RETURN TO LEARN
MOVING OUR CAMPUS FORWARD THE SAFEST WAY POSSIBLE
COVID-19 has challenged our health care systems, educational models, and local economies in ways unseen in recent history. But UC San Diego is uniting strengths in research, public health, data science, and other areas into a novel strategy for resuming in-person activities: Return to Learn.

This first-of-its-kind program will help us monitor our community’s health as we reopen campus. Philanthropic partners will be crucial in demonstrating the power of the Return to Learn Program and replicating our strategy at other institutions throughout the nation and around the world.
FORGING THE PATH
An all-star cast of UC San Diego faculty are spearheading Return to Learn, which could serve as the model to help reopen college campuses across the nation and worldwide. This leading-edge program leverages our expertise in infectious disease, public health, state-of-the-art testing, and the integration of our student health services and UC San Diego Health enterprise to guide our ongoing response to the coronavirus pandemic and mitigate the likelihood of viral transmission as our campus resumes in-person activities. Comprehensive analyses of our physical spaces and human behaviors, as well as ongoing testing of our campus population, will allow us to detect new cases of COVID-19 early and reduce outbreaks.

LAUNCHING A PILOT PROGRAM
The initial phase of Return to Learn launched on May 11 to make self-administered, nasal-based SARS CoV-2 screenings available at no cost to the approximately 5,000 students living on campus at the time. During this initial three-week pilot, more than 1,500 students volunteered to be tested with no positive test results. This also laid the groundwork for scaling the program to the larger campus community. Several taskforce work groups evaluating the results of the pilot, as well as public health recommendations, scientific evidence, and extensive models, have helped refine planning and preparations for the next phase of the Return to Learn Program.

SCALING FOR FALL
Now, we are beginning to expand the program to allow for an increase in on-campus operations. The goal is to scale our capacity to test up to 65,000 students, faculty, and staff on a recurring basis. Return to Learn also includes health and safety protocols for campus and procedures for sample collection and analysis, as well as next steps should a test come back positive. Positive test results will trigger a series of protocols intended to maintain the health of our community, including comprehensive care for individuals with COVID-19, extensive contact tracing, and mapping cases to inform other university-wide decisions. This is a major step in preventing uncontrolled viral spread, halting infection, and possibly saving lives — a step we are confident taking because we have the capacity, tools, and infrastructure to bring it to scale.
A LEADING-EDGE STRATEGY

Physicians and researchers at UC San Diego and Rady Children’s Hospital-San Diego have already worked together to develop 3D-printed nasopharyngeal swabs and innovative new testing platforms. Swabs will be tested at the Center for Advanced Laboratory Medicine (CALM) at UC San Diego Health. Our research teams will analyze the data collected about the virus and use it to inform an epidemiological model that reflects UC San Diego. All of this will be combined into a comprehensive strategy to ensure that we are doing everything possible to begin resuming in-person classes and activities this fall.

We have a unique perspective: Since the first case in San Diego arrived at UC San Diego Health, we have been at the forefront of efforts to understand and control COVID-19. Being an academic health system has given us the ability to test, analyze, and implement what we learn to the benefit of our campus — and other institutions throughout the country and around the world.

But we must scale up; philanthropy can make that possible.

PHILANTHROPIC NEEDS AND ESTIMATED COSTS

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<th>Category</th>
<th>Estimated Cost</th>
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<td>Risk Assessment and Mitigation</td>
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<td>Monitoring Viral Activity</td>
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RISK ASSESSMENT AND MITIGATION

UNDERSTANDING OUR CAMPUS ENVIRONMENT
Assessing the risks and mitigating the potential for out-of-control spread of the virus on campus when in-person activities resume is central to the Return to Learn strategy. We have modeled key physical and functional aspects of the campus to understand and stratify modifiable risks that might accelerate spread of SARS CoV-2 should it begin to circulate during the fall term.

ADAPTING TO AN EVOLVING SITUATION
To help inform our next steps, we analyzed classroom size and density, dormitory utilization, as well as the scope and structure of co-curricular activities. Campus buildings including classrooms, recreational facilities, and research locations are being comprehensively assessed and modified to reduce the likelihood of viral transmission.

Students, faculty, and staff will be required to wear reusable face coverings (masks) and adhere to all mandatory public health directives as a condition of participating in university activities or being present on campus. We will continue to evolve our tactics as needed to comply with the latest research and mitigation efforts, in accordance with county and other health officials as well as in response to the virus’ activity.

### MOVING OUR CAMPUS FORWARD

30% in-person classes  |  70% remote or hybrid classes

**HOUSING:** double and single-occupancy rooms with staggered move-in

**IN-PERSON CLASSES**
Fewer than 50 students per class, or 50% of classroom capacity
Risk assessment and mitigation efforts will include:

» Faculty and staff support for research
» Protective face coverings for students, faculty, and staff who are unable to furnish their own
» Safety protocols for physical spaces

*Estimated cost: $3-5 million*
MONITORING VIRAL ACTIVITY

Extensive ongoing community spread in the U.S. and elsewhere demonstrates that relying solely on disease activity to detect and react to spread of SARS CoV-2 in a susceptible population is a recipe for disaster.

USING INNOVATIVE RESOURCES

UC San Diego has used rigorous mathematical modeling tools to inform the development of an intensive viral surveillance program that will enable detection of SARS CoV-2 on our campus at its earliest stages. By testing approximately 75 percent of our campus population of students, faculty, and staff for SARS CoV-2 on a recurring basis each month, we will be positioned to detect the spread of the virus before it presents clinical symptoms at a time when fewer than 10 individuals begin to shed virus.

INCREASING TESTING

Testing is by far the most resource-intensive part of Return to Learn; however, as we scale up, the price per test goes down. On average, tests costs about $25 per person, and at scale, we estimate that each month the testing for our campus will cost approximately $1.6 million. We further anticipate that testing will need to continue until an effective treatment or vaccine is identified.

This effort will employ innovative sampling techniques, high-throughput nucleic acid detection platforms, and rapid public health interventions designed to prevent spread of the virus from infected persons — regardless of whether or not individuals are symptomatic. Whole-genome sequencing will enable real-time characterization of signature circulating strains of SARS CoV-2 and provide opportunities for halting transmission networks. Surveillance of key physical infrastructure and environmental sources (e.g., wastewater from facilities such as residence halls, classrooms, and others) will augment screening strategies and help leadership prioritize where we deploy RNA-screening resources.
SUPPORTING OUR CAMPUS COMMUNITY

In view of the incubation period of SARS CoV-2 and the timeframe between tests for each individual, we will also leverage UC San Diego’s call center as part of a viral surveillance program. Students, faculty, and staff will be encouraged to call if they experience symptoms and be provided with follow up screening, testing, and care — regardless of their insurance status.

Viral activity surveillance efforts will include:

» Testing supplies and equipment for monthly screens ($19.5 million)
» Staff support for the call center
» Additional student, faculty, and staff resources for student health and campus health resources

*Estimated cost: $20-25 million*
SLOWING THE SPREAD
A public health intervention team led by the UC San Diego Herbert Wertheim School of Public Health and Human Longevity Science will engage each individual identified as shedding SARS CoV-2 RNA within 24 hours of testing to facilitate engagement with student health services and UC San Diego Health’s coronavirus treatment program. Additionally, they will initiate contact tracing as well as effective isolation and quarantine strategies.

PROVIDING CARE
UC San Diego's Department of Housing, Dining, and Hospitality has dedicated space in which those who are potentially infectious can be safely and comfortably housed during their isolation period. Individuals with the disease and their contacts will be provided with practical and detailed isolation and quarantine instructions for daily self-monitoring of symptoms, and what to do if symptoms worsen. For 14 days, these individuals will receive daily follow up about their health status, and referrals will be made for further evaluation and care as needed. They will also have access to psychological care and other auxiliary services. Whatever needs may arise as our fellow Tritons manage their COVID-19 illness, UC San Diego will be there to support them.

Public health interventions will include:
» Staff support for housing and food service
» Staff support for auxiliary care services
» Staff support for contact tracing and growth in public health
» Infrastructure support for housing during quarantine

Estimated cost: $3-5 million
IMPLEMENTING A MULTIDISCIPLINARY APPROACH

We will enlist the campus community in a program designed to use contemporary information technology (IT) tools to augment the public health intervention strategies we are employing as part of Return to Learn. Digital technologies now enable geotracking of individuals for several days prior to detection of viral shedding. When paired with Bluetooth-enabled “handshake” applications, public health teams will have powerful tools to identify and notify those who were exposed to an index case of COVID-19.

DEVELOPING TARGETED INTERVENTIONS

Strong biological and epidemiological evidence indicates that SARS CoV-2 is most infectious prior to the onset of clinical symptoms; most infection in a community is caused by people who are shedding virus but are unaware they have it. By combining IT and molecular epidemiology tools with traditional public health interventions, UC San Diego’s approach will enable unprecedented levels of viral control at the population level.

Information Technology-enhanced Solutions will include:

» IT resource support
» Staff support for IT services dedicated to Return to Learn
» Novel application development

Estimated cost: $1-3 million
SYSTEMS INTEGRATION AND ADAPTABILITY

ANTICIPATING OUTBREAKS

Return to Learn leverages an integrated platform that enables real-time analysis of emerging signals of viral activity and rapid adaptation of monitoring and interdiction tools.

The system has been designed in such a way that identifying a cluster of individuals shedding virus who are living in a shared location or taking the same classes can be identified in real time. Identification of viral RNA in wastewater from a residential facility will also enable timely implementation of nucleic acid shedding surveillance within that facility. These steps are critical to initiating enhanced testing of populations that may be at increased risk of infection as well as targeted mitigation strategies that can prevent spread.

LEARNING FROM EXPERIENCE

By continuously enhancing strategies for monitoring individuals and groups, and integrating data streams from multiple sources, we are confident we will deliver outstanding education to our students and conduct the world-class research necessary to bring this pandemic to an end.

Systems Integration and Adaptability resources will include:
» Digital infrastructure support to implement the program
» Staff support for data analysis and strategic planning

Estimated cost: $1-3 million
UC San Diego is known the world over for the excellence of our faculty and staff. Now more than ever, we must leverage our expertise to protect the health and sustainability of our campus community. Some of the leaders on this project include:

Cheryl Anderson, PhD, MPH, MS  
Co-principal Investigator  
Return to Learn Program  
Dean, Herbert Wertheim School of Public Health and Human Longevity Science

Robert “Chip” Schooley, MD  
Co-principal Investigator  
Return to Learn Program  
Co-director, Center for Innovative Phage Applications and Therapeutics/IPATH

Natasha Martin, PhD  
Co-director, Biostatistics and Modeling Core, Center for AIDS Research

Rob Knight, PhD  
Founding Director, Center for Microbiome Innovation

Louise Laurent, MD, PhD  
Vice Chair, Translational Research

David Pride, MD, PhD  
Associate Professor  
Department of Pathology

Gene Yeo, PhD, MBA  
Co-director, Bioinformatics and Systems Biology Graduate Program

Pradeep K. Khosla  
Chancellor

Patty Maysent, MPH, MBA  
Chief Executive Officer  
UC San Diego Health

David Brenner, MD  
Vice Chancellor, Health Sciences

Christopher Longhurst, MD, MS  
Chief Information Officer  
Associate Chief Medical Officer

Stefan Aigner, PhD  
Project Scientist

Andrea LaCroix, PhD  
Chief, Epidemiology

Robert Neuhard, JD  
Executive Director  
Operational Strategic Initiatives
YOUR OPPORTUNITY TO ACT

NOW IS THE TIME

Humanity is in the midst of a fight for countless lives as we seek ways to treat a new disease. But we have never been better equipped to meet the challenge thanks to advances in technology, knowledge, and capability. The day is coming where we will no longer need to fear this disease, but will be able to test for, treat, and hopefully prevent it.

You can play a key role in reopening our campus and our community. You can also be the catalyst to bring to fruition a project that is unique to higher education in the world.

By partnering with us, you will help restore our community to its work, play, and togetherness. We invite you to take advantage of this opportunity to play a central role in shaping our campus’ future through Return to Learn.

Thank you for your consideration of such an impactful gift.

Your partnership in the Return to Learn program also supports the Campaign for UC San Diego – our university-wide comprehensive fundraising effort concluding in 2022. Together, we are enhancing student support, ensuring student success, transforming our campus, connecting our community, and redefining medicine and health care on a global scale.