UCSF Department of Medicine
ZUCKERBERG
SAN FRANCISCO GENERAL

ZSFG RESEARCH AND ACADEMIC BUILDING: A FUTURE HOME FOR RESEARCH BECOMES A REALITY

ZSFG not only provides incredible care but is also a research powerhouse, making breakthrough discoveries in everything from HIV and tuberculosis, to food insecurity and homelessness, to traumatic brain injury and bioterrorism. The research impacts the health of the community we serve, the nation and the world. Researchers need more modern, seismically safe, and collaborative work spaces.

Harriet Tubman said "Every great dream begins with a dreamer. Always remember, you have within you the strength, the patience, and the passion to reach for the stars to change the world."

To reach for the stars and change the world, ZSFG is building a state-of-the-art Research and Academic Building (RAB) south of Building 5, with move-in scheduled for 2023. This marks the beginning of a 75-year, renewable, lease of land from the City and County of San Francisco to UCSF that will allow physicians, researchers, and staff to continue to work side-by-side with the San Francisco Department of Public Health staff to treat patients, conduct transforming research, and train health profession students.

The five-story building will bring together basic, clinical, and translational researchers from across ZSFG, fostering collaboration and supporting the next century of innovation. It will house a mix of wet labs, where researchers search for ways to repair human biology that goes awry, and dry labs, where many investigators focus on social determinants of health that affect vulnerable populations. The building will also include a patient research center, surgical training facility, learning center, research cores, conference rooms, town centers with kitchen facilities, and a mix of enclosed, open, and temporary "hotel space" work stations.

Rendering of ZSFG Research and Academic Building, from main hospital entrance, June 2020

Sue Carlisle, MD, PhD, Vice Dean for UCSF at ZSFG worked tirelessly over more than a decade to make the RAB a reality. From the beginning, her team made sure all voices were heard. They drew on lessons learned from Mission Bay's Mission Hall, where the lack of community input compromised user satisfaction.

"The Dean's Office showed a forward-thinking vision by deciding that all design aspects would be very participatory," said Urmimala Sarkar, MD, MPH, Professor in the ZSFG Division of General Internal Medicine and Co-Chair of the Dry Lab/ Admin Design Group. She and the chairs and vice chairs of the other four design groups – including Wet Lab, Research Cores, Patient Research, and Educational Space – also serve on the Governance Group, which advises the Dean's Office on big-picture decisions, space management, and building policies. Each design group included both staff and faculty from many departments.

Urmimala Sarkar, MD

"It's democracy in action," said Laurae Pearson, Director of Administration for the ZSFG Department of Medicine and Co-Chair of the Governance Group. "We've gathered input and tried to incorporate as much as possible into the building."

Laurae Pearson

The design groups took walking tours of current research and educational space, sent out questionnaires, and held meetings to learn how space

was currently used and what people wanted in the RAB. They analyzed all the information and coordinated ongoing feedback on the evolving architectural designs.

'The Best Possible Workspace'

One of the biggest challenges was fitting everyone into a smaller overall space. "Right now, space is both underutilized and antiquated," said Ms. Pearson. "So while the new building's footprint may be smaller, it will be much more efficient."

"Workspace is about more than the number of square feet per person," said Dr. Sarkar. "It's about how much it supports you doing your best work. When we talk to the architects, they remark on the level of detail with which we interrogate every design choice. This is not how most academic buildings get made. My colleagues bring the same rigor to the design process that they have for their own work. We're striving to create the best possible workspace, and to make the most of every inch and every dollar."

For example, some committee members visited the furniture store, and weighed in on carpet choice and color palette. "No decision about this building is made in isolation," said Ms. Pearson. "There's engagement and feedback. Also, design elements need to be functional 100 years from now. Furniture and [lab] benches are modular, and will be able to move and flex based on the needs in the moment. We're creating a legacy."

The Governance Group is also advising the Dean's Office on how to assign space. "That will be a real paradigm shift," said Ms. Pearson. "Right now, people 'own' space until they retire or leave the institution, and that space doesn't flex up or down. In the RAB, the space will be much more flexible, in alignment with campus principles. It requires building in the value of trust so people give up space they don't need, trusting that if they need more space later, the Dean's Office will help them get it. We've tried to cultivate trust by communicating what we know in the moment, asking people for opinions, and making changes in response."

Value by Design

Participation also improves the efficiency of the design process. For example, after reviewing initial plans, the Wet Lab Design Group requested an increased number of hoods – specialized ventilation systems that remove hazardous contaminants. "That might seem mundane, but it's really important for sample preparation and analysis," said Gideon St.Helen, PhD, Assistant Professor in the ZSFG Division of Cardiology and Co-Chair of the Wet Lab Design Group. "It would have been a lot more expensive to retrofit the room later and install more exhaust systems. It's better to measure twice, cut once."

Rendering of ZSFG Research and Academic Building, from 23rd Street, June 2020

The new building will also provide basic amenities like air conditioning and heat, which not everyone has right now. "If I run a space heater in my current office, it shuts down the entire floor," said Dr. St.Helen wryly. "I'm really looking forward to the new building, where you can walk down the hall and go to a talk from somebody in another group," said Dr. St.Helen. "We'll have common areas where you can interact with other researchers and ask them, 'What are you working on today?' That kind of small talk leads to collaboration. We've made the most of what we've had so far, but I can only imagine the level of productivity we'll have with a state-of-the-art building."

Gideon St. Helen, PhD

The RAB has also been custom designed to maximize shared resources, such as a Biosafety Level 3 (BSL-3) facility, which can be used to study highly toxic or infectious material, such as tuberculosis or SARS-CoV-2. "There are many researchers at the General who are actively engaged in those areas, but currently need to travel to Mission Bay to do this kind of work," said Peter Hunt, MD, Professor in the ZSFG Division of Experimental Medicine and Co-Chair of the Core Design Group. "This will be a boon for them."

Peter Hunt, MD

By gathering input from people who use BSL-3 facilities, his group learned that the anteroom where researchers put on and remove protective gear was too small to be functional, and that the positions of the doors needed to be changed. "It's been an iterative process," said Dr. Hunt. "We got input from our community, the architects asked questions, and we went over plans with a fine-toothed comb, looking for potential problems that are easier to fix if they're identified early."

Other shared lab spaces will include a vivarium, Mass Spectrometry labs, and a Molecular and Cellular Core, which will contain specialized equipment for shared use (e.g. flow cytometry,

single cell RNA sequencing) and also perform assays on researchers' samples on a fee-for-service basis. "The cores have a way of rapidly integrating discoveries from basic science labs into work by clinical investigators," said Dr. Hunt. "San Francisco General is widely known for its success in team science, which is enabled by having people work together. Being in a new research building will facilitate that, where you're bumping into people every day rather than working in silos. We'll discover new ways to synergize our research efforts."

Dry lab researchers' priorities included natural light, soundproofing, and the ability to work in private offices or hotel spaces for tasks that require privacy and confidentiality. In alignment with UCSF-wide policies, private offices will be compact, so the RAB will include a number of small conference rooms that can accommodate groups of five or six people who currently meet in a faculty member's office.

Flexible and Functional

The RAB will also include a patient research center on the ground floor, with 12 interview rooms, four exam rooms, a focus group room, phlebotomy room, specimen processing area, and vital signs stations. "In addition to being clean, beautiful, and extremely functional, this place will be so easy [for patients] to find," said Rebecca Hoh, MS, RD, Clinical Research Manager in the ZSFG Division of HIV, Infectious Diseases and Global Medicine and Co-Chair of the Patient Research Design Group.

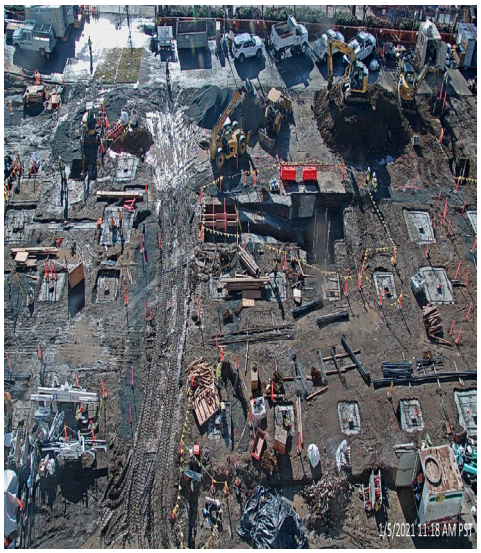
Rebecca Hoh, MS, RD

Her group prioritized adjacencies – for example, recommending that the phlebotomy room, lab, and bathrooms be clustered together, creating the shortest distance between collection and processing sites for blood and urine samples. They also made sure that the plans included an area where medications can be securely stored and refrigerated, which drove the positioning of pipes and refrigerators. "All that needed to be worked out in advance," said Ms. Hoh. "We can't switch things around at the last minute."

Rendering of ZSFG Research and Academic Building, from Building 30/40, June 2020

The patient research center also was designed for maximum flexibility. It has separate, secure entrances and waiting rooms for pediatric and adult patients, yet also allows researchers access to both areas depending on scheduling. For example, both sections could be used for adult research during school hours.

An education center, also on the ground floor, will allow for gathering, conferences and teaching spaces for trainee, staff and faculty groups of different sizes.



Construction of ZSFG Research and Academic Building, January 2021 *Fraser Conrad*

Dr. Carlisle, who recently announced her future departure from the position of Vice-Dean at ZSFG made an imprint that will long remain on the building, if not in name, then by the innovations to advance human health that will be created by current and future UCSF occupants. NBA star Michael Jordan said, "Some people want it to happen, some wish it would happen, others make it happen." Sue Carlisle made it happen.

"It's going to be really exciting to have the research community under one roof," said Ms. Hoh. "We'll finally have a world-class facility to match the world-class research at the General."

Elizabeth Chur
Editors: Neil Powe, Laurae Pearson, Brooks Bigart

SPOTLIGHT

Faculty Honors and Appointments

Emily Silverman, MD, Division of Hospital Medicine, was selected as one of the "YBCA 100" by San Francisco's Yerba Buena Center for the Arts. The list celebrates local "provocateurs and innovators who are boldly making a difference in the health and wellbeing of their communities, working tirelessly in pursuit of racial equity, and using art and activism to help and bring us together in spirit when we need it most."

Marlene Martin, MD, Division of Hospital Medicine, was selected to be a part of the California Health Care Foundation Leadership Fellowship to create a network of leaders who are focusing on improving healthcare for all Californians.