We live in a time of dazzling potential for improving human health. Armed with new knowledge in genetics, regenerative medicine, and immunology, we are on the verge of changing the fundamental calculus of medicine: from diagnosis and treatment to prediction and prevention. From intervention after disease has struck, to stopping it before it starts.
At Stanford Medicine, we call this bold vision Precision Health, and the Biomedical Innovation Building will be the epicenter of a concerted multidisciplinary effort to make it a reality. Building on world-leading programs in basic science, bioinformatics, and translational medicine, and leveraging partnerships across Stanford University and Silicon Valley, Stanford researchers will come together in one collaborative, empowering environment that’s designed to advance discovery.
Like Stanford’s Beckman Center for Molecular and Genetic Medicine before it, the Biomedical Innovation Building will be both a proving ground and a springboard for scientific discovery. Founded 25 years ago, the Beckman Center was created to take basic biomedical discoveries and speed their translation into clinical practice. Over the last several years, researchers at Beckman have won two Nobel Prizes, two Lasker Awards, and the National Medal of Science. These exceptional scientists have shed light on the causes of many cancers. They’ve identified human stem cells. And they’ve used bioinformatics to sequence genes and link genetic variations to disease. They’ve achieved—many times over—the vision of rapid translation of biomedical research to benefit patients.
Housing a synergistic mix of disciplines, the Biomedical Innovation Building will drive new definitions of how bioscience is done. It will allow Stanford to attract and retain the most talented researchers. It will produce work that is scalable and exportable. And it will elevate standards of discovery and patient care around the world.

**Cardiovascular Research**
Heart disease affects more than 79 million Americans through high blood pressure, coronary heart disease, heart attack, angina, stroke, and peripheral arterial disease. The Cardiovascular Institute (CVI) is the nucleus for basic and translational cardiovascular research at Stanford. Through its new home headquarters in the Biomedical Innovation Building, it will coordinate collaboration among scientists, engineers, educators, and physicians to improve the health of patients and to educate the next generation of leaders in cardiovascular medicine. The CVI is making advances in cardiovascular research, education, and patient care in specific areas: genetics, imaging, biotechnology, new technology, regenerative medicine, and computational sciences.

**Cardiovascular Medicine**
Stanford Health Care delivers compassionate and cutting-edge preventive, diagnostic, and therapeutic services to patients with coronary artery disease, valvular heart disease, arrhythmia, acute disease, and heart failure. Many cardiologists are actively engaged in research to better predict and prevent heart disease, and repair the heart and other vital systems involved in cardiovascular disease using advanced techniques like stem cell therapy. Partnering with data scientists and bioengineers, cardiovascular scientists moving into the Biomedical Innovation Building are developing new tools like the MyHealthCount smartphone app to curate real-time data on general heart health, record patients exposed to bystanders, and to tailor therapies more quickly and precisely to patients at risk for heart disease.

**Pediatrics**
Childhood diseases are crippling for the children and families they affect. Researchers in Stanford's Child Health Research Institute are exploring the tremendous potential of stem cells and gene, molecular, and cellular therapies to find definitive cures to rare childhood diseases for which there are currently no therapeutic options. Other pediatric conditions like infectious diseases, and maternal and perinatal illnesses, are well defined but remain stubbornly difficult to detect, prevent, and treat. The Biomedical Innovation Building will support the efforts of distinguished scientists from multiple fields focused on the most intractable pediatric conditions and diseases, like cystic fibrosis, cancer, and autism.

**Personalized Genomics**
In an important milestone, Stanford geneticist Dr. Mike Snyder proved the utility of Precision Health—diagnostics and therapies tailored specifically to the biology of the individual patient. His team built a Personalized Omics Profile—iPOP—by collecting and analyzing billions of bits of individual health data using Dr. Snyder's own profile. His profile revealed a surprising diagnosis of diabetes, allowing lifestyle changes to control the disease. But the work is proof of concept for something much larger: research that will make iPOP practical and affordable on a large-scale for wide array of diseases. Thanks to the work of Stanford's genomics team—which will operate in the Biomedical Innovation Building and collaborate with the stem cell, bioinformatics, and molecular therapy teams—what was once a distant possibility is now within reach.

**Allergy and Asthma**
No one is certain why food allergies arise. By now, nearly 15 million Americans have a food allergy, ranging from moderate to severe. One of every 13 children has one. The Biomedical Innovation Building will be home to the newly established Sean N. Parker Center for Allergy and Asthma Research, bringing together a multidisciplinary team of engineers, basic scientists, and physician-researchers committed to discovering the underlying immune mechanisms of food allergies, asthma, and related immunologic diseases. Stanford is the first institution to successfully treat patients with multiple food allergies using oral immunotherapy. Scientists are now using innovative measurement tools and advances in immunology and genetics to gain new insights into allergies and asthma and develop strategies and treatments to prevent them from occurring.

**Orthopedics and Sports Medicine**
Many people—27 million in the United States—are familiar with the pain caused by damaged articular cartilage, otherwise known as osteoarthritis. This condition is the primary impetus for the knee and hip replacements already given to more than seven million Americans. Whereas cartilage was once thought to be incapable of recovery from injury because it lacks nerves and blood, the body's two most important tools for healing, scientists are now convinced that the future of joint replacement is going to be biologic in nature: protein and cells, not metal and plastic. Stanford orthopaedics researchers in the Biomedical Innovation Building will be working to predict and track the damage to articular cartilage and find new ways to treat it.

**Otolaryngology**
Some 36 million American adults—17 percent of the entire population—report some degree of hearing loss. The Stanford Initiative to Cure Hearing Loss (SICHL) is capitalizing on Stanford's network of collaboration to consolidate and advance promising hearing loss research investigations in four key areas: stem cell therapy, gene therapy, molecular therapy, and targeted neural stimulation. Stanford’s team is pursuing multiple avenues of research to produce a critical mass of discovery to halt the development of hearing loss and restore hearing to patients already impacted. The Biomedical Innovation Building will bring together an interdisciplinary team of scientists, engineers, and physicians, drawing upon expertise from many different domains for the shared purpose of curing hearing loss.

**Immune Therapy**
Home to the recently established Stanford Human Systems Immunology Center, and supported through a grant from the Bill & Melinda Gates Foundation, the Biomedical Innovation Building will house the Institute for Immunity, Transplantation, and Infection led by Dr. Mark Davis. This multidisciplinary group aims to better understand how the immune system can be harnessed to develop vaccines for the world's most deadly infectious diseases and for other common killers like cancer. Researchers will draw upon expertise from many different domains for the shared purpose of curing hearing loss.
Just a few short steps from Stanford’s adult and children’s hospitals, the Li Ka Shing Center for Learning and Knowledge, the Lorry Lokey Stem Cell Research Center, and Stanford’s Bioengineering and Bio-X programs, researchers in the Biomedical Innovation Building will be at the center—literally—of one of the most productive research engines in the world.
The Biomedical Innovation Building will feature a contemporary, sustainable design with places for scientists to gather, confer, and actively collaborate. Four floors of hybrid office and research space will feature 25,000 net square feet of flexible wet and dry labs as well as light-filled gathering places. The innovative, state-of-the-art design will inspire scientists and clinicians in related fields to work together on translational research and clinical treatments.
The main entrance will open onto a research quad at the building’s southeast corner. Floor-to-ceiling glass walls will blur the boundary between inside and out, while wood accents create a warm and welcoming space for visitors. Private huddle booths with dry erase walls will provide places to collaborate and a square spiral staircase will lead to the floors above. There will also be an 80-seat auditorium for hosting scientific symposia and a large outdoor terrace for receptions.
Conference Rooms

Each floor will have three glass-walled conference rooms designed to accommodate groups of different sizes. The East Conference Rooms are next to the main stairwell and an adjacent lounge space. The North Conference Rooms are near another open stairwell. All conference rooms on levels one to four, including the small group Huddle Rooms, will have striking views of the new Stanford Hospital.
The northwest corner of every level will provide an inviting place to eat, relax, and collaborate. Each space wraps around a glass-enclosed kitchen and features booths with docking bays, dry erase walls, cafe seating, and views of the new Stanford Hospital and surrounding foothills through floor-to-ceiling windows.
South Commons

Open to the sunny southern corridors on levels one, three, and four, these bright and welcoming collaboration spaces will have comfortable lounge seating, elegant wood accents, and convenient beverage stations. The first floor South Commons extends up to the second floor to create an airy, open space to collaborate.
Each floor will house between 96 and 132 research benches arranged in three color-coded neighborhoods or laboratory nodes. Floor-to-ceiling glass walls will visually connect these wet labs with adjacent dry research areas while letting in plenty of natural light from the glass perimeter.
Much of today’s biomedical research is computational in nature, requiring work time outside, but near, the lab. Each wet bench will have multiple corresponding write-up desks nearby. Each floor will also house an additional 24-27 workstations for postdocs and research assistants.
Giving Opportunities

First Floor Conference Center ......................................................... $5 million
Entry Hall ................................................................................................. $1 million
Individual Laboratories ........................................................................ $1 million
Gardens ..................................................................................................... $500,000
Fourth Floor Terrace .......................................................................... $500,000
Conference and Meeting Rooms .................................................. $150,000 to $250,000
Collaboration Spaces .......................................................................... $100,000

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