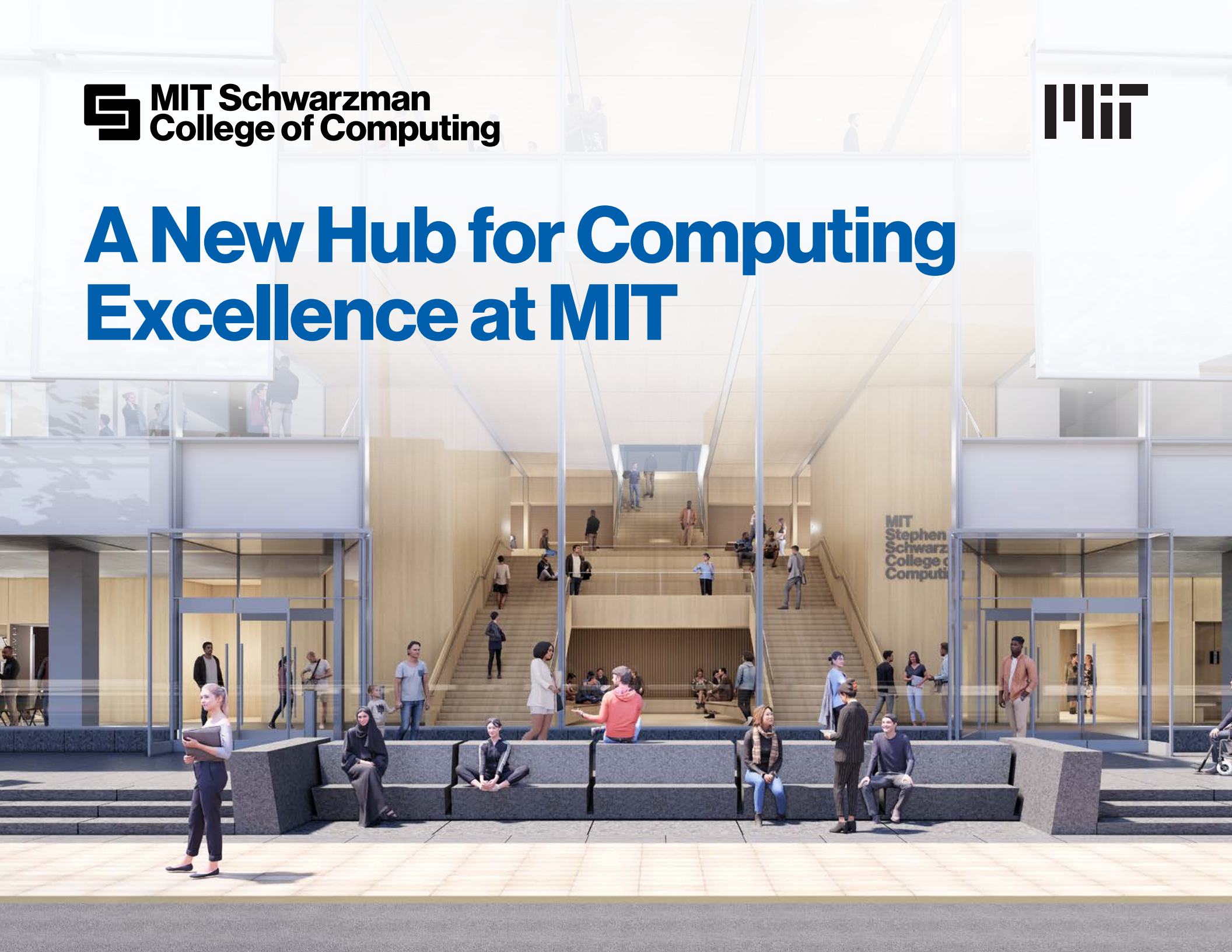
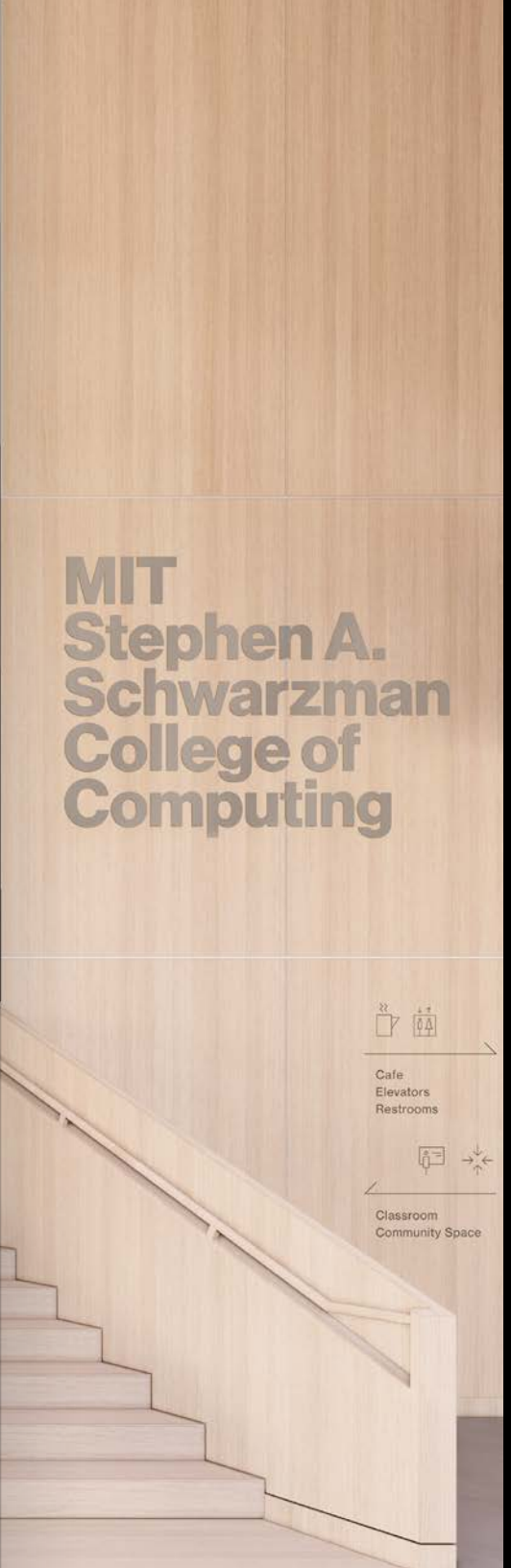
MIT Schwarzman College of Computing

A New Hub for Computing Excellence at MIT



The bright, inviting lobby of the Institute's new computing headquarters will greet the MIT community and visitors from around the world.



“The MIT Schwarzman College of Computing headquarters will be a manifestation of the college’s mission: a multifold approach that fully incorporates core computing fields, computing across the disciplines, and social and ethical responsibilities. The building’s open, accessible design will support collaborations that are transforming computing education and research, leading to new breakthroughs.”

Daniel P. Huttenlocher SM ’84, PhD ’88
Dean, MIT Schwarzman College of Computing
and the Henry Ellis Warren (1894) Professor of
Electrical Engineering and Computer Science

MIT's Computing Headquarters

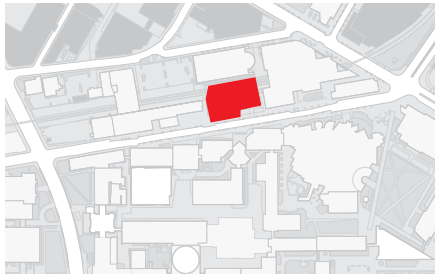
The MIT Stephen A. Schwarzman College of Computing is engaging faculty, students, and collaborators across a broad array of disciplines in computing and artificial intelligence (AI) education, research, and innovation. The college will create the next generation of highly trained computational thinkers and doers who bring a broader cultural, ethical, and historical context to the use of computing technology along with knowledge of disciplines across MIT.

A centralized headquarters for the college is critical to this mission and engaging a global audience with its exciting work. Scheduled for completion in 2023, the building will facilitate the collaboration and research that will take the college to the next level.

View of lobby, convening spaces,
and Vassar Street from the second level

Communal spaces near
the main entrance

Coming Together for Computing Excellence



The new building, designed by Skidmore, Owings & Merrill, will be a destination for a wide-ranging population working to shape computing.

This state-of-the-art space for education, research, and collaboration will include a signature event venue and 250-seat lecture hall alongside thoughtfully designed labs, meeting rooms, and communal areas for learning and connecting.

Located in the center of the Vassar Street block at the heart of campus, the building will sit at a busy intersection of MIT's intellectual traffic that brings together the college, disciplines across the Institute, and the bustling innovation community of Kendall Square. MIT neighbors include the Department of Electrical Engineering and Computer Science, the Department of Brain and Cognitive Sciences, and the Computer Science and Artificial Intelligence Lab.

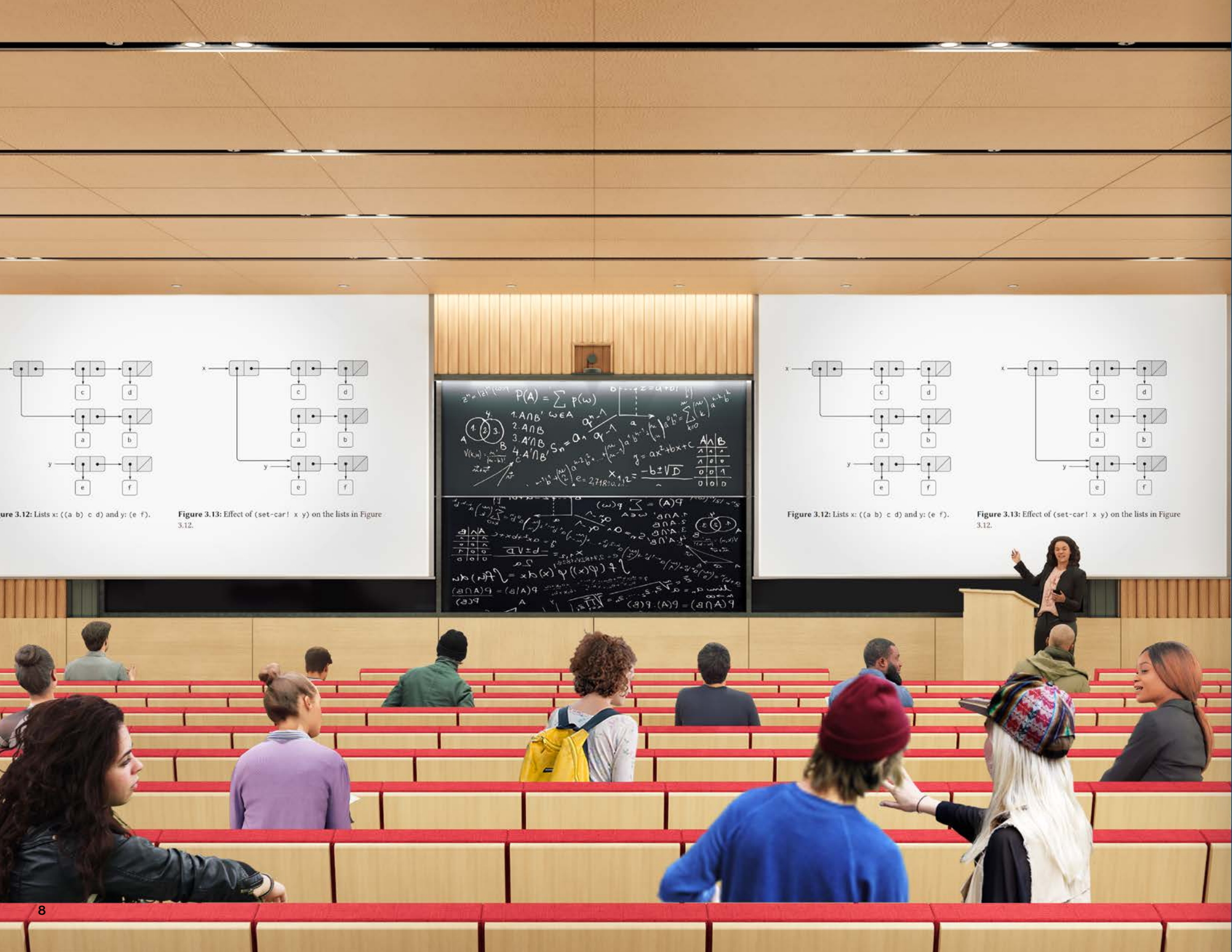
The central location of the building reflects the important role that computing plays across all disciplines at MIT. Its features will attract not only computer scientists but researchers across the spectrum of MIT disciplines, as well as thought leaders from the academic, business, government, and nonprofit sectors. These factors will create a strong foundation for collaboration that will lead to further computing breakthroughs.

Commitment to Sustainability

In keeping with MIT's commitment to environmental sustainability, the building is designed to meet Leadership in Energy and Environmental Design (LEED) Platinum certification.

The glass shingles forming the building's south-facing side not only provide ample natural light, but also form a double-skin façade constructed from interlocking units that create a deep sealed cavity, which is expected to significantly reduce energy consumption. Other sustainability features will include embodied carbon tracking, on-site stormwater management, fixtures that reduce indoor potable water usage, and a large green roof.

View of the building from Vassar Street



ure 3.12: Lists x: ((a b) c d) and y: (e f).

Figure 3.13: Effect of (set-car! x y) on the lists in Figure 3.12.

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Educating a Generation of "Computing Bilinguals"

The college has initiated an unprecedented push to coordinate computing education across MIT. Academic spaces in the new building will be key venues for educating what MIT President L. Rafael Reif has called "the next generation of computing bilinguals"—students who are fluent in both the "language" of computing and that of their discipline.

The 250-seat lecture hall on level two

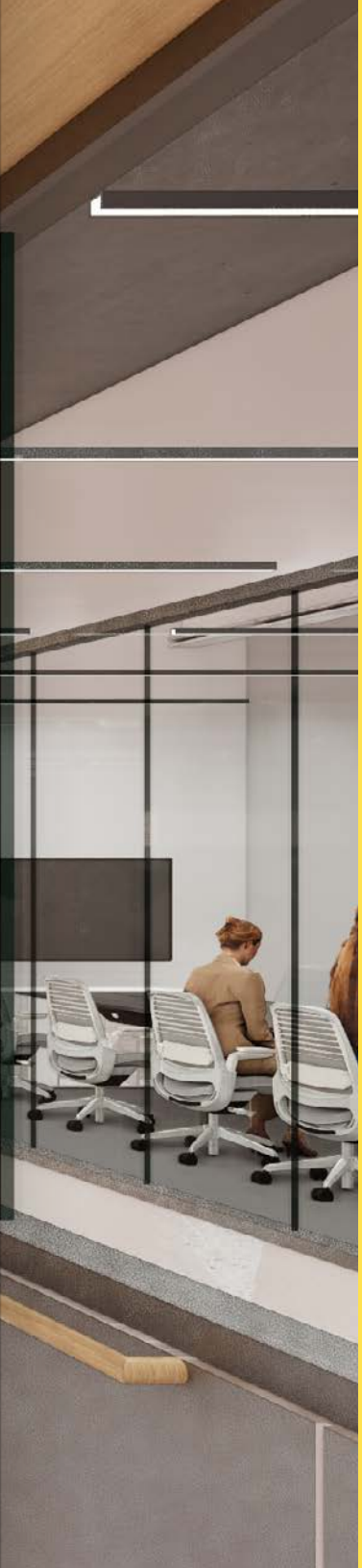
Spaces for Learning

Approximately 45% of MIT undergraduates major or minor in computer science, or have a major that blends computer science with other disciplines. When the building opens, its 250-seat lecture hall and 60-seat classroom will provide these students with critically needed educational facilities.

A variety of inclusive spaces are designed to meet the needs of MIT students, whether they are attending class, conducting a tutoring session, or working on a group project. Alongside much-needed tutoring suites and project rooms for students, the lecture hall will be a venue not only for classes, but also for prestigious speakers and signature events that attract an audience beyond the college community.

The building's 60-seat classroom


Degree centrality
Important nodes have many connections
Closeness centrality
minimal number of steps to reach others
Important nodes are close to other nodes
Betweenness centrality
Important nodes connect other nodes
Eigenvector centrality
Important nodes have many connections to other important nodes (recursive)
undirected
node / vertex



Cutting-Edge Research

The faculty and researchers who will work in these spaces are at the forefront of computing research and at the nexus of computing and other disciplines. The new building, with its labs, offices, and the Dean's Suite, will increase opportunities for collaboration and the cross-pollination of ideas, housing approximately 50 faculty associated with the college and their research groups.

An open design featuring clear walls, double-height communal areas, and numerous conference rooms and breakout spaces intentionally sets the stage for collaborative research and spur-of-the-moment interactions.

View of level three and open stairwell leading to level two

Where Ideas Take Root

Two levels will feature large laboratory spaces designed for multiple uses, including digital fabrication and robotics. Offices for visiting scholars will facilitate a constantly evolving dialogue from a variety of experts.

In addition to supporting units that play an important part in its mission, such as the MIT Quest for Intelligence, the building will also house the Common Ground for Computing Education and the Social and Ethical Responsibilities of Computing, cross-cutting areas that are increasing connections and facilitating collaborations in computing across disciplines at MIT.

Views of communal spaces and conference rooms (far left, left) and an example of a faculty office

Building a Computing Community

Thoughtfully designed communal areas in the new building will help form an interdisciplinary community of MIT students, researchers, and faculty who are working to invent the future of computing fields. Multidisciplinary scholars, as well as visiting partners from a variety of fields, will be at home in spaces that encourage them to collaborate in pursuit of ethically and socially responsible technologies.

The Community Convening Space on level one

Opening the College to the World

Steps from the innovation community of Kendall Square, the building will become a fixture of MIT and Cambridge, creating increased community interaction by activating Vassar Street.

A highly visible ground-level cafe and open spaces for studying and collaborating on the ground floor will immediately draw the attention of passersby and will quickly become destinations for MIT students and visitors.

Views of convening spaces from Vassar Street (far right) and outside the tutoring suites

MIT’s Newest Signature Event Space

The top floor, eight stories high, will house MIT’s newest signature event space.

Striking views across Cambridge and Boston will make it one of MIT’s premier venues, welcoming guests from around the world to a variety of college and Institute events.

Views of the event space

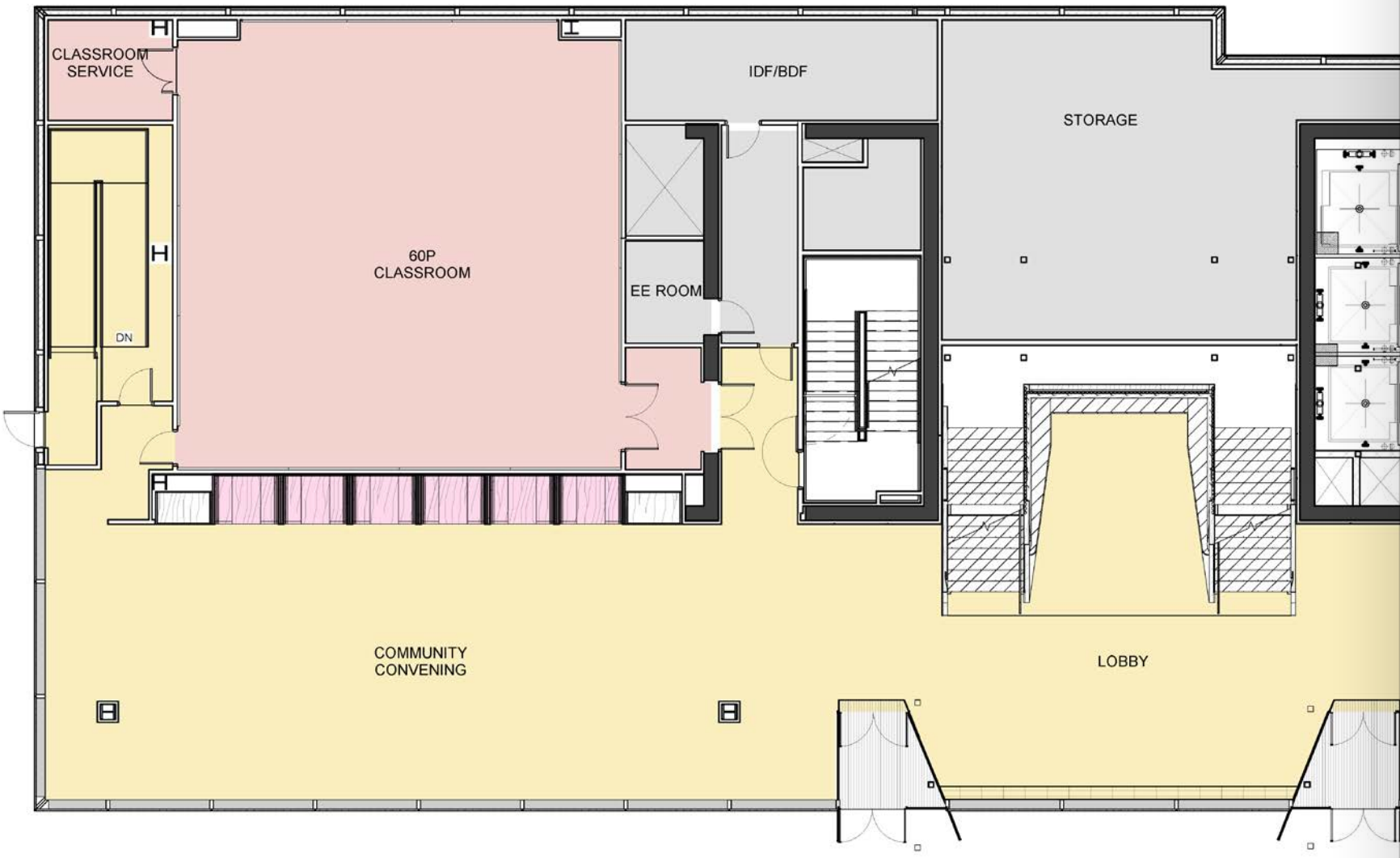
Designed for Collaboration

The following floorplans illustrate the scope and dynamic nature of the building's design—a variety of spaces where students, faculty, researchers, and visitors can gather in their pursuit of innovation in computing across multiple fields. The building is a vital piece of MIT's commitment to its students and researchers and to nurturing the work and collaborations that will lead the next wave of the computing revolution.

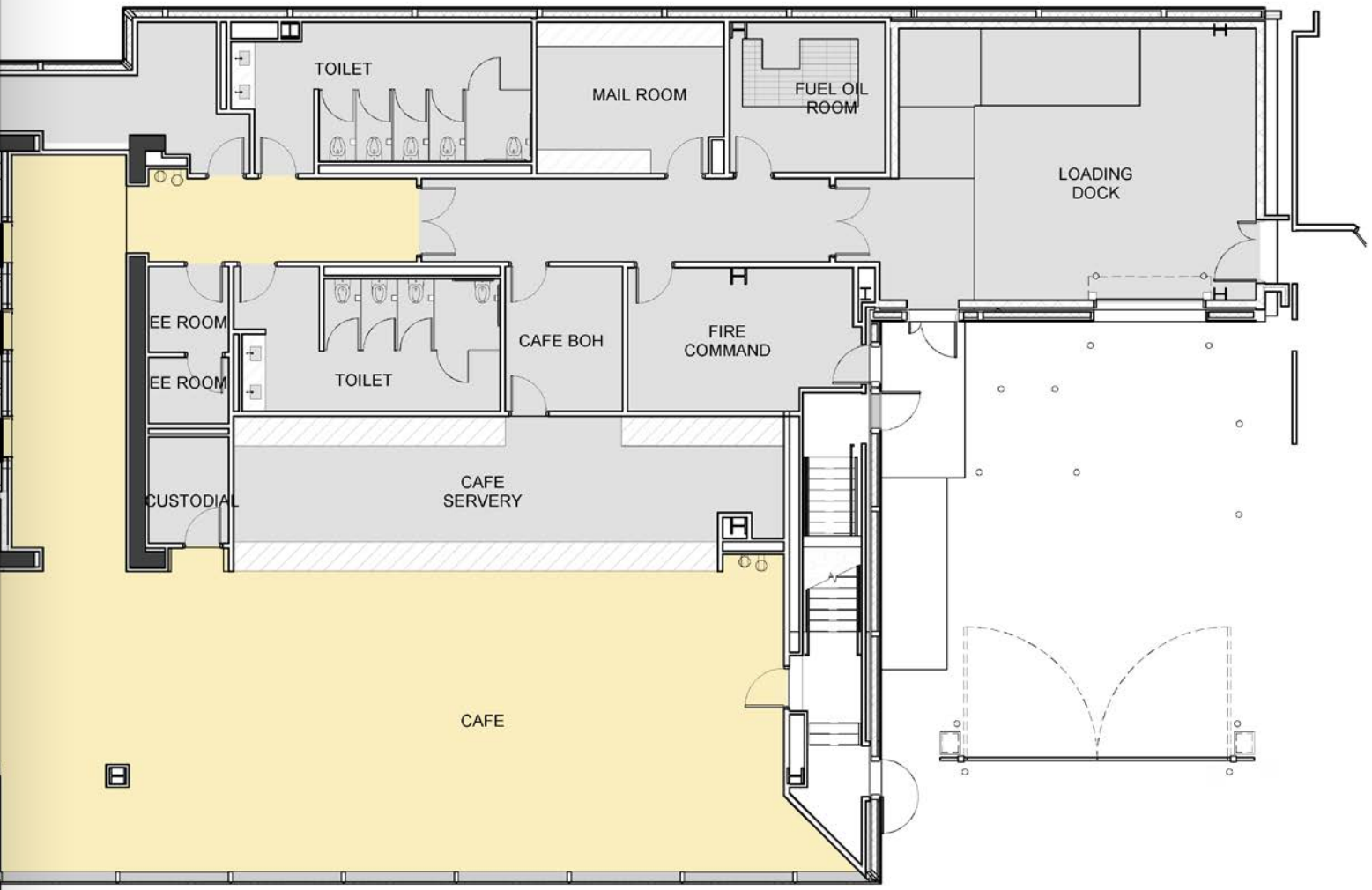
Cross section of the building layout

Renderings in this document are by Skidmore, Owings & Merrill and are for illustrative purposes only. Final designs may differ.

Level 1: Lobby, Cafe, and Communal Spaces

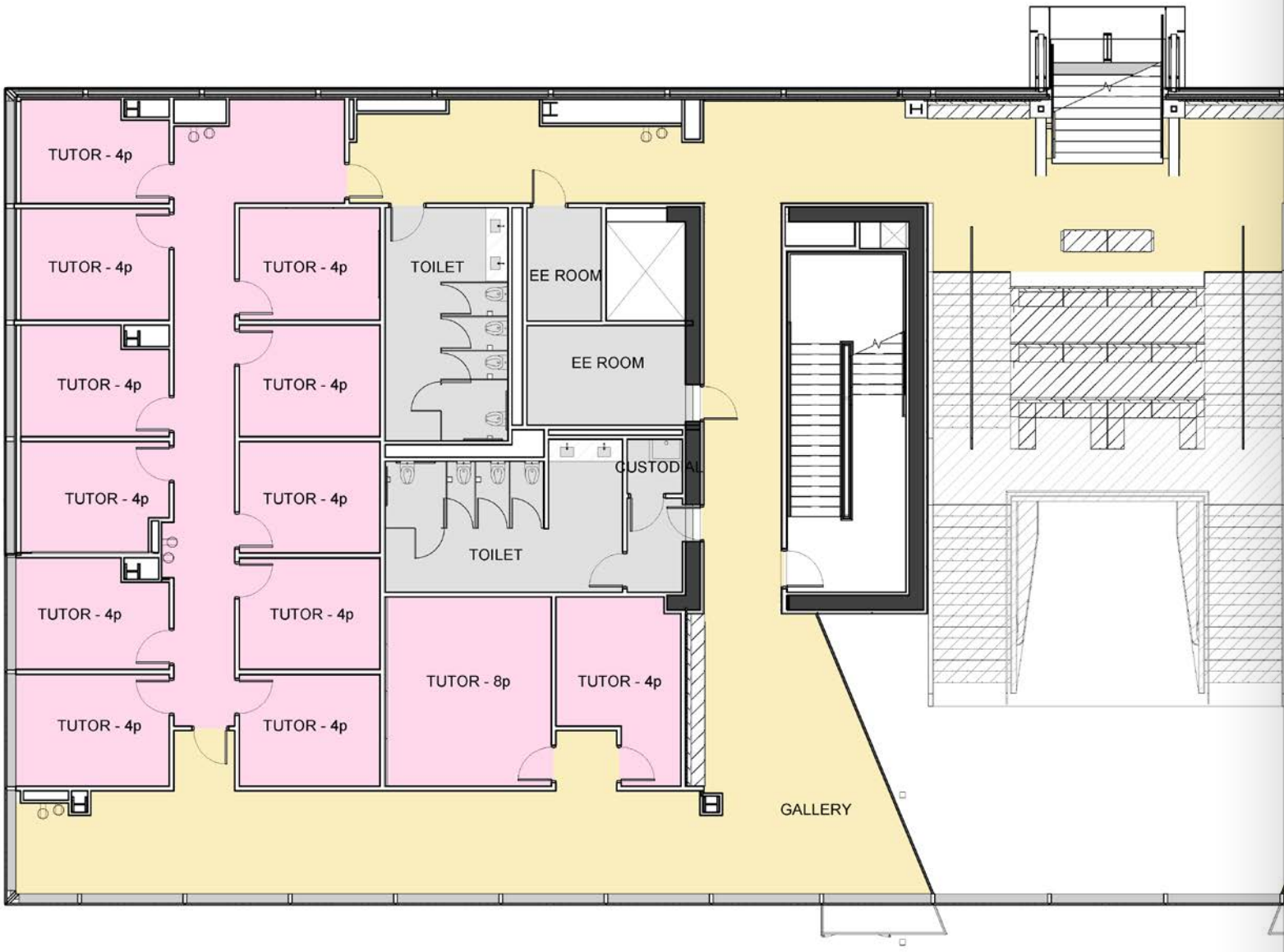


Vassar Street

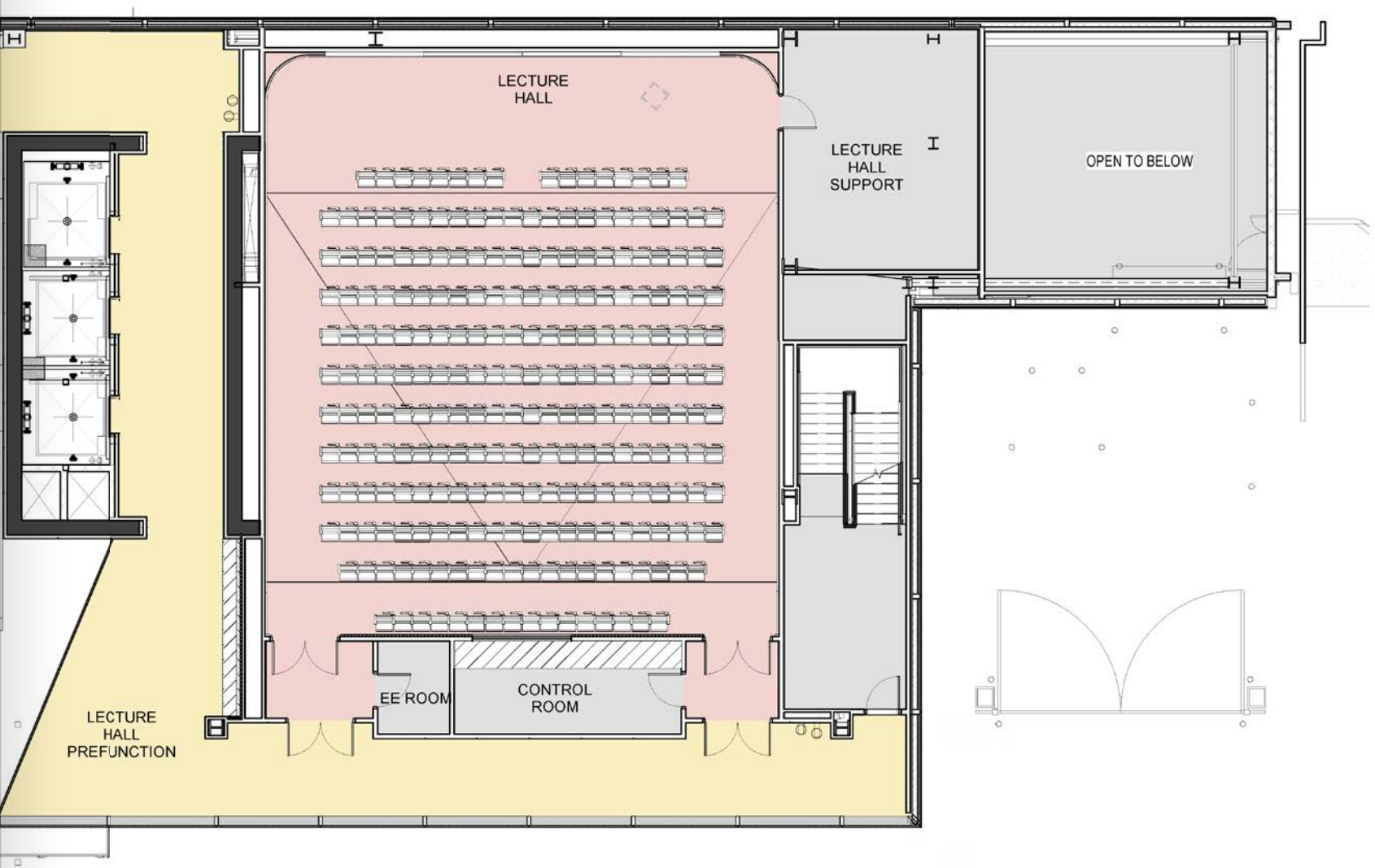


Vassar Street

Level 2: Educational Spaces



Vassar Street



Vassar Street

Levels 3-4: Collaboration Suites and Offices

Vassar Street

Vassar Street

Level 5: Collaboration Suites and Offices

Vassar Street

Level 6: Labs and Collaboration Zones

Vassar Street

Level 7: Labs and Collaboration Zones

Vassar Street

Level 8: Event Space and Conference Rooms

Vassar Street

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