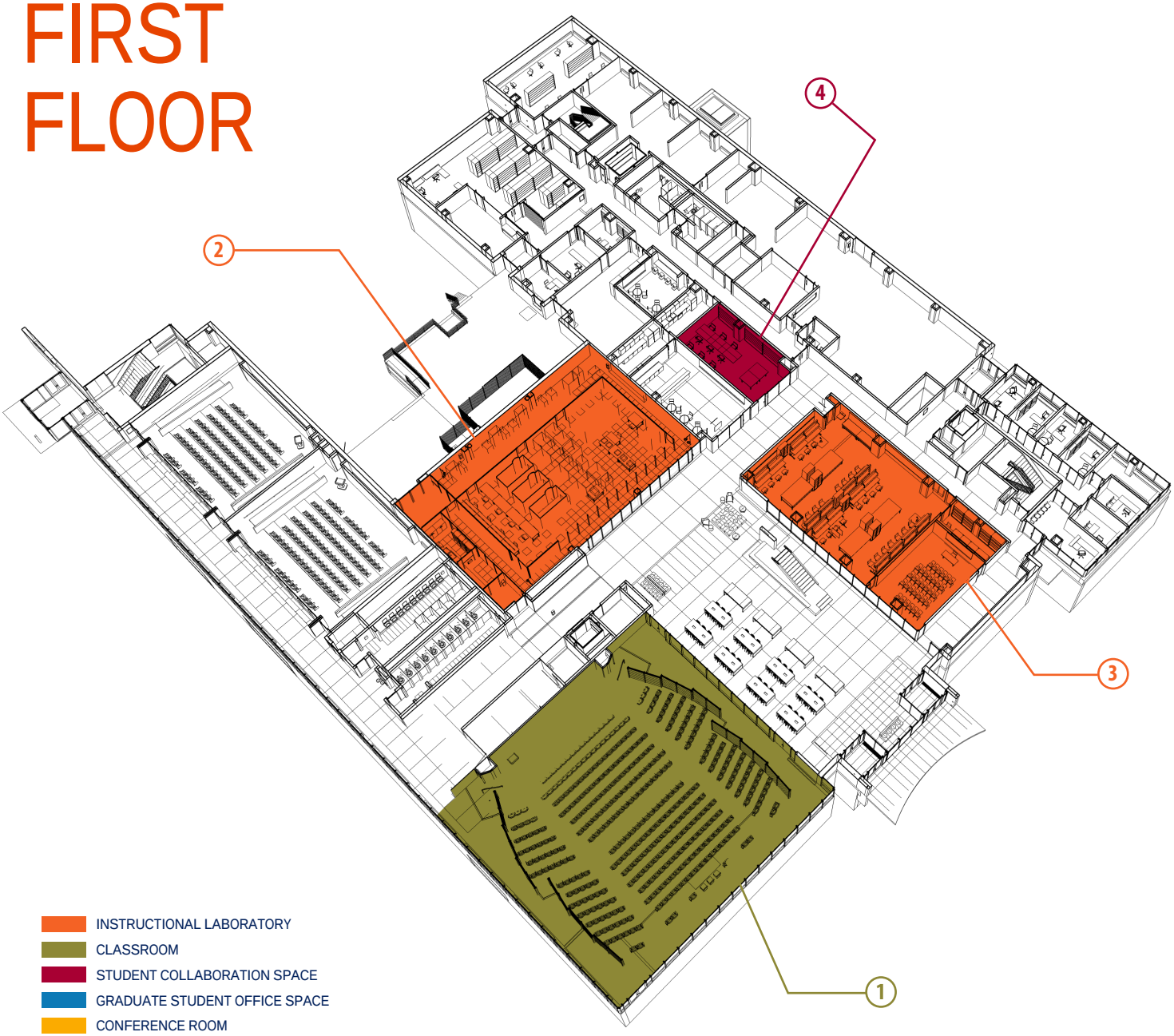
FIRST FLOOR



- INSTRUCTIONAL LABORATORY
- CLASSROOM
- STUDENT COLLABORATION SPACE
- GRADUATE STUDENT OFFICE SPACE
- CONFERENCE ROOM

1. GRAINGER AUDITORIUM (1002)

- With more than 400 seats, this is the largest auditorium on the Engineering at Illinois campus
- It's a high-tech space with a triple-projection system, but also features blackboards for our faculty members who love to teach with chalk
- Energy-efficient features include individual heating and cooling vents under each seat and three walls of windows that flood the space with natural light

2. NANOFABRICATION LAB (1003)

- This lab is the next generation of ECE ILLINOIS' original Fab Lab, which pioneered the concept of teaching undergrads about integrated circuit fabrication
- Here, undergraduates learn nanofabrication at a scale 1,000 times smaller than taught in the original Fab Lab
- We believe this is the first instructional lab in the country to teach these techniques to undergraduates
- The lab will use equipment donated by Intel and Texas Instruments
- One sustainable feature of this space is that low iron glass was used on the Lab / Lobby wall to bring borrowed natural light into this research space

3. TEXAS INSTRUMENTS ELECTRONICS DESIGN LAB (1001)

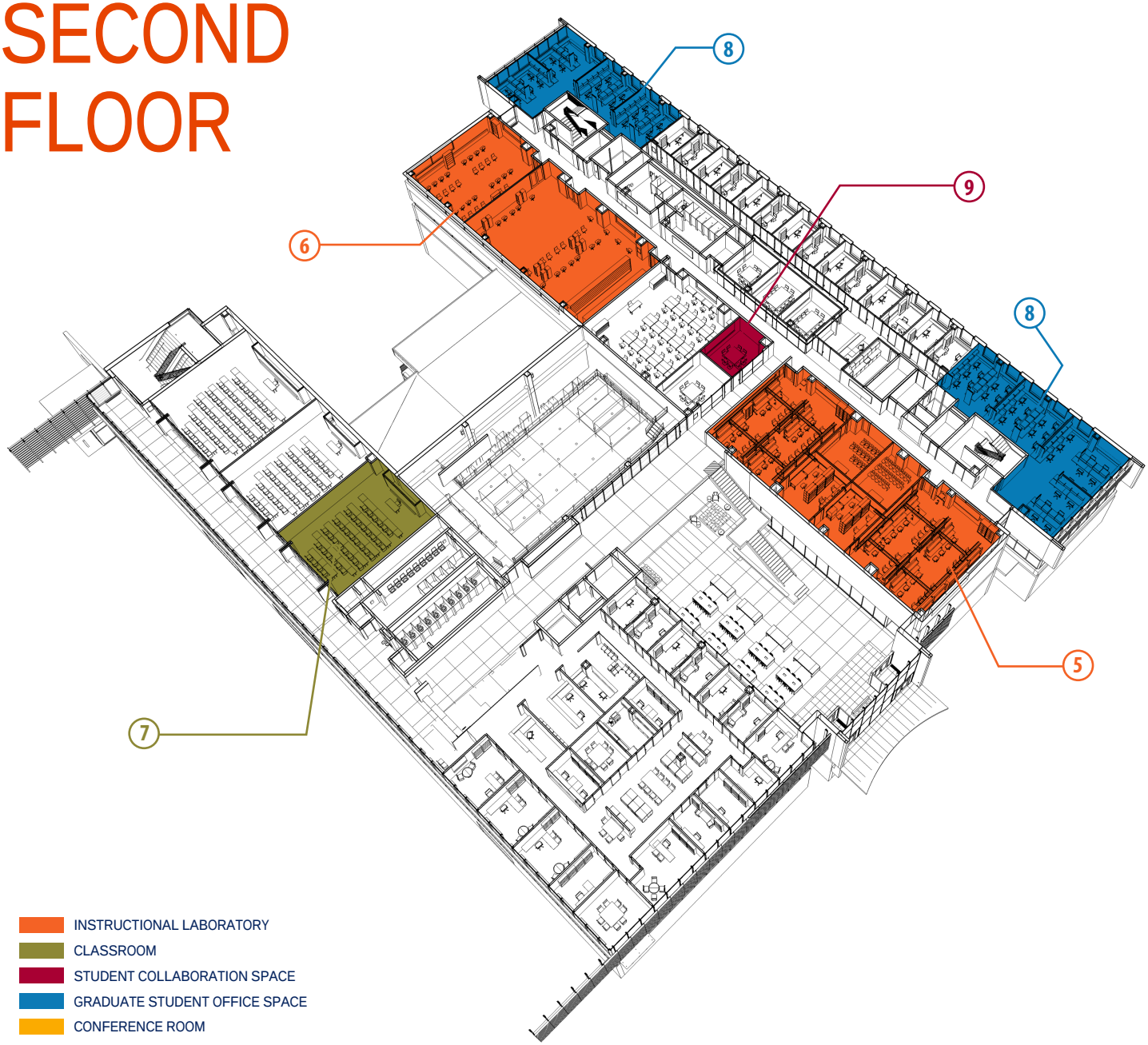
- Where all ECE ILLINOIS freshmen take ECE 110, Introduction to Electronics
- The class provides students an immediate, hands-on look at electrical and computer engineering and sets the stage for the rest of their undergraduate careers
- This room is efficiently cooled by chilled beams like most of the classroom and offices. This reduces the ECE building energy consumption and operating costs.

4. TEXAS INSTRUMENTS STUDENT CENTER (1016)

- This space allows for students in our many student organizations to collaborate, plan, and learn leadership skills that will serve them throughout their careers
- Some student groups that meet here include IEEE, Women in Electrical and Computer Engineering, and the ECE Student Advancement Committee.
- Sustainable low V.O.C interior paints and materials finish this room and all interior spaces in the building.

The building was designed with an emphasis on student collaborative spaces and includes a wide-open lobby with ample seating, along with numerous computer labs and work areas.

SECOND FLOOR



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5. SRIVASTAVA SENIOR DESIGN LAB SUITE (2070-2076)

- ECE ILLINOIS seniors complete the capstone projects of their undergraduate careers here
- They work in teams using creative engineering to solve real-world problems posed by community or corporate partners
- The lab is located close to the Electronics Services Shop and Machine Shop, which support students as they build their projects.
- Energy efficient LED lighting is used in this lab and throughout the building

6. OPEN PROJECTS LAB (2026)

- This lab is for students to work on projects unrelated to their classes and provides students space to walk in and tinker with the ideas they're itching to try
- Students can write proposals to be reviewed by a student committee to secure space for long-term projects
- Light fixtures in this lab, and other rooms with exterior glazing, are controlled by daylighting sensors that that reduce perimeter lighting in the sspace when daylighting is sufficient.

7. NEARING FAMILY CLASSROOM (2013)

- This classroom offers flexible furniture that can be rearranged based on the needs of the class, such as group collaboration
- It overlooks the building's sustainable garden to the south, which features native plants and controls storm water around the building

8. GRAD STUDENT OFFICES (NORTH TOWER)

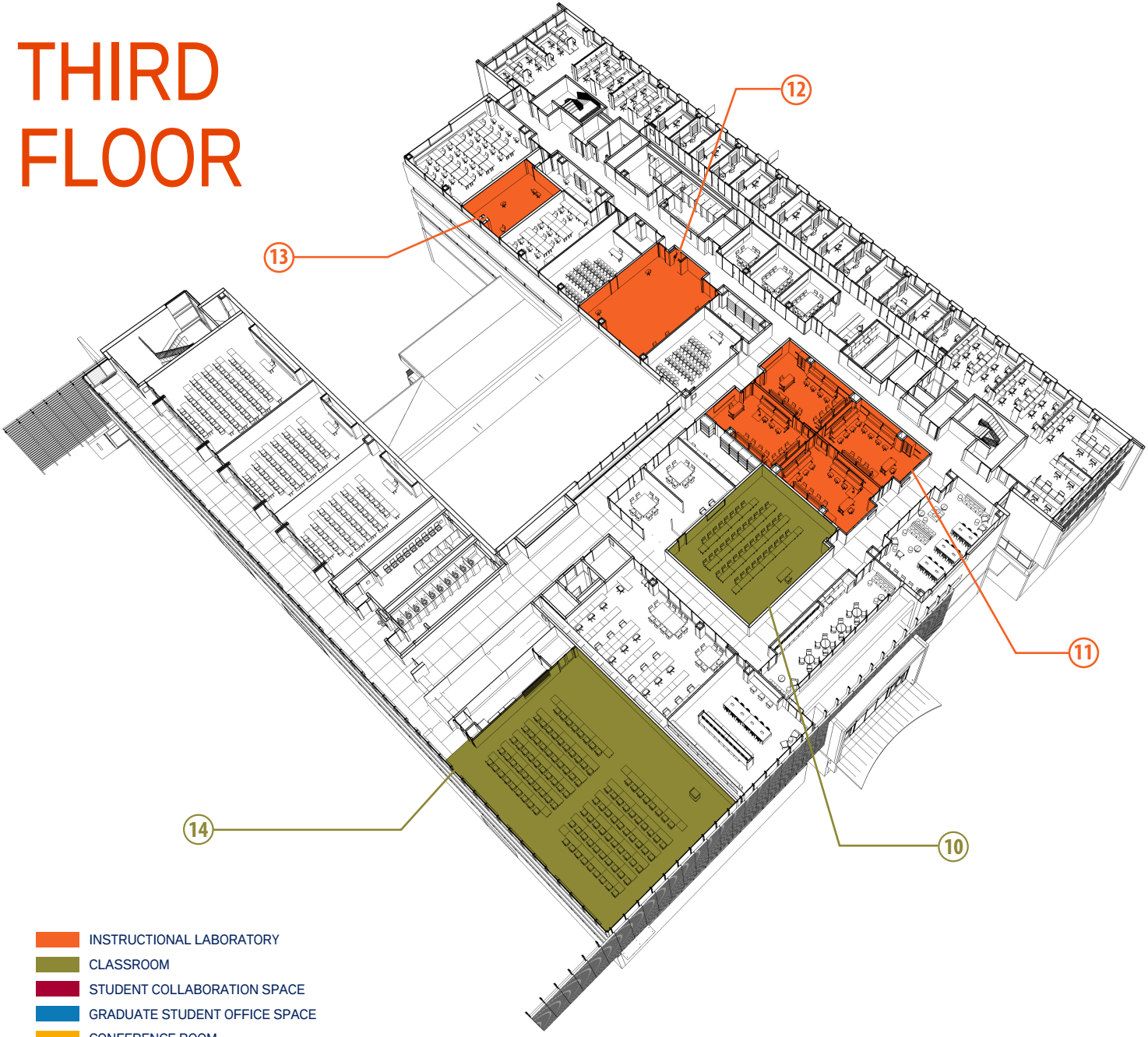
- Faculty offices in the ECE Building are all of equal size, and no corner offices exist
- Instead, graduate students work in open corner spaces that are filled with sunlight
- These open offices allow for plenty of collaboration, especially among students who have different research specialties
- East and West facing exterior glazing with terracotta baguette sunshades offer daylight and views to these spaces while blocking early and late day solar glare.

9. JOSEPH W. SEMMER GROUP STUDY ROOM (2016)

- This room provides space for students to meet and work on homework, group projects, and presentations, but its glass walls overlooking the hallway remind them they're connected to the rest of the department
- The ECE Building includes many spaces for students to spend time working with each other and faculty members, which reflects ECE ILLINOIS' dedication to collaboration

Thanks to a highly efficient design, the amount of energy the ECE Building saves every year could power 348 average homes.

THIRD FLOOR



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10. DISTANCE LEARNING CLASSROOM (3081)

- This room is equipped with distance learning hardware that will allow real-time audio/visual connection to similarly equipped spaces around the world
- The facility will be used for online meeting and conferences, as well as for online classes designed for ECE ILLINOIS.
- Occupancy sensors reduce lighting and mechanical system services in this classroom and others when they are not occupied.

11. CONTROL SYSTEMS LABS AND ROBOTICS LAB (3071-3077)

- Three Engineering at Illinois Controls Labs are used to teach students about Automatic Control Theory. Here, students study controlling systems
- The nearby Robotics Lab focuses on teaching students how to control robot arms similar to those used in factory automations
- The robot arms used in this lab are much smaller than industrial robots, but the same techniques apply
- Recycled materials like the cmu block walls of this classroom are used throughout the ECE building.

12. INSTRUCTIONAL OPTICS LAB (3016)

- In this lab, students taking ECE 460, Optical Imaging, learn about the basic principles of light propagation, light-light, and light-matter interaction
- The lab also offers hands-on experience on how to perform spectroscopy measurements, build a microscope, use interferometry, and study diffraction and optical fibers

13. ELECTRONIC MUSIC LAB (3024)

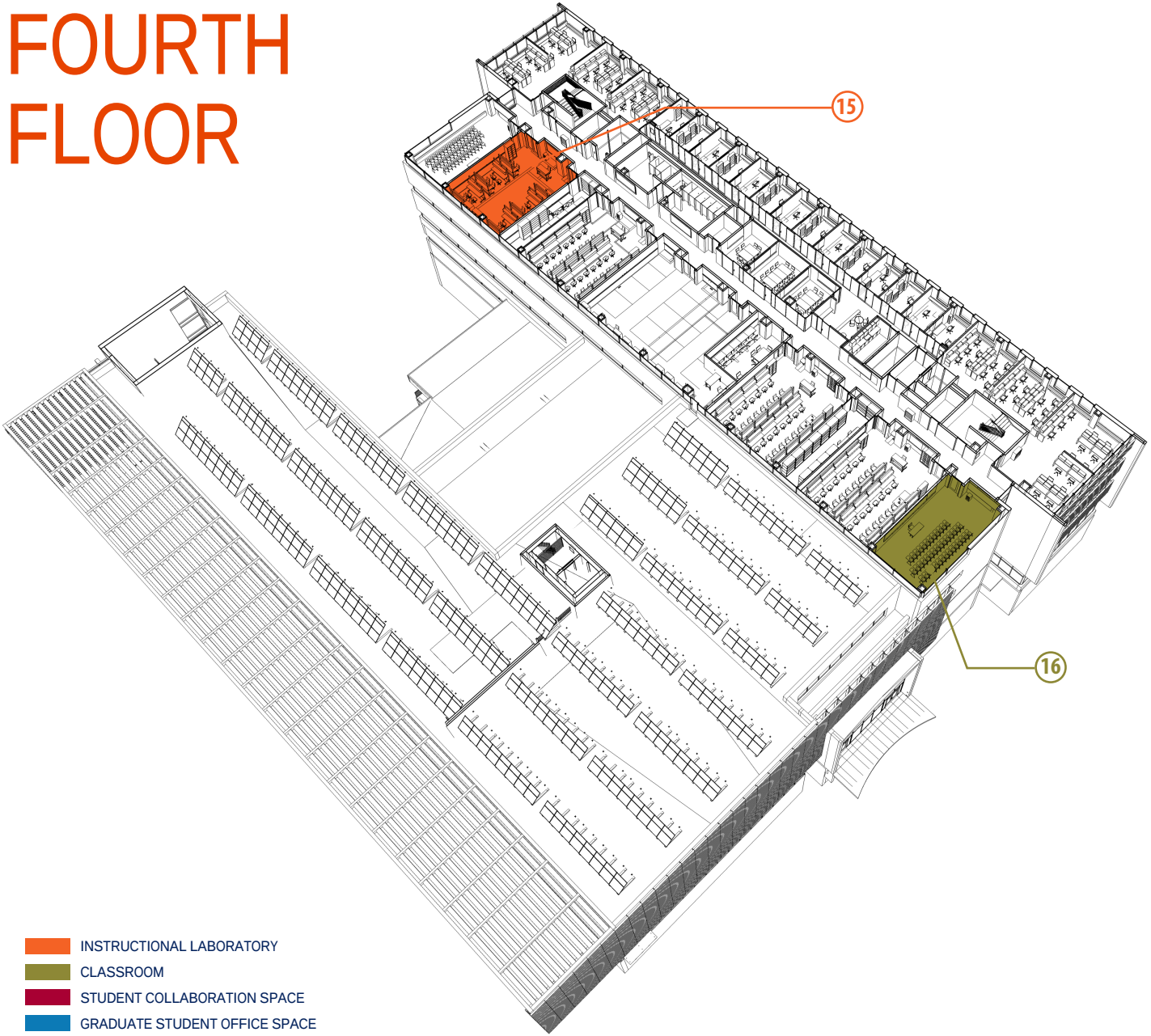
- The Electronic Music Lab provides an environment for hands-on experience designing, implementing, and testing real-time audio signal processing algorithms for computer music
- The Electronic Music Lab space is built to professional recording studio acoustic standards
- Only a handful of universities in North America offer advanced music-related courses designed for their ECE students
- The windows in this room illustrate that the ECE building was oriented with the majority of glazing facing south for optimal daylighting and to reduce energy loads

14. KAVITA AND LALIT BAHL MEETING ROOM (3002)

- This space includes a blackboard and flexible classroom furniture for its use as a 120-seat classroom
- It can be reconfigured to serve as special event space
- This space offers ample sunlight and two walls of windows, which fit with the building's energy-efficient design. Angled aluminum fins of the south canopy block the suns rays from directly penetrating into spaces.

A hallmark of the ECE curricula is hands-on learning. The building includes 45 instructional and research laboratories.

FOURTH FLOOR



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15. GRAINGER ELECTRIC MACHINERY LAB (4024)

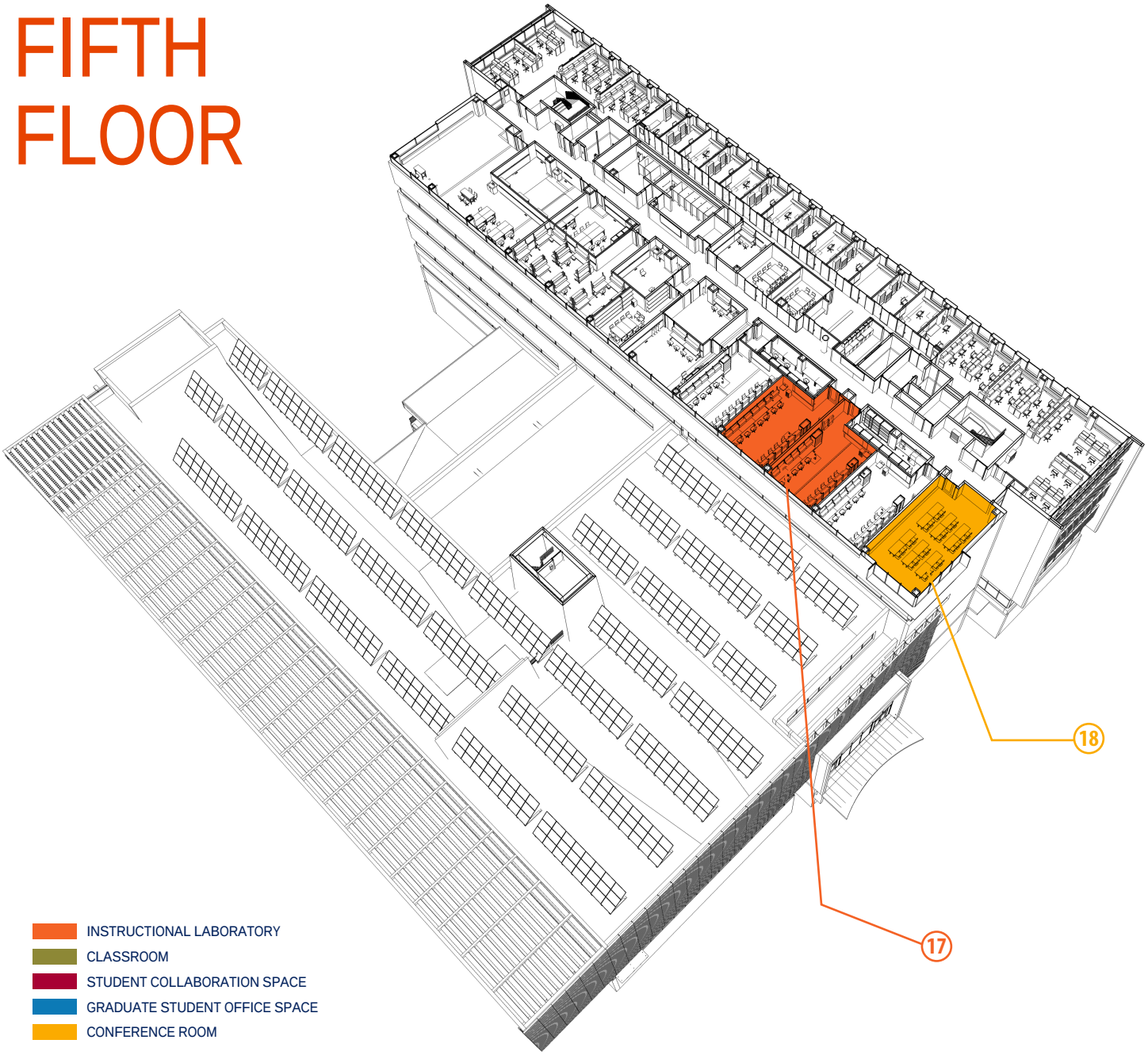
- This lab is a part of the Grainger Center for Electric Machinery and Electromechanics and is used for advanced power research
- Like many instructional labs in the ECE Building, it has an adjoining classroom for lectures, and extra space for instructors to work on equipment or lab concepts without taking up precious space in the main lab.
- Electrical consumption of all labs is metered and monitored by the department to moderate and reduce future energy consumption.

16. RICHARD K. WILLIAMS CLASSROOM – SOLAR PANEL VIEW (4070)

- This lab, named for alumnus Richard K. Williams, overlooks the solar panels that will help make this facility net-zero energy
- The roof solar panels generate power and provides a hands-on research opportunity for ECE students.

A solar array will occupy the entire 42,000 square-foot roof providing part of of the building's energy.

FIFTH FLOOR



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17. MICROWAVE COMMUNICATIONS LAB AND OPTICAL COMMUNICATIONS LAB (5074/5076)

- The Microwave Communications Lab allows instructors to introduce seniors and graduate students to the fundamentals of high-frequency and high-speed measurements
- In the Optical Communications Lab, students get a hands-on look at systems that use optical fiber for long-haul communications
- These labs allow students to understand important concepts in communication and expose them to the latest tools and instruments used in these fields

18. ECE ALUMNI BOARD CONFERENCE ROOM (5070)

- This conference room is named in honor of the ECE Alumni Board and its members, both past and current
- The alumni board meets in this room twice a year, and this space is also used for special events
- ECE Alumni Board members play an important advisory role for the department and its leadership
- This conference room overlooks the Fourth Floor roof photovoltaic array and offers Alumni board members a view of the ECE Department's research PV array illustrating "Science on Display"

With about 100 faculty, 2,000 undergraduates, and 500 graduate students, ECE is the largest academic department on campus. It is perennially ranked one of the best electrical and computer engineering programs in the nation.

THANK YOU FOR YOUR SUPPORT!

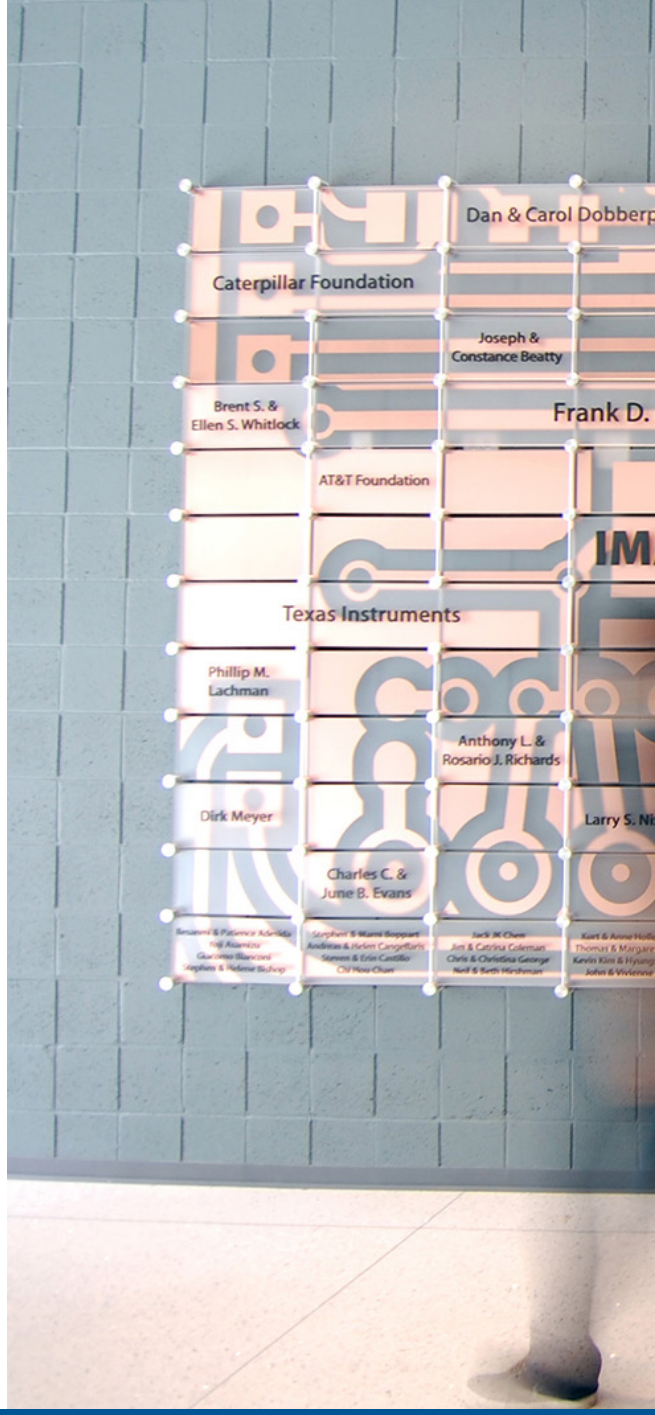
Half of the $95 million project cost was funded by the State of Illinois. Private and corporate donors contributed the second half.

Lead donors are honored through the naming of key spaces in the building, including:

- Classroom supported by the Caterpillar Foundation (2015)
- ECE Alumni Board Conference Room (5070)
- Frank D. and Irene M. Low Classroom Wing (1013 and 1015)
- Fredric G. Nearing Family Classroom (2013)
- Grainger Auditorium (1002)
- Grainger Electric Machinery Laboratory (4024)
- Grainger Power Engineering Software Lab (4076)
- Joseph W. Semmer Group Study Room (2016)
- Kavita and Lalit Bahl Meeting Room (3002)
- Raj Mittra Classroom (2017)
- Richard K. Williams Classroom (4070)
- Sanjay Srivastava Senior Design Lab Suite (2070-2076)
- Texas Instruments Electronics Design Lab (1001)
- Texas Instruments Student Center (1016)

Our sincere thanks to the hundreds of individuals, families, foundations, and corporate partners who contributed to this sustainable building.

Opportunities to support the project still exist. For more information, visit buildingcampaign.ece.illinois.edu or call (217) 265-6285.



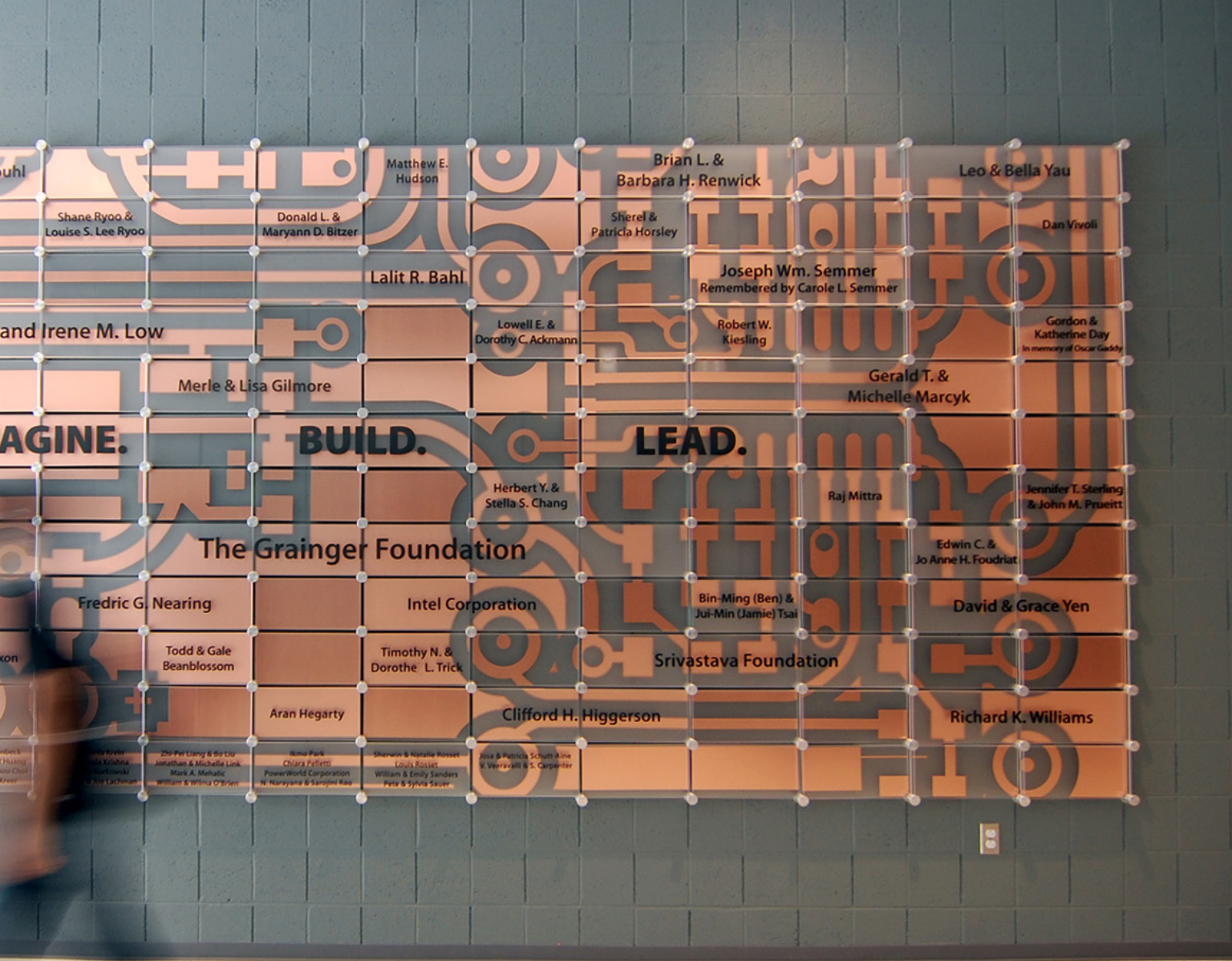


Photo courtesy of Kurt Bielema

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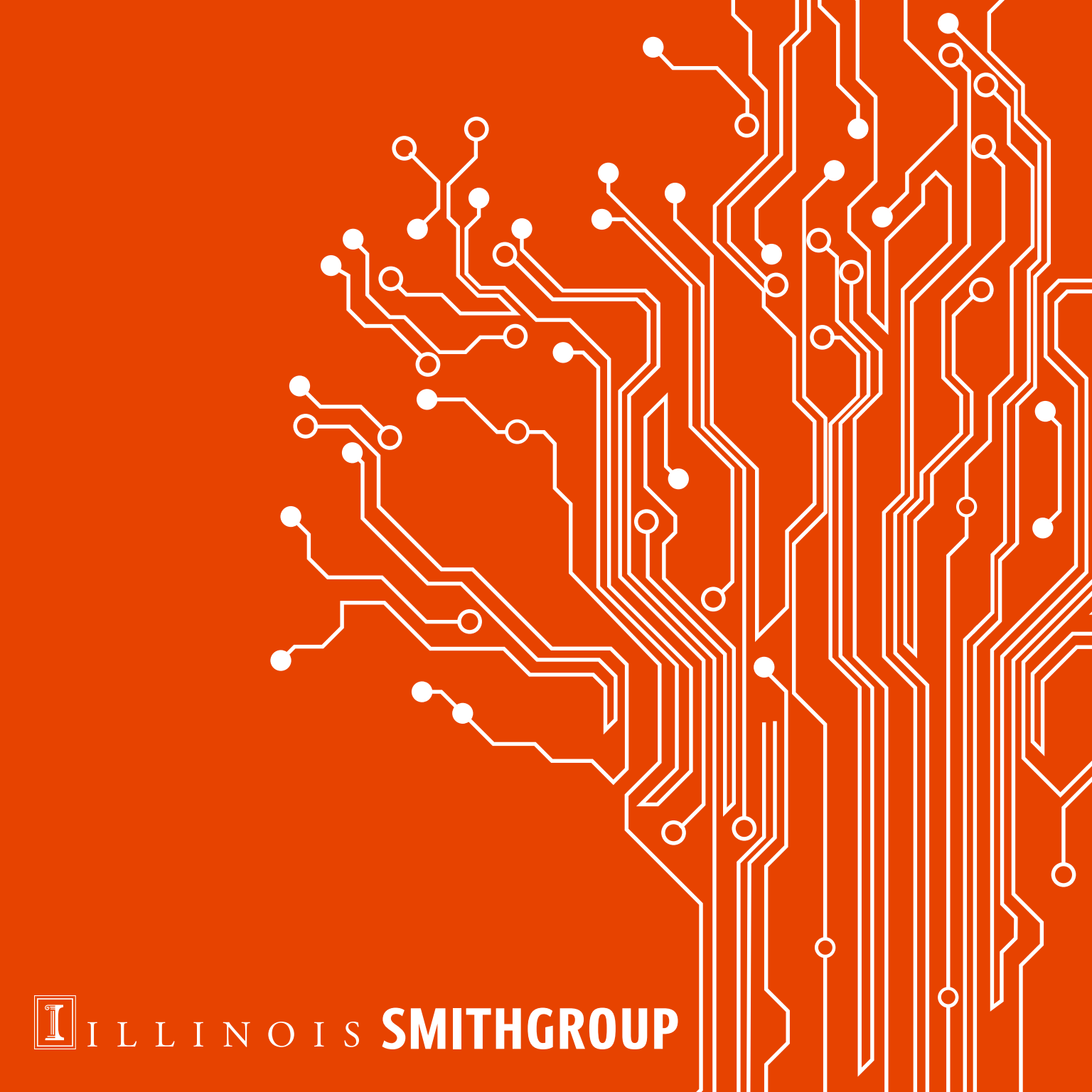
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