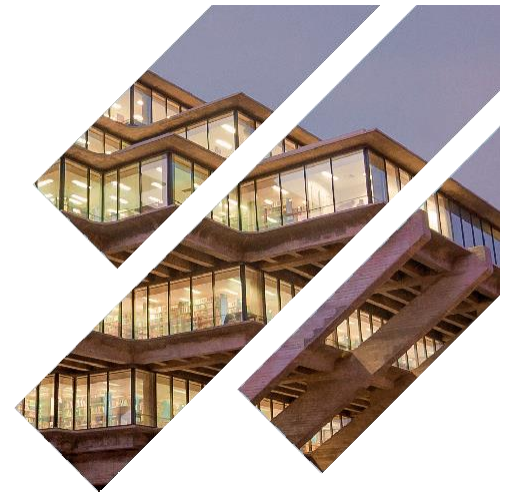


The Campaign For UC San Diego

At the University of California San Diego, challenging convention is our most cherished tradition. The Campaign for UC San Diego is a university-wide comprehensive fundraising effort to transform the student experience, our campus, and ultimately the way humanity approaches problems and develops solutions.



Pasteur 21

The future of antibiotics

Confronting superbugs at a critical juncture

When antibiotics were first introduced, they ushered in an era of vastly improved public health. But our treatments must keep pace. For decades, the introduction of new varieties of antibiotic drugs offered steady progress against microbial infections.

But as the use of antibiotics became more widespread, strains of microbes mutated and proliferated. Discovery of new antibiotic drugs has now slowed effectively to a stop, while incidents of drug-resistant infection rise.

Using data science to reinvent care

The Pasteur 21 initiative at UC San Diego presents a powerful vision for harnessing data science technology to rapidly accelerate antibiotic discovery. It will provide clinical diagnostic tools that, through accurate prescription, will slow proliferation of drug-resistant pathogens (“superbugs.”) The project will harvest genetic sequences of microbes on a massive scale, with resulting applications including drug development and software for clinical diagnosis.

History-changing impact

Thousands of individuals die every year from drug-resistant infections, a number that will rise if we do not speed our efforts against superbugs. By pairing UC San Diego’s global technological leadership with comprehensive clinical testing, Pasteur 21 provides paradigm-shifting innovation in an area where the need is urgent and the path forward is clear.

First in the nation

Bioengineering doctoral program
(1st according to *National Research Council*, 2nd according to *US News*)

Renowned faculty

16 Nobel laureates have taught on campus

8th in the nation

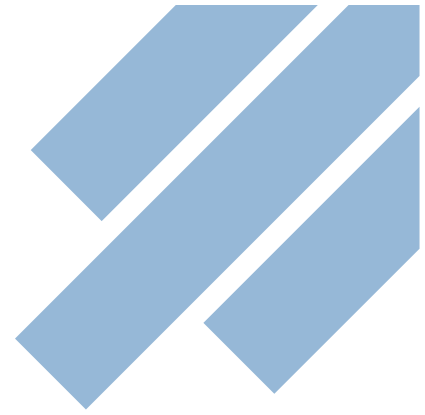
Among public engineering schools
(*U.S. News & World Report* ranking of graduate schools)

Uniquely qualified

Campus assets include regional leader UC San Diego Health, Halicioğlu Data Science Institute, San Diego Supercomputer Center

Continue the nontradition.

Pasteur 21



Transformational planning

- » **Conceptualized by systems biologists**, Pasteur 21 will recruit hospitals across the United States for a massive collection effort, gathering individual specimens of infectious microbes. The sequence of the genome is sent with annotated clinical information to the project.
- » Vanguard **data analytics** will in one stage discern patterns in infection incidence and pathology from clinical data, then at the next stage focus on the genetics of microorganisms, biochemistry, and protein structure. Combined, analyses will yield powerful insights on the virulence of microbes, their geographic journeys, and the structural mutations rendering them invulnerable to existing antibiotics.

Your opportunity

Philanthropists committed to game-changing innovation for public health grand challenges are invited to support Pasteur 21, a five-year initiative focused on immediate, transformational outcomes.

» **Nationwide Launch - \$100 million**

To launch the initiative at scale, Pasteur 21 seeks resources to support the contractual engagement of 50-75 data scientists dedicated solely to the project; the collection and genetic sequencing of specimens; and strategic project management and oversight.

» **Phased Launch - \$15 million**

A first-phase gift will support the creation of a California network, where UC San Diego has the institutional advantage of ready partnerships with other University of California medical schools/systems. »

Capacity for grand solutions

Pasteur 21 directs high-velocity technological development to an urgent medical need. The conventional time scale for drug development can take up to 20 years, while the costs for development is now anticipated to exceed \$2.5 billion.

A transformational investment in Pasteur 21 will offer immediate remedies to a serious public health crisis, while building the architecture for countless cures and treatments to come.

Help us continue the nontradition.

With your help, our faculty, researchers, and students will unlock solutions through unique multidisciplinary and educational partnerships, synthesizing practice and theory. Together with your philanthropic support of the **Campaign for UC San Diego**, we will work to educate and empower the world's current and future innovators in a campus community unlike anywhere else in the world.

[Learn more at campaign.ucsd.edu](https://campaign.ucsd.edu)

For more information, please contact:

Jonathan Monk
Systems Biology Research Group
jmonk@ucsd.edu
systemsbiology.ucsd.edu