

Defining the Future of the  
Public Research University

**UC San Diego**

**#5** for total R&D  
expenditures  
among U.S. universities

National Science Foundation

Undergraduates in UC San Diego's  
Jacobs School of Engineering launch  
an experimental balloon.

### Building a Model of Autism

**Alysson Muotri** and colleagues have used stem cells from patients with Rett syndrome, one of the most aggressive forms of autism, to create the first human cellular model of the disorder that could be used for drug screening, diagnosis and personalized treatment.

### Exploring the Frontier of Drug Delivery

**Adah Almutairi** directs the Center for Excellence in Nanomedicine and Engineering. Researchers in the center are creating nanoparticles that promise new levels of precision in treating disease. They will be able to deliver drugs under highly specific conditions—when triggered by light or when they encounter a disease-related condition.

### Fighting Malaria on Multiple Fronts

Malaria affects anywhere from 250 to 500 million people annually. **Elizabeth Winzeler's** innovative research at the interface of chemistry and genetics employs advanced screening programs to create novel candidates for possible treatment. Her work investigates new classes of drugs that appear to target the disease parasite at all stages of its development and transition.

### Transmitting Data via Tattoos

**Todd Coleman's** research focuses on wireless tattoo technology that will transmit vital medical data, bringing yesterday's science fiction into today's reality. His ultrathin devices can monitor brain waves, heart rates and other vital signs without tying a patient to a machine, an especially promising advance for neonatal care.



Alysson Muotri



Adah Almutairi



Elizabeth Winzeler



Todd Coleman

## Breakthroughs to Better Our World

From its inception, the University of California, San Diego has attracted leading scholars with an entrepreneurial spirit and a penchant for risk-taking. The freedom to cross boundaries and to create new disciplines fuels breakthrough research with global impact. Our visionaries are looking for the next discoveries that will benefit people around the world in all walks of life.

**#1** for positive impact  
on the nation

Washington Monthly

**UC San Diego**

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