Berkeley
UNIVERSITY OF CALIFORNIA

Berkeley BioE

Message from the Chair

Dear Alumni and Friends,

Welcome to our 2015 UC Berkeley Bioengineering Yearbook, chock-full of news and highlights from the past academic year.

I'm especially pleased to greet you as the new Chair of the Department of Bioengineering. It is an honor to work with such talented faculty, staff, and students to advance research and education in engineering applied to biology and medicine—our unique field of bioengineering.

The theme that ties our diverse efforts together, I believe, is IMPACT. Whether through fundamental research or engineering and design, through educating leaders or learning from clinicians, through volunteering around the globe or starting companies at home, what Berkeley Bioengineers really want to do is change the world.

Inside you'll find stories of some of the most exciting research advances, impressive awards, dedicated supporters, and underlying it all, the boundless energy and optimism that makes Berkeley Bioengineering the exciting community it is.

Our success is providing us with opportunities to grow. This summer we welcomed neuroscientist and bioengineer Dr. Michael Yartsev to our faculty, and recruited Dr. Aaron Streets, an expert in imaging, microfluidics, and genomics. This year we will be recruiting 1-2 pioneering tenure-track faculty members to join our outstanding faculty (see our website for details).

We are still a young department, just past our 18th birthday, but we are already changing the world. Please keep reading to learn how Berkeley bioengineers are working every day to revolutionize healthcare and the biological sciences.

Thank you, and Go Bears!

Daniel A. Fletcher
Department Chair, Bioengineering
Purnendu Chatterjee Chair in Engineering Biological Systems

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Chair Fletcher at Commencement.
On the cover: 2015 Commencement. Photos by Noah Berger.

Berkeley BIOENGINEERING

The future of biology. The future of engineering.

CNN's #1 best job in America

340 undergraduates

35,000 ft² of research and lab space

Undergraduate program ranked 9th in the U.S.

average upper division class size: 22

94% of seniors have done extracurricular research

hiring new faculty every year

52 masters students

Ph.D. program ranked 7th in the U.S.

7 named faculty chairs

#1 in *Forbes* "15 Most Valuable College Majors"

180 PhD students

21 core faculty

Bachelor of Science

One of the top ten undergraduate bioengineering programs in the country, Berkeley Bioengineering gives talented students a hands-on environment for exploring an engineering approach to biological systems. Our curriculum provides a strong foundation in science and engineering and the ability to specialize in practical areas of interest in the growing field of bioengineering.

We offer six distinct concentrations: Biomaterials, Biomechanics, and Cell & Tissue Engineering; Biomedical Devices; Biomedical Imaging; Computational Bioengineering; Pre-med; and Synthetic Biology. Students benefit from intensive design projects through the senior capstone course and independent research opportunities in faculty laboratories.

Recently, students in our capstone design course have won undergraduate design competitions, and several have founded startup companies based on their projects.

Berkeley offers a wealth of opportunity for learning, research, service, and community involvement. Our graduates have found great success in industry careers, as well as admission to top graduate and medical schools.

Master of Engineering

The Bioengineering Master of Engineering (M.Eng.) degree is a new and rapidly growing program at UC Berkeley. The curriculum has a strong emphasis on engineering and entrepreneurship, designed for students planning to move directly into industry after completing the program.

Graduates of this one-year professional program have a combination of technical and economic understanding that allows them to quickly assume leadership roles in their engineering careers.

Degree requirements focus on three areas of coursework.

- The core leadership curriculum: instruction in a broad set of management skills needed to lead technology enterprises and ventures.
- A technical specialty: deeper instruction in a technical area, chosen from many concentrations in new and emerging technologies.
- A team capstone project: analyzing and addressing an industry challenge, designed to integrate the core curriculum with technical coursework.

Senior capstone student with poster. Photo by Cindy Manly-Fields.

UC Berkeley - UC San Francisco
Ph.D.

The Ph.D. in bioengineering is granted jointly by UC Berkeley and UC San Francisco, two of the top public universities in the world in engineering and health sciences.

The program attracts the best and brightest students, who have remarkable success in winning extramural fellowships and awards, collaborating across disciplines, and innovating unique solutions to problems ranging from basic science to global healthcare.

All students have full access to the breadth of resources and courses on both campuses, known for outstanding biomedical and clinical sciences at UCSF and excellence in engineering, physical, and life sciences at UC Berkeley. We offer students unparalleled opportunities for research in a wide variety of fundamental and applied fields.

Alumni enjoy considerable success in academia and industry, as faculty members at top universities, and senior scientists at startups and established companies.

Our program continues to grow. It is ranked among the top three graduate bioengineering degrees in the country by the National Research Council, as well as in the top ten by *US News & World Report*.

UC Berkeley - UC San Francisco
Master of Translational Medicine

The Master of Translational Medicine program draws on the unique expertise and resources available at UC Berkeley and UC San Francisco to provide trainees with the tools they need to solve real-world problems in a creative, interdisciplinary team setting.

Former students have found successful careers in industry and institutional medical research, while several graduates are pursuing their own startup companies.

The unique one-year program is designed for engineers, scientists, and clinicians who seek to bring innovative treatments and devices into clinical use. Coursework includes the fundamentals of bioengineering, physiology and disease, engineering design, core medical principles, clinical research methods, and clinical trials design, as well as the basics of business and management. The program culminates in a capstone design project in which students work in interdisciplinary teams co-advised by engineering and clinical faculty.

MTM graduate. Photo by Noah Berger.

You say you want a revolution?

Berkeley students have always been rebels, doing things their own way from politics to scientific breakthroughs. There is a drive to question, to revise, to improve. ***To revolutionize.*** *Berkeley bioengineers are determined to change the world, and striking out on their own as a startup company is one way they're making that happen.*

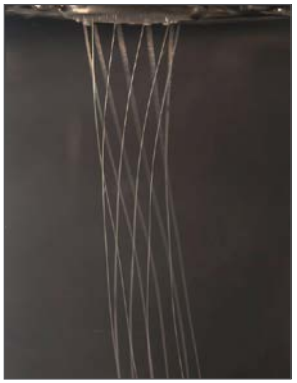
Eko Devices changes how doctors hear hearts

The Eko Core

Three Berkeley alumni have designed and produced the Eko Core, a next generation digital stethoscope that allows clinicians to amplify, record, analyze, and securely share heart sounds. The Core can wirelessly stream heart sounds to a privacy-compliant smartphone app and integrate heart sounds directly into a patient's electronic health record, promising better diagnosis and monitoring of cardiac issues for patients and doctors.

Initial work on the smart stethoscope was performed in the BioE 192 Capstone Design course. The founders, bioengineer Connor Landgraf (CEO), mechanical engineer Tyler Crouch (CTO) and business student Jason Bellet (COO), are the youngest team to receive FDA clearance for a Class II medical device and were recently recognized in *Forbes* magazine's "30 Under 30" feature. The Eko Core is now available for purchase and use nationwide.

Bolt Threads is refashioning the textile industry



Extruding silk fibers

For centuries, spider silk—stronger than steel, tougher than Kevlar—has been the mysterious holy grail of the textile world, resisting all efforts at mass production. Bolt Threads, founded by PhD alumnus David Breslauer with UCSF alumni Dan Widmaier and Ethan Mirsky, has changed all that. After years of studying the chemistry, genetics, and mechanics of spider silk creation—including an office full of free-range arachnids—Bolt can now produce silk without spiders. They use a genetically modified yeast that, when fermented, generates silk proteins similar to those produced by spiders, which are then spun into fibers for knitting or weaving into fabrics and garments.

By controlling the amino acid sequence of the silk proteins, Bolt Threads can enhance additional qualities like stretch and strength to create tailor-made performance fabrics.

Bolt's first target is the high-performance clothing market, offering their engineered silk as a softer, longer lasting, and less polluting alternative to modern textiles, meeting consumer needs while minimizing impact on the environment.

Zephyrus Biosciences transforms the Western blot

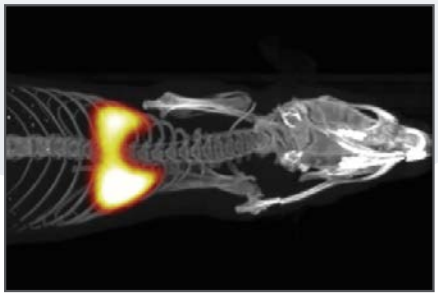
The scWestern System

The Western blot is a workhorse of biology labs, used to detect specific proteins in a sample of tissue extract. Performed conventionally, the many steps are time consuming and labor intensive, taking multiple hours per test. The bulk-processed blots also require pooling hundreds of thousands of cells per measurement and obscure the cell-to-cell variation present in many diseases. Zephyrus CEO Kelly Gardner, PhD alumna, hopes to change all that with microfluidic technology developed in professor Amy Herr's lab.

The single-cell western blot, the scWestern System, enables western blotting-based study of individual cells with a throughput of 1000 cells per tiny chip. The single-cell resolution combined with time, space, and cost savings could speed advances in research on cancer and other diseases, where a huge number of cell analyses must be performed.

While many other single-cell tools have used measurements of RNA levels to deduce protein expression, Zephyrus' technology allows researchers to directly measure proteins in large numbers of single cells.

Magnetic Insight could refocus medical imaging



Tracking stem cells in the lungs

Magnetic Insight, founded by PhD alum Patrick Goodwill with technology developed in professor Steven Conolly's lab, is bringing an entirely new type of biological imaging to the clinic and research lab.

Magnetic Particle Imaging (MPI) is a new ultra-sensitive, high-resolution, molecular imaging approach that directly detects iron oxide nanoparticle tracers in the body using time-varying magnetic fields. MPI images have exceptional contrast and high sensitivity.

One of the most promising applications of MPI is as a safe, rapid, 3D angiography technique to image intracranial diseases like stroke, aneurysm, vasospasms, and malformations without ionizing radiation or toxic tracers. The iron oxide particles have been proven safe for patients with weak or damaged kidneys, enabling long-term diagnostic monitoring without cumulative radiation or toxicity.

CellScope takes ear infections out of the doctor's office

CellScope Oto in action

CellScope, Inc. is the first company created from pioneering work in Dan Fletcher's lab on cellphone-based mobile microscopy. While the academic lab continues to pioneer new uses for their smartphone microscope, PhD alumnus Erik Douglas has CellScope Inc. working on bringing the technology to clinics and patients. They're starting with the CellScope Oto, a smartphone-enabled otoscope to remotely diagnose and monitor ear infections.

The Oto includes an otoscope assembly (that thing the doctor sticks in your ear) that attaches to an iPhone and pairs with the CellScope mobile app to record and share magnified videos of the eardrum and ear canal. Coming up: get ready to diagnose skin rashes, pink eye and bug bites from home.

More companies, more impact

These are just a few of our recent student-led startups out changing the world.

Innovations from our undergraduate capstone course:

the ballpoint laparoscope - self-cleaning laparoscope for minimally-invasive surgery.

Demilune Walker - an adjustable-footprint walker that can provide support in both a full size and compact configuration.

the HandleBar - a ratcheting stair assist railing for older people to safely ascend and descend stairs in their homes.

Knox Medical Diagnostics - a portable spirometer enables a cloud-connected pulmonary function test for asthmatic children.

Saving Sara - a pressure sensor to help reduce blood loss during childbirth, the leading cause of maternal mortality.

Startups by our graduate students:

Diassess - markets a point-of-care, nucleic acid amplification-based diagnostic device for sexually transmitted infections, with an initial focus on chlamydia.

Lygos - uses synthetic biology to engineer microbes to consume sugars and produce chemicals. They recently announced a breakthrough in the production of the high-value chemical, malonic acid.

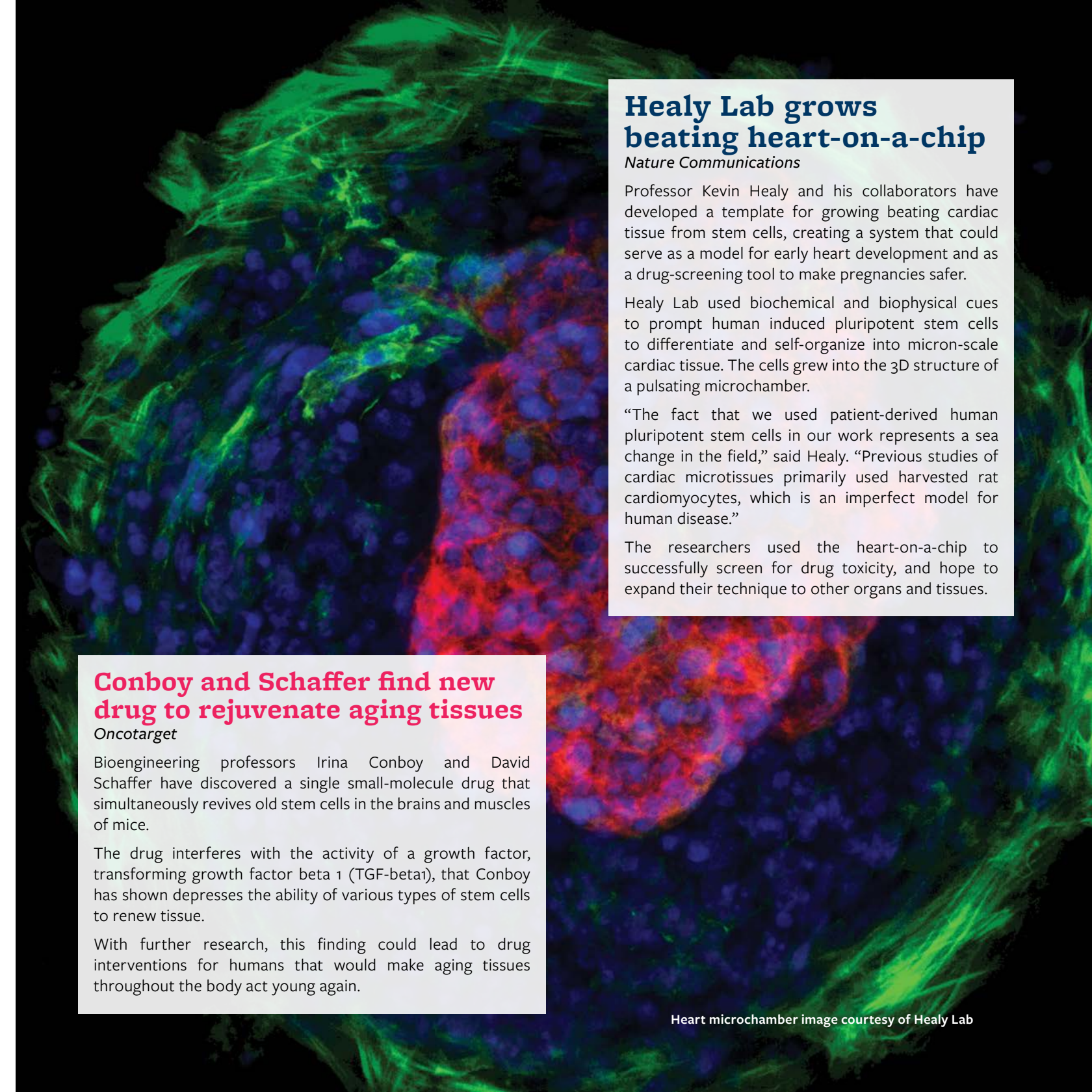
NanoNerve - develops a novel patterned nanofibrous dural substitute for rapid regeneration of the outer membrane of the brain and spinal cord following neurosurgical procedures.

Nano Precision Medical - developing the NanoPortal capsule, an implantable drug delivery system that will provide long-term, constant-rate delivery of therapeutic proteins for the treatment of chronic diseases.

Privail - a fast, simple, point-of-care diagnostic test for HIV.

Valitor - developed a method to modify existing drugs to control their biological activity and stabilize their structure in the body, producing cheaper advanced, protein-based drugs.

Gauss Surgical - an FDA-cleared real-time monitoring system for surgical blood loss, running on iPad.



Healy Lab grows beating heart-on-a-chip

Nature Communications

Professor Kevin Healy and his collaborators have developed a template for growing beating cardiac tissue from stem cells, creating a system that could serve as a model for early heart development and as a drug-screening tool to make pregnancies safer.

Healy Lab used biochemical and biophysical cues to prompt human induced pluripotent stem cells to differentiate and self-organize into micron-scale cardiac tissue. The cells grew into the 3D structure of a pulsating microchamber.

"The fact that we used patient-derived human pluripotent stem cells in our work represents a sea change in the field," said Healy. "Previous studies of cardiac microtissues primarily used harvested rat cardiomyocytes, which is an imperfect model for human disease."

The researchers used the heart-on-a-chip to successfully screen for drug toxicity, and hope to expand their technique to other organs and tissues.

Conboy and Schaffer find new drug to rejuvenate aging tissues

Oncotarget

Bioengineering professors Irina Conboy and David Schaffer have discovered a single small-molecule drug that simultaneously revives old stem cells in the brains and muscles of mice.

The drug interferes with the activity of a growth factor, transforming growth factor beta 1 (TGF-beta1), that Conboy has shown depresses the ability of various types of stem cells to renew tissue.

With further research, this finding could lead to drug interventions for humans that would make aging tissues throughout the body act young again.

Heart microchamber image courtesy of Healy Lab

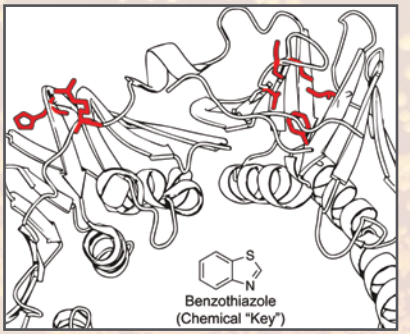
Anderson lab develops GMO molecular lock and key

ACS Synthetic Biology

How do you prevent the accidental spread of genetically engineered organisms? Researchers in bioengineering professor Chris Anderson's lab have developed a series of genetic mutations that render a microbe inactive unless the right molecule is added to enable its viability.

Working with a strain of *E. coli* commonly used in research labs, the researchers targeted five genes that are required for the organism to survive. They created mutations in the genes that would require the addition of the molecule benzothiazole in order to function.

The work, led by recent BioE Ph.D. Gabriel Lopez, shows promise as a potential method of containing advances created through synthetic biology and genetic engineering.

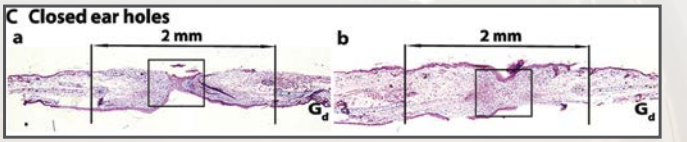


Drug-induced regeneration in adult mice

Science Translational Medicine

Bioengineering professor Phillip Messersmith has co-authored groundbreaking research showing that a primitive form of tissue regeneration can be harnessed to achieve spontaneous tissue regeneration in adult mice, without the need for stem cells.

The researchers found that the HIF-1a pathway—an oxygen regulatory pathway used early in evolution and in embryonic development—can act to trigger healthy regrowth of lost or damaged tissue in mice.



Untreated and treated injured tissue

Dueber lab engineers opium poppy pathway

Nature Chemical Biology

Researchers in professor John Dueber's lab have taken us one step closer to producing more medications through synthetic biology. Dueber, with bioengineering graduate student Will DeLoache and collaborators, were able to replicate some of the chemical processes of the opium poppy in yeast. They were able to synthesize the poppy compound reticuline from tyrosine, a derivative of glucose.

This breakthrough advances the quest to turn sugar-fed yeast into a microbial factory for producing morphine and potentially other drugs, including antibiotics and anti-cancer therapeutics.

"What you really want to do from a fermentation perspective is to be able to feed the yeast glucose, which is a cheap sugar source, and have the yeast do all the chemical steps required downstream to make your target therapeutic drug," said Dueber. "With our study, all the steps have been described, and it's now a matter of linking them together and scaling up the process. It's not a trivial challenge, but it's doable."

Bottom: yeast cells producing poppy alkaloids. Photo by William DeLoache

Conolly, Kumar, Mofrad, and Murthy new AIMBE Fellows

Congratulations to professors Steven Conolly, Sanjay Kumar, Mohammad Mofrad, and Niren Murthy, new members of the American Institute for Medical and Biological Engineering College of Fellows.

Marriott turns bioluminescent protein into biosensor

PNAS

Professor Gerard Marriott's lab has found amazing applications for a genetically-encoded fluorescent protein that is found in a symbiont populating the light organ of the ponyfish. The uniquely low mass and long fluorescence lifetime of the protein make it potentially useful as a biosensor to carry out rapid, quantitative, and proteome-wide analyses of specific protein interactions, or to screen for drugs designed to disrupt a specific protein complex in a living cell.

Kumar Lab creates biological polymer brushes

Nature Communications

Professor Sanjay Kumar and his colleagues have taken proteins from nerve cells and used them to create a biological version of a synthetic coating used in everyday liquid products, such as paint and liquid cosmetics, to keep small particles from clumping together. The synthetic coatings are often called polymer brushes. This marriage of materials science and biology could give birth to a flexible, sensitive coating that is easy and cheap to manufacture in large quantities.

Plasmonics breakthrough points to ultrafast DNA diagnostics

Light: Science & Application

Professor Luke Lee's lab has developed technology that promises to make the standard polymerase chain reaction (PCR) test cheaper, more portable, and faster by accelerating the heating and cooling of genetic samples with light.

The PCR test, which amplifies a single copy of a DNA sequence to produce thousands to millions of copies, requires repeated temperature changes to amplify the genetic sequence, doubling the sample at each cycle. Using light-emitting diodes, Lee's lab was able to heat electrons at the interface of thin films of gold and a DNA solution at the impressive speed of 55 degrees per second, and cool at 43.9 degrees per second.

This turbocharged thermal cycling greatly expands the utility of PCR, with results ready in just minutes.

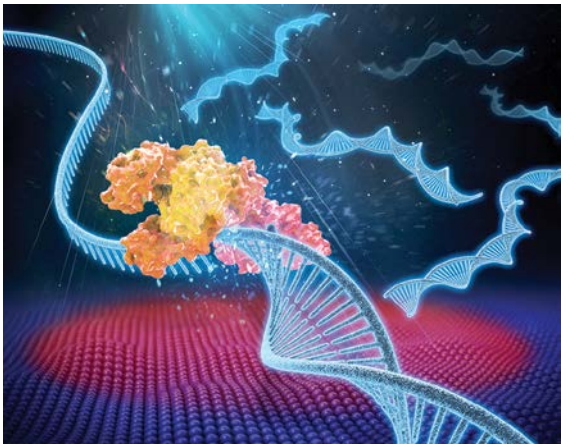


Image courtesy of Jun Ho Son and Lee Lab

Video CellScope automates detection of parasites in blood

Science Translational Medicine

The CellScope team in Professor Dan Fletcher's lab have made another breakthrough in mobile microscopy, using video to automatically detect and quantify infection by parasitic worms in a drop of blood. The new device can help revive efforts to treat common, neglected filarial diseases in Africa, such as river blindness.

Capstone team takes second at Stanford Design Challenge

BioE senior capstone design team of Hannah Adelsberg, Celia Cheung, Suzanne Chou, and Eric Katz took second place at the annual Stanford Design Challenge for their invention, the HandleBar.

HandleBar is a ratcheting stair assist railing for older people to safely ascend and descend stairs in their homes, allowing for increased independence while still encouraging individuals to climb under their own power.

Celia demonstrates the HandleBar. Photo by Cindy Manly-Fields.

Clinton Global Initiative University

Two student teams were selected to attend the 2015 Clinton Global Initiative University in Florida this March. The senior capstone design team of Asad Akbany, Karen Cheng, Kasper Kuo, and Nicholas Leung created an unobtrusive LPG stove usage monitor with wireless data capabilities, to help spread the adoption of low-pollution LPG stoves. Traditional cooking stoves contribute to the prevalence of respiratory disease due to their emission of carbon monoxide and particulates.

The Master of Translational Medicine team of Huzaifa Beg, Danielle Chou, Sita Kumar, and Rahul Nayak have been working on the design and production of a device capable of detecting vaginal infections in pregnant women, which carry the potential risks of either maternal transmission of infections to the unborn child or causing the infant to be born preterm.

Welcome Professor Yartsev!

Dr. Michael Yartsev joined the faculty this summer, coming to us from the Princeton Neuroscience Institute with joint appointments in Bioengineering, the Helen Wills Neuroscience Institute, and the Berkeley Nanosciences and Nanoengineering Institute. Yartsev is a pioneer at the intersection of neural circuits, behavior, neuroethology, and bioengineering, and uses bats as a model to study the neural basis of complex spatial behaviors and acoustic communication in mammals.

UC Berkeley—#1 public university in the U.S., and #3 in the world. *Go Bears!*

BioE ranked in top ten, again!

Not only is Berkeley the #1 public university in the nation, Bioengineering at Berkeley has been ranked the #9 bioengineering undergraduate program in the US by *U.S. News & World Report*.

The Bioengineering Graduate Program was once again ranked 7th in the nation by *US News and World Report*, and the UC Berkeley College of Engineering was once again ranked third in the US, while UCSF is the only school of medicine in the nation to rank in the top five in both research and primary care.

Also, UC San Francisco's four schools topped the nation in federal biomedical research funding in their fields in 2014, receiving the most of any public recipient and second most overall in funds from the National Institutes of Health (NIH).

Congratulations graduate fellows!

Students in the Bioengineering PhD program had another outstanding year, garnering over 42 campus and extramural fellowships.

- We currently have **26** students with *NSF Fellowships*.
- 2015 brought **7** NEW *NSF Fellows*:
  Yiqi Cao, Shakked Halperin, Ben Hinton, Jennifer Hu, James Lucas, Suraj Mahika, and Nicole Repina.
- We now have **5** *2015 Siebel Scholars:*
  Malav Desai, Katie Fink, Kunwoo Lee, Anusuya Ramasubramanian and Zach Russ.

Plus:

- Two *NDSEG Fellows*: Esha Datta and David Monteiro.
- *One Ford Foundation Fellow*: Hector Neira.
- One *UC Berkeley Chancellor's Fellow*: Devante Horne.

Alumna Lee receives NSF CAREER

Somin Eunice Lee, PhD 2010 and now Assistant Professor of Electrical and Computer Engineering at the University of Michigan, is the recipient of an NSF CAREER award for her research project, "Engineering Plasmonic Nanoantenna Architectures for Efficient Nuclear Delivery."

BioE grad students sweep prizes at AAPM Northern California

Bioengineers took all three top prizes at the Northern California American Association of Physicists in Medicine meeting this year, beating out a crowd of other postdocs and grad students from UC Davis, UCSF, Stanford, LBNL, and Berkeley.

The top prize went to Bo Zheng from the Conolly Lab, second place to Paul Keselman from the Conolly Lab, and third to Matt Adams from the Diederich Lab at UCSF.

Vlassakis to co-chair Gordon Research Seminar

Bioengineering graduate student Julea Vlassakis was elected Co-Chair of the 2017 Gordon Research Seminar (GRS) on the Physics and Chemistry of Microfluidics, and was selected to present a lecture at the 2015 Gordon Research Conference. It is a rare honor for a student to be selected for such leadership.

Alumna receives new BRAIN grant

Amina Qutub, PhD 2004, now Assistant Professor of Bioengineering at Rice University, has received a 2015 NSF BRAIN Initiative award for her research on identifying design principles of neural cells.

New PhD Gabriel Lopez hooded by Professor Chris Anderson, 2015. Photo by Noah Berger.

Our Graduates

Bachelor of Science

Summer 2014

Ryan Akiyama
Neil Chan
Brian Dick
Ayush Gupta
John Huang
Steven Law
See Lee
Tuyet Nguyen

Fall 2014

Roxanne Alei
Prithvi Bomdica
Thomas Chow
Christopher Coates
Daniel Corbett
Kasper Kuo
Sabrina Levy
Vincent Lo
Allain Petersen
Ryan Rezvani
Anirudh Sapru
Christina Truong
Jason Zhang

Spring 2015

Hannah Adelsberg
Arjun Aditham
Asad Akbany
Tara Armand
Mohyee Ayouty
Cameron Bates
Meriel Bench
Pranjali Beri
Shyam Bhakta
Deepika Bhatnagar
David Brookes
Martina Brozynski
Weina Chen
Yi Chen
Karen Cheng
Andy Cheon
Shin Cheung
Suzanne Chou
Shilpika Chowdhury
Jeffrey Chu
My Chung
Christopher Deeble
Kim Do
Jiang Fan
Arthur Fong
Aaron Gupta
Ryan Hartnett
Dave Ho
Eric Huang
Robert Huang
Nathan Jalazo
Zachary Jones
Geunwon Jung
Eric Katz
Hong Kim
Soyoung Kim
Sravani Kondapavulur
Max Krall
Niranjan Kumar
Grace Lee
Ho Lee
Nicholas Leung
Jason Lew
Kelvin Li
Rui Li
Andrew Lin
Derek Liu
Connor Ludwig
Xuhao Luo
Sivan Marcus
Neeka Meshgin
Maitreyee Mittal
Aritro Mukherjee
Rahul Nadkarni
Paulina Ng
Anna Ngo
Toan Nguyen
Priyanka Nigam
Patrick Ou
Rebecca Pak
Roshan Panchanathan
Shalmalee Pandit
Hee Park
Lakshmisahithi Rani
Sasha Rassoli
Graham Ray
Daniel Rivera
Andrew Schultz
Thiagarajan Sezhian
Shi Shen
Vivian Shen
Brandon Sie
Hye-In Son
Sashank Srinivasan
Sudershan Srinivasan
Lawrence Sutardja
Netsanet Tekeda Alemu
Ashley Tsai
Joseph Vizzusi
Ariel Wang
Christopher Wen
Karen Yang
Eric Yu
Gary Yu
Angela Zhang
Tony Zhang
Ruolan Zhou
Ryan Zolyomi

Master of Engineering

Spring 2015

Aurelien Bibaut
Mats Dreyer
David Fisher
Amy Foley
William Frese
Matthew Hart
Harriet Hu
Xinqi Huang
Sandya Iyer
Conley Jones
Diana Keefe
Shilpi Mathrani
Sanjibita Mishra
Zachary Paulson
Guy Talmor
Naga Tanikella
I-Chin Wu
Lung-Ying Yu

Master of Translational Medicine

2014-2015

Nayan Agarwal
Martin Ahrens
Sarah Almubarak
Caroline Beaudon
Huzaifa Beg
Danielle Chou
Lucy Corippo
Marie Freeberg
Julia Gomez Camblor
Aaron Hu
Courtney Huang
Ranna Khorram
Sita Kumar
Megan Lamberti
Pin-Hsuan Lee
Se Ki Lee
Victoria Lyo
Jayhee Min
Katie Mo
Rahul Nayak
Hubert Nethercott
Paul Pemberton
Leland Pung
Rutwik Shah
Sandra Thao
Ian Tran
Diego Vieira
Aaron Wong

M.S.

Michael Asensio, Fall 2014
Martha Lesniewski, Spring 2015
Bushra Samad, Spring 2015

Ph.D.

Summer 2014

Omar Al-Hashimi
Alec Cerchiari
Maria Dadarlat
Bertram Koelsch
Jennifer Wade
Yi Zhang

Fall 2014

David Chen
Justin Konkle
Mehrdad Mehrbod
Win Ng
Arunan Skandarajah
Wei Bian
Rachel Gerver
Mark Sena
Peter Shin

Winter 2015

Qiuting Wen

Spring 2015

Todd Duncombe
Paul Johnson
Monica Kapil
Shachi Katira
Yushan Kim
Michael Lee
Gabriel Lopez
Kuan Lu
Augusto Tentori
Sophie Wong
Erh-Chia Yeh

BioE Boosters

It takes a lot of money to change the world! That's why we so appreciate our donors, no matter what size the gift. Below we acknowledge just a few of our benefactors.

Although not listed here, we are always grateful to supporters who give to BioE in any way, through endowed chairs, fellowships and scholarships; to the senior gift campaigns; to BigGive; or to the College of Engineering general funds.

Berkeley is about looking beyond ourselves to make a difference in the world, and we thank everyone who makes a difference for us!

2014-15 donors to the Friends of Bioengineering Fund

Alumni

Hunter Chen, BS 1999
Po-Jui Chiu, MEng 2014
Richard Cohen, PhD 2008
Daniel Imamura, BS 1989
Jonathan Pham, BS 2006
Daniel Price, BS 2013
John Waldeisen, PhD 2012
Leland Wong, BS 2009
Jonathan Yuen, BS 1999
& Benji Paradewelai

Parents

Douglas Bates
& Mini Pathria
Annalisa Ferguson
& Ashwani Gupta
Mark Huebsch
Dennis & Theresia Kwan
Olagappan Manickam
Srinivan & Usharani Rani

The **Friends of Bioengineering** fund provides much-needed discretionary funding to use where it is needed most: teaching lab equipment, student travel to conferences, outreach events, student activities. Most of the donors to Friends of BioE are our own alumni and parents!

Give directly to BioE at Give.Berkeley.edu, or contact bef@coe.berkeley.edu or 510.642.2487.

Alumni, *keep in touch*!

Join our private **LinkedIn group,**
UC Berkeley Bioengineering Alumni & Students

Like our **Facebook page** at
www.facebook.com/BerkeleyBioengineering

Moving? Update your contact information at
http://alumni.berkeley.edu/membership/update-your-contact-info

Photo by Cindy Manly-Fields.

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University of California
306 Stanley Hall, MC 1762
Berkeley, CA 94720

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U.S. Postage
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University of California

Undergraduates at 2015 commencement. Photo by Noah Berger.