



# COSMOS UC San Diego

California State Summer School for Mathematics and Science

## Alumni Newsletter Fall 2015

### Important Upcoming Dates:



**COSMOS 2016  
ONLINE APPLICATION**  
Tuesday, January 19—  
Friday, February 19

**COSMOS 2016  
SUMMER PROGRAM**  
UCSD, UCD, UCI,  
UCSC—July 10–August 6

Do you have flashbacks of San Diego?  
Do you have fond **memories** of COSMOS?  
Do you contemplate the wonderful times  
of learning and fun here at UCSD?

**If your answer is YES, YES, & YES!**

Then you are PERFECT to be a COSMOS

### Student Ambassador!

If you are interested in holding a meeting  
at your school to share your experience  
email us at [cosmos@ucsd.edu](mailto:cosmos@ucsd.edu) for the  
2016 student ambassador  
packet, which includes flyers  
and 2016 information.



### STOP BY & SAY HI!

*To the COSMOS Team*

Cosmos Offices are now  
located on the first floor of  
Jacobs Hall in the Gordon  
Center/Von Liebig Center.

# WHAT'S HAPPENING AT UCSD!

Check out what the *cluster instructors* have been up to!



UC San Diego's efforts to produce innovative and sustainable solutions to the world's environmental problems have resulted in a partnership with the region's surfing industry to create the world's first algae-based, sustainable surfboard. Students from the laboratories of Michael Burkart, a professor of chemistry and biochemistry,

*Robert "Skip" Pomeroy*, a chemistry instructor who helps students recycle waste oil into a biodiesel that powers some UC San Diego buses, first determined how to chemically change the oil obtained from laboratory algae into different kinds of "polyols." Mixed with a catalyst and silicates in the right proportions, these polyols expand into a foam-like substance that hardens into the polyurethane that forms a surfboard's core. Although the board's core is made from algae, it is pure white and indistinguishable from most plain petroleum-based surfboards. That's because the oil from algae, like soybean or safflower oils, is clear. The algae surfboard not only represents the kind of collaboration that is the hallmark of UC San Diego, but the fusion of biotechnology, surfing and environmentally conscious thinking that has made the La Jolla campus and its environs such a desirable place to work and live for scientists, innovators and those who cherish the coastal environment.



<http://ucsdnews.ucsd.edu/feature/surfingintoagreenerfuture>



QI research scientist and National Geographic Emerging Explorer Albert Lin, UC San Diego Professor of Computer Science *Ryan Kastner* and QI Principal

Design Engineer Curt Schurgers recently returned from the Mesoamerican archaeological site – formerly an ancient Maya city – known as El Zotz. Their research into the early iconography of buried temples, as well as the footprint the ancient city had on the landscape, is focused on building a better understanding

of how an ancient dynasty established itself as a seat of power within the complex milieu of ancient Maya city-states. The Maya, for example, lacked wheeled vehicles, beasts of burden or easily traveled rivers, but developed an entirely unique written language using more than 800 hieroglyphs and built reservoirs and extensive road networks. They created a dental technique for drilling precise holes into teeth and were also – to use a phrase from the exhibition – "relentless renovators," layering new buildings over old ones.

[http://ucsdnews.ucsd.edu/pressrelease/cisa3\\_archaeologist\\_advises\\_unprecedented\\_exhibition\\_of\\_maya\\_artifacts](http://ucsdnews.ucsd.edu/pressrelease/cisa3_archaeologist_advises_unprecedented_exhibition_of_maya_artifacts)

San Diego State University is one of the 2014-15 winners of the Challenge Fund for Innovation in Journal-

ism Education. *Kevin Robinson*, San Diego State University, Lecturer, Department of Geological Sciences in the College of Sciences was on the team with the winning project: "WHAT'S IN THE AIR? Investigating Air Quality in San Diego: A Live News Experiment in the Power of Sensor Journalism in Covering the Environment." The cross-disciplinary project partnered journalism and geology students with a non-profit news organization to examine air quality in San Diego using electronic sensors. The data will be the foundation of a multimedia, mobile-ready website that will share results with and engage the community. Success would definitely pave the way for other live news experiments by showcasing a credible product and proving the value in the community of the work.



<http://journalists.org/next-gen/challenge-fund/2014-15-winners/winner-san-diego-state-university/>

The University of California at San Diego has received a \$5.2 million grant from the National Science Foundation (NSF) to run the world's largest outdoor shake table for the next five years. The table, which can carry structures weighing up to 2,000 tons, can replicate the ground motions of most of the world's largest earthquakes. It has been used since 2004 as a resource for NSF-funded researchers from around the nation to test innovative technologies and designs for seismic safety of new buildings and retrofiting techniques for existing structures. The grant, awarded after a highly competitive process by NSF's Natural Hazards Engineering Research Infrastructure (NHERI) Program, will provide funding for the facility's operation and maintenance. "The earthquake shake table is a unique and valuable research facility for the people of California, the nation and the world," said Chancellor Pradeep K. Khosla. "The continued stream of research projects on the table will lead to safer buildings, bridges and renewable-energy infrastructure, advancing UC San Diego's mission to engage in work that benefits humankind." . . . "The table also will open numerous educational opportunities, welcoming more than 500 middle- and high-school students every quarter," said *Lebli Van Den Einde*, co-principal investigator on the grant and a teaching professor at the Jacobs School. These students will learn about seismic safety at their schools, then test structures they build out on the table.



# Congratulations

to our prestigious *Alumni* for their outstanding accomplishments!

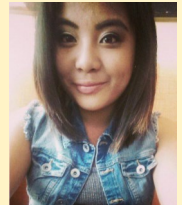


*Max Novick*

—COSMOS Alumni 2012  
John Hopkins University  
Mechanical Engineering  
Technology grant recipient  
for the development of a  
campus tour guide robot.

*Sheena-Grace Cardoza*

—COSMOS Alumni 2012  
PIMA Medical Institute  
Health Care Administration  
Gates Millennium Scholar

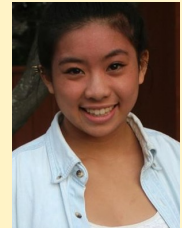


*Albert Ha*

—COSMOS Alumni 2014  
UC Berkeley  
Computer Science  
Regents Scholar

*Angela Zhang*

—COSMOS Alumni 2014  
UC San Diego  
Computer Science  
US Presidential  
Scholar Award



*Belen Hernandez*

—COSMOS Alumni 2014  
UC San Diego  
Environmental Systems  
Chancellor's  
Associate Program

*Joey Uy*

—COSMOS Alumni 2014  
UC San Diego  
Chancellor's  
Associate Program



*Mark Ansell*

—COSMOS Alumni 2014  
UC Berkeley  
Mechanical Engineer  
EIKS Most Valuable  
Student Scholarship Winner  
& #1 male in the nation

*Mason Hargrave*

—COSMOS Alumni 2014  
UC Santa Cruz  
Physics  
Regents Scholar  
Honors Program





# 2015 College & High School Graduates

Check out what Colleges/Universities your fellow alumni have graduated from or are going to!

## COSMOS 2010

Alexis - San Diego State University  
**Akila - UC San Diego**  
 Albert - Stanford University  
**Alexander - UC San Diego**  
 Anand - UC Berkeley  
 Andrew - UC Los Angeles  
**Ankur - UC San Diego**  
**Anusha - UC San Diego**  
 Ashley - CSU Long Beach  
**Behnam - UC San Diego**  
 Cedric - University of Southern CA  
 Cesar - UC Riverside  
 Charles - UC Santa Barbara  
 Christina - University of Southern CA  
 Christopher - UC Berkeley  
 Christopher - Cal Tech  
 Cody - Cal Poly SLO  
 Daniel - UC Berkeley  
 David - University of the Pacific  
 David - UC Riverside  
 Dennis - UC Los Angeles  
 Derek - UC Berkeley  
 Dylan - Cal Poly  
 Emily - UC Los Angeles  
 Grace - Duke University  
**Hope - UC San Diego**  
 Ian - Rose-Hulman Institute of Tech  
 James - Cornell University  
 Jennifer - UC Berkeley  
 Jenny - Mass Institute of Tech  
 Jessica - UC Los Angeles  
 Jonathan - UC Los Angeles  
**Joseph - UC San Diego**  
 Julie - UC Davis  
 Justin - UC Los Angeles  
**Kami - UC San Diego**  
 Karen - UC Davis  
 Kevin - Pomona College  
 Kevin - Cornell University  
 Lisa - Stanford University  
 Matthew - UC Los Angeles  
 Michael - Cal Poly SLO  
 Ruby - UC Los Angeles  
 Russyan Mark - Brown University  
 Shalini - UC Los Angeles  
 Shweta - UC Davis  
 Stephanie - Cuyamaca College  
 Steven - University of San Diego  
 Tai Ho - UC San Diego  
 Timothy - UC San Diego  
 Victor - John Hopkins University  
 Yvonna - Scripps College

## COSMOS 2011

Dana - Whittier College  
 Pedro - SD City College

## COSMOS 2012

Elliot - UC Berkeley  
 Julia - Cal Institute of Tech  
 Meera - UC Berkeley  
 Michael - UC Los Angeles  
 Rayyan - UC Berkeley  
 Robert - UC Berkeley  
 Sonia - Stanford University

## COSMOS 2013

Amanda - UC Los Angeles  
 Amorie - UC Merced  
 Andres - UC Berkeley  
 Andrew - UC Berkeley  
 Biyonka - UC Berkeley  
 Brandon - UC Berkeley  
**Brian - UC San Diego**  
 Cameron - University of Michigan  
 Charlotte - UC Los Angeles  
 Cheryl - San Diego State University  
 Claire - Carnegie Mellon University  
 Clarence - UC Berkeley  
 Concepcion - UC Irvine  
 Diego - Tufts University  
 Dong Hyeok - UC Los Angeles  
 Effie - Stanford University  
 Emily - Texas A&M  
 Garima - UC Berkeley  
 Hector - UC Berkeley  
 James - Northwestern University  
**Joey - UC San Diego**  
 Kenneth - UC Irvine  
**Melissa - UC San Diego**  
 Michael - UC Berkeley  
**Michelle - UC San Diego**  
 Michelle - University of Pittsburgh  
 Oscar - UC Los Angeles  
 Paul - UC Los Angeles  
 Po - Stanford University  
 Rachel - Carnegie Mellon University  
 Seline - Northeastern University  
 Shushanik - UC Los Angeles  
 Sonika - University of Southern CA  
 Thao - UC Berkeley

## COSMOS 2014

Albert - UC Berkeley  
 Allen - UC San Diego  
 Ana Karen - UC Irvine  
 Andrew - UC Berkeley  
**Angela - UC San Diego**  
 Ann-Kathrin - Georgetown  
**Ashley - UC San Diego**  
**Belen - UC San Diego**  
 Benjamin - UC Berkeley  
 Bill - UC Berkeley  
 Brandon - UC Los Angeles  
 Brendan - UC Berkeley  
 Brendon - UC Berkeley  
 Bryan - Northeastern University  
 Calvin - UC Los Angeles  
 Chetan - Massachusetts Institute of Tech  
 Christopher - UC Los Angeles  
 Daniel - UC Los Angeles  
**Daniel - UC San Diego**  
 Dante - UC Berkeley  
 Daphne - UC Berkeley  
**Diana - UC San Diego**  
 Do Hyun - Harvard University  
 Emma - UC Los Angeles  
 Erika - Northwestern University  
**Farrak - UC San Diego**  
 Haley - UC Los Angeles  
 Harnadar - UC Los Angeles  
**Jennifer - UC San Diego**  
 Jake - UC Los Angeles

Jamie - Massachusetts Institute of Tech  
 Jeannie - UC Los Angeles  
 Jessica - University of Chicago  
 Justin - New York University  
 Kaz - UC Davis  
 Kelvin - UC Los Angeles  
**Kristin - UC San Diego**  
**Kritin - UC San Diego**  
 Laura - Purdue University  
 Leora - Duke University  
 Liliana - UC Irvine  
 Lisa - UC Irvine  
 Mark - UC Berkeley  
 Mason - UC Santa Cruz  
**Matthew - UC San Diego**  
 Megan - UC Santa Cruz  
 Melissa - UC Berkeley  
 Melissa - UC San Diego  
 Michael - Lehigh University  
 Michelle - UC Berkeley  
 Monica - Cal Poly  
 Natalie - UC Los Angeles  
 Nicholas - UC Berkeley  
 Nick - Cal Poly SLO  
 Nikita - UC Berkeley  
 Orianna - Amherst College  
 Rheana Marie - UC Irvine  
 Roxana - UC Berkeley  
**Sam - UC San Diego**  
 Swetha - University of Southern CA  
 Tiffany - Carnegie Mellon University  
 Tram - UC Los Angeles  
 Victor - UC Los Angeles  
 Victoria - Columbia University  
 William - Duke University



## DON'T SEE YOUR NAME?

Email us at  
[cosmos@ucsd.edu](mailto:cosmos@ucsd.edu)  
 or Message us on Facebook  
 to let us know  
 where you went to school!!

# Alumni Testimonials



## Christopher, COSMOS 2010

COSMOS was an awesome experience I still reflect back on. It taught me a lot about what college would be like and I met some amazing people. I hope COSMOS continues to inspire and teach future students.

## Jenny, COSMOS 2011

Cosmos played a big part in shaping my career goals and interests. And it was ultimately a defining factor for why I chose to attend UCSD. I'm forever grateful for the opportunities that COSMOS gave me.



## Michael, COSMOS 2012

COSMOS is where I first truly felt like I fit in. It gave me a lot of confidence in my ability to make friends with the many awesome people in college. The camp has a ton of amazing things to do in four weeks. Believe it or not, this includes the cool science that you learn in the classroom. I honestly might not be a chemical engineering major now if I didn't study biodiesel (cluster 6 represent!) over that summer.

## Amorie, COSMOS 2013

COSMOS was the best and most life-changing experience and I look back with great satisfaction at the memories and friendships I made. Cluster 6 taught me so much and I was able to bring what I learned back into the classroom at my high school. This program and the wonderful staff who made this experience possible made such an impact on my academic career and better prepared me for what lies ahead. Thank you UCSD Cosmos!!



## Mark, COSMOS 2014

COSMOS inspired me to work harder and be my best. It showed me that if I set a goal for myself, I can achieve it. I am the Elks Most Valuable Student Scholarship Winner and #1 male in the nation, and I honestly believe these accomplishments would not have been achieved without the experience and drive COSMOS gave me. And of course, it was extremely fun too.

## Robert, COSMOS 2015

To me COSMOS is one of the most amazing things that has ever happened. I say this because COSMOS helped me realize that my dream to become a computer scientist is truly what I want to do as a career. I realized this because during COSMOS I always wanted to go back in the lab and work on my project or learn from another guest lecture. Going to COSMOS not only helped me realize my passion, but it has motivated me to work harder and be more outgoing like never before.

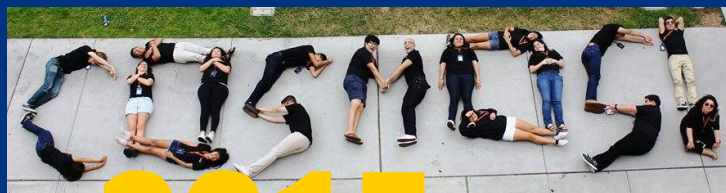


I want to spread the COSMOS name at my high school because there are so many talented and hardworking students at my high school that have interest in science and math fields, but don't know what they would actually do in those fields. I am sure that COSMOS can help these students gain skills and inspiration from the cluster they chose and COSMOS as a whole. I believe that giving students a chance to learn from professors, work with dedicated peers, and live on a UC campus will give them priceless memories and valuable exposure to college life.

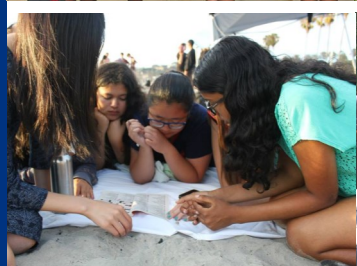
*It all starts with* **You!**

Share your stories, with your friends and family so another student can have the same great COSMOS experience!





# 2015 Wrap-up



Want to be featured?  
Send us your photos,  
accomplishments, or  
stories for the next issue!



## Student Spotlight



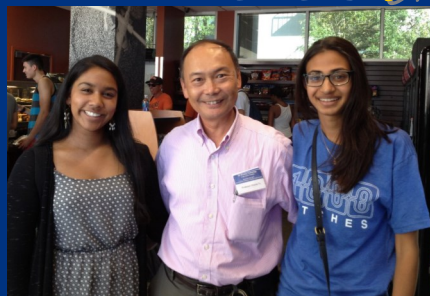
**Victoria Wang,  
COSMOS 2014 Al-  
um**

had an article published on  
EngineerGirl about her COS-  
MOS Experience.

"I'm not an engineer and I don't think I can ever be one," said the girl sitting next to me. It was the first day of COSMOS, a Californian State Funded STEM summer program, and we had both drifted towards the same station. . . but just being at COSMOS, as part of the Biodiesel from Renewable Sources Cluster, I was hoping to change this perception that engineers are supposed to be male, while also pursuing my passions for green energy, environmental science and inventing.

To read the entire article, visit: [http://  
www.engineergirl.org/GetThere/  
HowtoGetThere/23195.aspx](http://www.engineergirl.org/GetThere/HowtoGetThere/23195.aspx)

## Where's Dr. Tu?



Sonika and  
Pratima  
(COSMOS 2013  
Alumni) spotted  
Dr. Tu at USC!

Where will he  
be spotted  
next?



## ALUMNI SURVEY

Complete the alumni survey at:  
<http://bit.ly/cosmosalumnisurvey>

 **COSMOS UC San Diego**  
California State Summer School for Mathematics and Science

**UC San Diego**  
Jacobs School of Engineering

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user/cosmosucsd](https://www.youtube.com/user/cosmosucsd)