

UC DAVIS

# BIOLOGICAL SCIENCES

News from the Division of Biological Sciences

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*UC Davis Biological Sciences* is sent to division alumni, both graduate and undergraduate, and parents of current division students. We welcome news from alumni; please send your news to Debra Cleveland at [dccleveland@ucdavis.edu](mailto:dccleveland@ucdavis.edu). Or visit the alumni Web site at [www.dbs.ucdavis.edu/alumni/postcards/](http://www.dbs.ucdavis.edu/alumni/postcards/) and send us a postcard!

## NEW FACULTY: BIOLOGISTS OF ALL KINDS ARRIVE FOR SIMILAR REASONS

By Kathleen Holder

European structural biologist Henning Stahlberg said he considered only one U.S. research institution in his search for a new position—UC Davis.

“UC Davis has become one of the best research institutions in the country,” said Frederic Chédin, who joins the Center for Genetics and Development and the Section of Molecular and Cellular Biology.

Cell biologist Joanne Engebrecht said she and her husband, who joins the School of Medicine’s pharmacology faculty, “were very excited by all the new growth on campus, in particular in the biological sciences.”

Neuroscientist Jochen Ditterich said he decided to come to UC Davis, in large part, because the campus has “a good group of people interested in systems and computational neuroscience.”

Stahlberg, Chédin, Ditterich and Engebrecht are among eight new faculty members joining the Division of Biological Sciences this aca-

demie year—each with different life-sciences expertise but similar reasons for coming here:

The campus’s reputation for life sciences, new research initiatives and opportunities to and collaborate with other leading biologists.

Their appointments bring the division’s faculty to 136 people and adds expertise in fields as diverse as viruses and how they penetrate cells, aging mechanisms in yeast, and how the brain processes information in making decisions.

Stahlberg and Holland Cheng, a new professor in the Section of Molecular and Cellular Biology, are experts in using a powerful new electron-microscopy technique to study macromolecules. They will establish a cryo-electron microscope facility here.

“I am pleased that we were so successful in our recruitment efforts this year and am looking forward to the added strengths that our new faculty will bring to DBS,” said Dean Phyllis Wise.

For a look at the new faculty members, see page 4.



**Future Home for UC Davis Neuroscientists:** A new neuroscience building, shown in an artist’s rendering above, will unite more than 70 neuroscientists at UC Davis. Neuroscientists in the Division of Biological Sciences, School of Medicine and elsewhere say the building will help increase opportunities to work together. “UC Davis has one of the largest, if not the largest, gatherings of neuroscientists in the country, and even though quite a few of us are housed in the Center for Neuroscience, just as many are scattered around the campus,” says Marty Usrey, a vision scientist at the Center for Neuroscience. “There’s already a lot of interaction and collaboration within the UC Davis neuroscience community, but this will increase tremendously if we’re brought together in the new building.”

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## INSTRUCTION AND PERMISSION IN EYE/BRAIN DEVELOPMENT

Researchers at UC Davis are challenging the conventional view of how connections form between the optic nerves and the brain.

Early in development, cells in the retina show waves of activity long before the eyes are exposed to light. At the same time, optic nerves grow from the left and right eyes into the brain and form separate “eye-specific” layers in a brain structure called the lateral geniculate nuclei, or LGN.

Neuroscientists currently think that the pattern of spontaneous activity is essential to “instruct” the formation of separate left and right eye connections to the LGN, because if the activity in the retina is blocked, the connections to the brain do not separate into layers properly.

Researchers Andrew Huberman, Guo-Yong Wang, Lauren Liets, Odell Collins, Barbara Chapman and Leo Chalupa used an antibody coupled to a ribosomal toxin to perturb the activity of selected cells in the retina. The retinal cells still show spontaneous activity, but in a random rather than a normal pattern. Surprisingly, the axons of the optic nerve still grow into the brain normally and form normal layered LGN structures. However, when all activity was completely blocked in the developing retina, the researchers found that the normal separation of left and right eye connections did not occur.

The results show that neuronal activity in the eye permits the eye-specific connections to the LGN to develop.

“Contrary to what everyone expected, the pattern of activity in the developing retina is not a key factor in this process,” said Chalupa, professor of ophthalmology and neurobiology and chair of the Section of Neurobiology, Physiology, and Behavior

The results are published in the May 9, 2003, issue of the journal *Science*.

## RESEARCH NEWS

### EVOLUTIONARY ECOLOGIST HELPS CALL ATTENTION TO CORAL'S PLIGHT

Coral reefs, once the prolific producers of seafood stocks and tourism income, are reeling from the effects of overfishing and pollution. Now comes global climate change. In a recent cover story of the journal *Science*, a UC Davis researcher and other marine experts give a grim prognosis for coral-reef survival and prescribe a rigorous course of therapy.

“In the next 50 years, coral-reef ecosystems will experience environmental changes greater than any they have faced in the past half-million years,” said UC Davis evolutionary ecologist Rick Grosberg.

“Complicating their existing health problems will be the impacts of climate change, such as warmer water, more frequent and more intense hurricanes, and changes in seawater chemistry.”

“Reefs won't disappear entirely but they will change. To keep those changing reefs diverse and resilient, we are calling for vigorous international action to manage reefs better and to reduce the rate of global warming.”

As an evolutionary ecologist, Grosberg studies and explains how, over time, the genetic makeup of a population (all the members of one plant or animal species living in a particular location) changes in response to environmental changes. In developing the Aug. 15 journal article, he spent a week on Australia's Great Barrier Reef with other specialists in ecology, geolo-

gy, paleontology, oceanography, climatology and economics.

The October 2002 forum, named “Managing Coral Reefs in the Face of Global Change” and organized by the Centre for Coral Reef Biodiversity at James Cook University in Townsville, Australia, was the first of its kind. The participants produced a road map for reef rescue called The Townsville Declaration.

Grosberg and his co-authors make three major conclusions:

—Thirty percent to 50 percent of all coral reefs should be designated as no-fishing zones to preserve the long-term variety and abundance of reef plants and animals.

—Greenhouse gas emissions must be reduced. Global warming will undoubtedly change the nature of reef ecosystems. Scientists are already recording the effects of warmer conditions, such as widespread coral bleaching. The increase of carbon dioxide in the air is changing ocean chemistry, which may cause reefs' limestone skeleton to fracture or dissolve.

—Coral reef management must be coordinated across international and local agencies.

Grosberg's individual contributions to the coral reef forum and the *Science* paper describe how reef makeup may change in response to human-caused environmental stresses.



### DNA THROTTLE CONTROLS MOLECULAR MACHINE

A DNA sequence that acts as a throttle to control the rate at which an enzyme moves along the DNA has been observed by researchers at UC Davis. By controlling the activity of the RecBCD helicase enzyme, the “Chi” sequence can affect how efficiently genes are repaired.

RecBCD unwinds the DNA double helix so that the genetic code can be read, copied or repaired. This unwinding is an essential first step in most processes involving DNA.

The research findings, which are published in the Sept. 5 issue of the journal *Cell*, could explain how short DNA sequences such as Chi can interact with enzymes and affect how DNA is copied or repaired. They could also give insight into how to control the

speed of tiny nanomachines built for various purposes.

The enzyme moves along DNA at a rate of up to 1000 base pairs a second. Using special apparatus to film single enzymes at work in real time, the UC Davis researchers found that when RecBCD reaches the eight-letter Chi sequence, it stops for up to 10 seconds and then carries on at half speed.

The researchers were postdoctoral scholars Maria Spies, Piero Bianco, Mark Dillingham and Naofumi Handa with Stephen Kowalczykowski, professor of microbiology and director of the UC Davis Center for Genetics and Development, and Ronald Baskin, professor of molecular and cell biology.



## CAMPUS RANKS HIGH FOR BIOLOGY GRANTS, MENTORING

UC Davis ranked sixth among the nation's universities and colleges for total research and development expenditures in the biological sciences, according to the National Science Foundation's latest figures.

In 2001, UC Davis research and development spending in the biological sciences totaled about \$119.3 million. In 2000, UC Davis ranked 13th with nearly \$85 million in expenditures.

For research in the life sciences, which also includes agricultural and medical sciences, UC Davis was 11th at \$316.6 million in 2001, up from 12th at \$292.5 million the previous year.

## A GREAT PLACE FOR POSTDOCS

The campus is among the top-ranked institutions for postdoctoral opportunities, according to *The Scientist* magazine.

The campus ranked eighth among those institutions that make postdocs feel especially welcomed, according to a Web-based survey of about 2,800 postdocs in the United States, Canada and western Europe.

A UC Davis administrator credited Jerry Hedrick, biochemistry professor and former associate dean in the Office of Graduate Studies, for reaching out to postdocs.

The results of the "Best Places for Postdocs" survey are available online at [http://www.the-scientist.com/yr2003/feb/feature\\_030210.html](http://www.the-scientist.com/yr2003/feb/feature_030210.html).

The rankings are based on a formula that weighs several criteria, including how selective a program is in admitting applicants, faculty resources, institutional reputation and research activity.



Kathleen Hubler photo

Visitors line up at the Botanical Conservatory to get a whiff of the corpse flower, "Ted the Titan." The rare bloom drew about 2,000 people in one week to the conservatory and inspired a flurry of experiments by campus biologists. Ted the Titan, a specimen of *Amorphophallus titanum* (*titan arum*), produced a 43-inch flower that remained open for about a week in June, producing wafts of its distinctive roadkill scent. UC Davis scientists quickly went into action—measuring a 20-degree peak in temperature, making casts of the plant surface to study leaf pores, and taking tissue samples for biochemistry research. "There are some interesting issues, such as where the smell comes from," said plant biologist Terry Murphy, who said he had been "agitating other people to do things" once he heard the flower was blooming.

## PLANT BIOLOGIST IDENTIFIES GENE CONTROLLING LEAF FORM

A single gene, called PHANTASTICA (PHAN), controls whether a plant makes feathery leaves like a tomato or umbrella-like leaves like Oxalis. The same mechanism is shared by a wide group of flowering plants.

"It's a very surprising finding, that modifying one gene in the tomato alters the leaf from one form to another," said Neelima Sinha, a UC Davis plant biology professor who is senior author on the paper.

Plant leaves fall into two main groups: simple, single-blade leaves and compound leaves with multiple leaflets. Compound leaves have either a series of alternate leaflets on each side of a stem, like a tomato, or leaflets arrayed in a circle around a point at the end of the stalk.

Sinha and graduate student Minsung Kim from UC Davis, with Sheila McCormick from the U.S. Department of Agriculture's Plant Gene Expression Center in Albany, Calif., and Marja Timmermans from the Cold Spring Harbor Laboratory in New York, created tomato plants genetically manipulated so that PHAN was turned down or turned off.

Low-PHAN tomato plants made palmate, umbrella-like leaves or needles

with no leaflets at all. In plants with normal leaves, PHAN was switched on throughout the upper surface of the leaf. In plants with palmate leaves, PHAN expression was reduced to the tip of the leaf.

Plants with needle-shaped leaves showed no PHAN expression at all.

The results showed that when PHAN is switched on in part of the leaf, it creates an area where leaflets can form. The size and shape of this domain determines the shape of the leaf.

Sinha and colleagues found similar patterns of PHAN gene expression and leaf shape in live specimens of other plants from the UC Davis Botanical Conservatory and over 500 dried plants from the UC Davis Herbarium, showing that the same mechanism is used to control leaf shape even in distantly related flowering plants. That suggests that there may be a limited number of ways to change the shape of a leaf.

The conservatory and the herbarium were "incredibly valuable" for this kind of work, Sinha said. "We can look at thousands of specimens in the herbarium. It's an amazing resource."

The paper is published in the July 24 issue of the journal *Nature*.



## NEW FACULTY

### Frédéric Chédin

Assistant professor,  
Section of Molecular  
and Cellular Biology,  
Center for Genetics and  
Development

#### Education

B.S.—Ecole Nationale  
Supérieure  
Agronomique,  
Montpellier, France,  
1991

Master's/Ph.D.—

University of Paris, 1991/1995

#### Fellowships

UC Davis, 1996-99; Norris Comprehensive  
Cancer Center, University of Southern  
California, 1999-2002

#### Experience

Senior research fellow, Beckman Research  
Institute, City of Hope, 2003

#### Speciality

Molecular basis of epigenetics in mammals,  
genetic recombination and DNA repair



Chédin

### Holland Cheng

Professor, Section of  
Molecular and Cellular  
Biology

#### Education

M.Sc./Ph.D.—Purdue  
University, 1989/1992

#### Fellowships

Purdue University,  
1992-1993; National  
Center for  
Supercomputing  
Applications,  
University of Illinois  
at Urbana-Champaign

#### Experience

Research consultant, Tripep Co., Stockholm,  
since 2001

The Chemo-Sero-Therapeutic Research  
Institute, Kaketsuken, Kumamoto, since  
2003

Coordinator, Scholar Exchange Program of  
Sweden-Japan High Education, since 2002  
Workshop and symposium organizer,  
Karolinska Institute/Structural Biology  
Network, Stockholm, 1999-2000  
Visiting faculty, Baylor Medical College,  
Houston, 1997

Group leader, Karolinska Institute,  
Stockholm, 1987

#### Speciality

Structural virology: how viruses penetrate  
cells; cryo-electron microscopy



Cheng

### Jochen Ditterich

Assistant professor, Center for Neuroscience and  
Section of Neurobiology, Physiology, and  
Behavior

#### Education

B.S./M.S./ Ph.D., electrical  
engineering and  
information technol-  
ogy, Technical  
University, Munich,  
Germany,  
1995/1995/2000

#### Fellowship

University of  
Washington, 2000-03

#### Speciality

Understanding neural  
information processing on the systems level  
by combining behavioral, neurophysiologi-  
cal, and modeling techniques. Current focus  
of interest: decision processes



Ditterich



Engebrecht

### Joanne Engebrecht

Associate Professor,  
Section of Molecular and  
Cellular Biology

#### Education

B.S., microbiology—  
University of  
Washington, 1981  
Ph.D., marine biology  
—UC San Deigo, 1986

#### Fellowship

Yale University, 1987-90

#### Experience

Research assistant professor, State University  
of New York, Stony Brook, 1991-92  
Assistant professor, Department of  
Pharmacological Sciences, School of  
Medicine, SUNY, Stony Brook, 1992-99  
Associate professor, Department of  
Pharmacological Sciences, School of  
Medicine, SUNY, Stony Brook, 1999-2003  
Visiting professor, Stanford School of  
Medicine, 2001-02

Director, Graduate Program in Molecular and  
Cellular Pharmacology, 1998-2003

#### Speciality

Meiosis and cell signaling in yeast and  
worms

### Su-Ju Lin

Assistant Professor,  
Section of Microbiology  
and Center for Genetics  
and Development

#### Education

B.S.—National Taiwan  
University, 1991  
Ph.D., toxicological sci-  
ences, John Hopkins  
University, 1997

#### Fellowship

Biology Department,  
Massachusetts Institute of Technology, 1997-  
2002



Lin

#### Speciality

Molecular mechanisms in how limiting calo-  
ries extends life span in yeast

### Espen Spangenburg

Assistant Professor,  
Exercise Biology  
Program, and School of  
Medicine's Department  
of Human Physiology

#### Education

B.S./M.S./Ph.D.—  
Virginia Polytechnic  
Institute and State  
University,  
1995/1997/2000

#### Fellowship

University of Missouri-Columbia, 2000-03

#### Speciality

Muscle physiology and biochemistry, molec-  
ular aspects of muscle adaption



Spangenburg

### Henning Stahlberg

Assistant professor,  
Section of Molecular and  
Cellular Biology

#### Education

B.S. and M.S. in solid  
state physics, Technical  
University of Berlin,  
Germany, 1993  
Ph.D. in biophysics,  
Swiss Federal Institute  
of Technology,  
Lausanne, Switzerland, 1997



Stahlberg

Habilitation in biophysics, University of  
Basel, Switzerland, 2002

#### Experience

Junior group leader in structural biology,  
Biozentrum, University of Basel, 2002-03

#### Speciality

Structure and function of biological macro-  
molecules; cryo-electron microscopy

### Daniel Starr

Assistant professor,  
Section of Molecular and  
Cellular Biology, Center  
for Genetics and  
Development

#### Education

B.A.—Colby College,  
Maine, 1992  
Ph.D.—Cornell  
University, 1998

#### Fellowship

University of Colorado, 1998-2003

#### Speciality

Migration and positioning of cell nuclei in *C. elegans*



Starr

## IN MEMORIAM: PENGELLEY

**Eric "Ted" Pengelley**, an evolutionary biologist with close ties to UC Davis, died March 22 in Woodland Memorial Hospital after suffering a heart attack. He was 83.

He had lived in Davis since he retired from the faculty at UC Riverside in 1984, returning to the community he and his wife, Daphne, had loved since he began his academic career here 25 years earlier.

In 1959, he was hired as an assistant professor at UC Davis. He spent a year on the faculty here and a year each at UC Santa Barbara and William and Mary College before joining the UC Riverside biology department in 1962.

He studied hibernation in certain ground squirrels and showed that they have an internal biological clock that sends them into hibernation every year without cues from the environment.

At UC Riverside, he taught the introductory biology course for non-science majors and pioneered a course on human reproduction and sexual behavior. He wrote a textbook, *Sex and Human Life*.

After moving back to Davis, Dr. Pengelley became a "beloved campus



Pengelley

figure," riding his bicycle across town to campus and giving lectures on the history of biological sciences until two years ago, said John Crowe, professor of molecular and cellular biology.

Dr. Pengelley collected first-edition books by and about Charles Darwin. He and his wife wrote *A Traveler's Guide to the History of Biology and Medicine*.

After his wife died in 1990, he endowed a research fellowship in her memory for UC Davis population biology graduate students.

Memorial contributions are suggested to: The Daphne and Ted Pengelley Endowment for Research in Evolutionary Biology, checks payable to UC Davis Foundation and clearly marked Pengelley Endowment. Mail to: Director, Center for Population Biology, Division of Biological Sciences, University of California, One Shields Avenue, Davis, CA 95616.



## AVALOS WORKS FOR A LASTING CAUSE: TEACHING FACILITY, HERBARIUM

**A**fter seven years raising money for Special Olympics, Robert Avalos joined the division as associate director of development. He is focusing on raising funds to complete the Sciences Laboratory Building, a state-of-the-art instructional facility for undergraduates, and the new herbarium that will be located within it.



Avalos

Asked about why he was drawn to the Division of Biological Sciences position, Avalos said, "This will sound corny, but I like plants, and I deeply value higher education because it's a great leveler. Also, the Sciences Laboratory Building project is exciting because it's bricks and mortar; it's lasting."

"I believe in philanthropy; it's important for sustaining community," he said. "If you give a gift to help complete the Sciences Laboratory Building, you're giving students opportunity, and you can see the results of your gift."



'Could you imagine a biologist running CNN? Could you imagine more biologists than lawyers at the state house? And why not? Biologists are needed at every level of society. They need to be running grocery stores and running oil companies, they are needed on main street and on Wall Street.'

— From June commencement address, 'Embedded Biologists,' by John Hamer, Ph.D., Microbiology, 1987, chief scientific officer of Paradigm Genetics

## WITH DISTINCTION

**D**ivision of Biological sciences professors **Paul Baumann** and **Stephen Kowalczykowski** have been named fellows in the American Academy of Microbiology—the honorific leadership group of the American Society for Microbiology. Fellows are elected for contributions and leadership and represent 35 countries.

Kowalczykowski was elected for his work on DNA recombination. He and Baumann are two of 1,900 scientists elected to the academy in its 50-year history.

Neuroscientist **Kim McAllister** won a 2003 John Merck Scholarship in the Biology of Developmental Disabilities in Children for promising research on mental disabilities. She will receive a \$300,000 over four years to study cellular mechanisms of mental retardation.

McAllister, an assistant professor at the Center for Neuroscience and the Section of Neurobiology, Physiology and Behavior, was among three scientists nationwide selected to receive the research award.

**Phyllis Wise**, dean of the Division of Biological Sciences a professor of neurobiology, physiology and behavior, has been singled out for two new honors.

The Endocrine Society selected to receive the 2004 Roy O. Greep Award Lecture for outstanding contributions to research in endocrinology. As the award recipient, she will present a plenary lecture at the society's annual meeting next June in New Orleans.

In a separate honor, Wise received the 2003 Mentor Award from the Women in Endocrinology organization. The chair of the award committee, Kathryn Horwitz, a medical professor at University of Colorado, wrote in letter: "The committee was truly impressed with the number and quality of endocrinologists you have trained over the years."

Wise's research focuses on the role estrogens play in maintaining normal brain function and their importance in protecting the brain against injury and neurodegenerative diseases

# ...Making a Difference

Alumni

Parents of Students

Faculty & Staff



**T**he Division of Biological Sciences has one of the very best academic programs in the nation. With the support of many people, we are able to continue our commitment to world-class science education and research. We are more determined than ever, despite the difficult budget climate in California, to provide quality education that makes a difference in people's lives. Our dedication is evident in our #1 national ranking in undergraduate plant biology (botany) and genetics.<sup>1</sup> At the graduate level our program has earned the distinction of the #1 national ranking in plant biology (botany).<sup>2</sup>



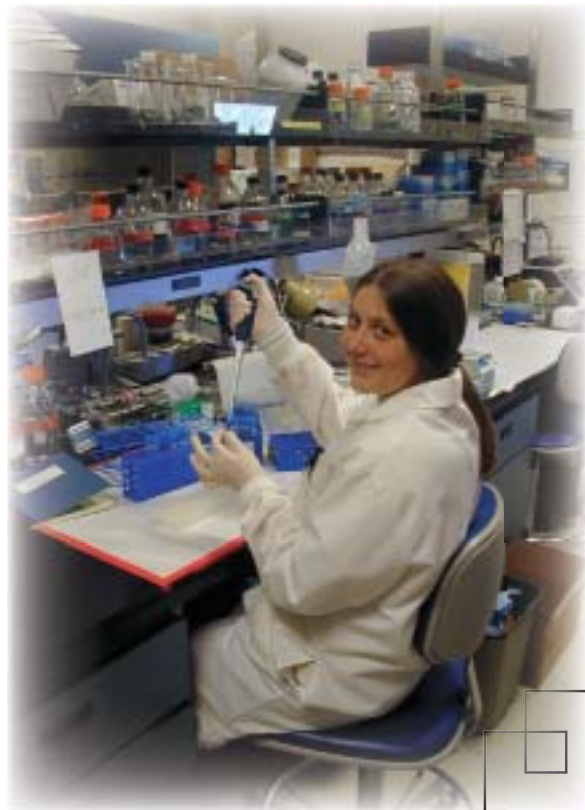
The Division is seeking to raise \$1.6 million in private gifts to support faculty and student research. We need your financial support to ensure this commitment. Your gift will fund scholarships, endowments, fellowships, and the new Sciences Laboratory Building. This building will be the only state-of-the-art facility in the nation dedicated to undergraduate biology instruction in a laboratory setting. I am asking you to make a difference so that we may all continue to share in the benefits of education and research.

As Dean of the Division of Biological Sciences, it is my privilege and responsibility to encourage you to make a difference and pledge your financial support. Whether you have previously contributed or this is your very first time, please take a moment to look at the support

levels on the attached envelope. Your support will be the difference as we continue our tradition of excellence. If you have any questions, please feel free to contact my office at (530) 754-9254.

My warmest regards to you and your family,

Phyllis M. Wise, Ph.D.  
Dean of Biological Sciences  
Professor of Neurobiology,  
Physiology and Behavior



1. Gourman, Jack, Ph.D., The Gourman Report Undergraduate Programs, New York, NY, 1997, Princeton Review Publishing  
2. Gourman, Jack, Ph.D., The Gourman Report Graduate Programs, New York, NY, 1997, Princeton Review Publishing

## STUDENT SPOTLIGHT

### GRADUATE'S JOURNEY TO COMMENCEMENT STAGE BEGAN WITH FAMILY'S FLIGHT FROM CIVIL WAR

When graduating senior Jenny Vasilian gave her speech at June commencement, she spoke of the obstacles her classmates overcome in earning a degree—but she never mentioned her own.

Her journey to a bachelor's degree in degree in neurobiology, physiology and behavior—and a future career as a dentist—started in Beirut, Lebanon, where she was born to an Armenian family.

In 1986, when Vasilian was 4, her family fled the war and sought refuge in the United States, leaving nearly all their possessions behind them. The family eventually settled in Half Moon Bay, where Vasilian's parents opened a bridal boutique called "Jenny's" and Vasilian started grade school.

When Jenny's oldest sister enrolled at UC Davis, the family moved to the Sacramento suburb of Orangevale and the girls' father went into the framing



'Above all else, above the mathematical equations and biological concepts, above the physiological formulas and scientific innovations, this university has taught me about people. About our extreme differences, yet significant similarities. About the obstacles that some of you overcame to reach this very point.'

—Jenny Vassilian, student commencement speaker'

business. Jenny attended Casa Roble High School.

Her two older sisters graduated from UC Davis—one earned a degree in economics and went on to become a pharmacist and the other, a double major in political science and communications, is now a lawyer.

Vasilian set her sites on speaking at her commencement after attending her oldest sister's graduation in 1994. Jenny Vasilian was selected from five finalists.

In an address peppered with humor, Vasilian told her classmates that attending UC Davis taught her much about people—"about our extreme differences, yet significant similarities; about the obstacles that some of you overcame to reach this very point."

Vasilian planned to start dental school at UC San Francisco this fall. "My parents deserve every ounce of credit for my accomplishments," she said.

### AWARD WINNERS EXCELLED IN JUST ABOUT EVERYTHING

Shannon Smith got the full student experience while pursuing her bachelor's degree in genetics at UC Davis. She took part in intramural sports, student government, peer advising, and internships in addition to completing a wide range of courses.



Shannon Smith

Smith initially planned to pursue her childhood dream of becoming a doctor after she graduated from San Marcos High School in San Diego and enrolled at UC Davis. But after interning in the

emergency room at UC Davis Medical Center in Sacramento, she decided that clinical medicine was not for her.

Then she worked and interned in UC Davis biomedical research laboratories. "All of a sudden, it came together. I knew what I wanted to do," said Smith, who started a graduate program this fall at UCLA. She planned to study either tumor cell biology or immunology.

For her achievements across the board—academics, research, and campus and community service—she was named the Division of Biological Sciences 2003 undergraduate student of the year.

She was one of five graduating seniors to receive major awards for their

accomplishments. The others were:

—**Nathan Bronson**, Neurobiology, Physiology and Behavior, Chancellor's Awards for Excellence in Undergraduate Research

—**Parmbir Sandhu**, Genetics, College of Letters and Science's Herbert A. Young Award for academic achievement

—**Beena Kazi**, Biological Sciences, Mary Jeanne Gilhooly Award for graduating woman showing leadership, scholarship, integrity and community service

—**Mami Shindo**, Mary Regan Meyer Prize for community service, and the Knowles Ryerson Award in Agriculture for scholarship, character and leadership in a foreign undergraduate student.

#### CITED AS OUTSTANDING

Citations for Outstanding Performance in academics and an independent research project went to:

##### BIOLOGICAL SCIENCES

Jenny Chatfield  
Joshua DePaoli  
Lisa Gershman  
Lisa Higgins  
Maryam Jame  
Dat Lu  
Joline Shu  
Benny Tan  
Julie Mai Tran

##### Mari Ueno

##### EVOLUTION AND ECOLOGY

Marie Nydam  
Molly Pankey  
MICROBIOLOGY  
Alvin Yim  
Cathy Liu

##### PLANT BIOLOGY

Hsien Ming Easlon

Meghan McGinty  
Michelle Ramos-Curtis  
Biochemistry  
Deidre Golej  
Rebecca Shipman  
David Voong

##### BIOCHEMISTRY AND MOLECULAR BIOLOGY

Bradley Ashburn  
Mei-Lin Chen  
Moneer Eddin  
Milad Hakimbashi  
Nathan Kludt  
Kwan Lau  
Jordana Price  
Shadi Sharif

##### Ziqing Wang

CELL BIOLOGY  
Aaron Santos  
Mami Shindo

##### EXERCISE BIOLOGY

Jessica Holly  
Mikaela Holly  
Mohammed  
Mortazavi  
Sara Prudic  
Jeremy Ramsey

##### GENETICS

Lisa Beutler  
Kathryn Brisbin  
Daniel Chitwood

##### Kevin Coolidge

Ryan Gertz  
Amethyst Gillis  
Tejas Kalastavadi  
Brandon Kim  
Jennifer Lee  
Carrie Louie  
Anna Mayfield  
Angela Puey  
Byron Roberts  
Parmbir Sandhu  
Shannon Smith  
Sigrid Stoltmann  
Bethany Wienholz  
Jennifer Yao  
Erin Zumstein

##### NEUROBIOLOGY, PHYSIOLOGY & BEHAVIOR

Brooke Babineau  
Jyoti Bhat  
Yulia Davidov  
Sarah Goodell  
Julia Hamstra  
Jenin Lee  
Janine Low  
Michelle Pham  
Jason Slingerland  
Arielle Spitze  
Van Ta  
David Tellalian  
Izumi Toyoda  
Kristi Van Winden

## DIVISION OF BIOLOGICAL SCIENCES

### UNDERGRADUATE MAJORS

Biochemistry  
Biological Sciences  
Cell Biology  
Evolution and Ecology  
Exercise Biology  
Genetics  
Microbiology  
Neurobiology, Physiology, and Behavior  
Plant Biology

### GRADUATE PROGRAMS

Animal Behavior  
Biochemistry and Molecular Biology  
Biophysics  
Cell and Developmental Biology  
Exercise Science  
Genetics  
Microbiology  
Molecular, Cellular and Integrative  
Physiology (formerly Physiology)  
Neuroscience  
Plant Biology  
Population Biology

### SECTIONS

Evolution and Ecology  
Microbiology  
Molecular and Cellular Biology  
Neurobiology, Physiology, and Behavior  
Plant Biology

### UNIVERSITYWIDE AND CAMPUSWIDE PROGRAMS

UC Davis Biotechnology Program  
Center for Animal Behavior  
Center for Genetics and Development  
Center for Neuroscience  
Center for Population Biology  
Genome Center  
UC Biotechnology and Research Education Program

Published by the  
Division of Biological Sciences  
University of California  
One Shields Avenue  
Davis, CA 95616-8536  
Phone (530) 752-6764  
Fax (530) 752-2604  
<http://www.dbs.ucdavis.edu/>

Phyllis Wise, Dean  
Kathleen Holder, Manager of  
Communications  
Debra Cleveland, Editor,  
[dccleveland@ucdavis.edu](mailto:dccleveland@ucdavis.edu)

## ALUMNI NOTES

### REMEMBERING THE 50'S: COMMUTING IN A CLASSIC CAR

**Katsumi "Kats" Tokunaga** used to catch the eyes of his classmates in the early 1950s when he arrived on campus from Woodland each day in his 1929 Chevrolet sedan.

"I do remember all the students waving to me as I drove on the campus. This car, purchased for \$75, was certainly a novelty, with draw shades in all the side windows. This was all I could afford at that time; I was [attending] under the G.I. Bill of Rights. I do recall all the sincere friendliness of the fellow students and that is what I remember

the most. I truly enjoyed my two years there."

Tokunga, who previously attended Duluth Junior College in Minnesota, graduated from UC Davis in 1951 with a bachelor's degree in truck crops, a major that preceded plant biology. He went on to graduate studies at University of Minnesota, St. Paul, and a 50-year career in the life-insurance business. He recently retired. He and his and his wife, Grayce, live in Campbell. They have five children.

### 1965

**Harry W. Herr, B.A., Zoology.** After earning his medical degree at UC San Francisco, Herr completed an internship at the University of Southern California, a residency in urology at UC Irvine, and research and a clinical fellowship in urologic oncology at Memorial Sloan-Kettering Cancer Center in New York. Currently, Herr is director of bladder cancer research and attending surgeon at Sidney Kimmel Center for Prostate and Urologic Cancers at Sloan-Kettering, and professor of urology at Cornell University Medical College. He is collaborating in several studies with Ralph deVere White, professor of urology and director, UC Davis Cancer Center. "The four years at UC Davis were among the best of my life," says Herr.

### 1994

**Robert B. Lewis, B.S., Genetics,** has been a high school science teacher and cross-country coach since 1998. His wife and he just had triplets. "I

recall our parties at 903 Sycamore Lane. The Coffee House. The Paragon. I guess a lot of liquid refreshments. Of course, the education at Davis has been invaluable to me as a teacher and coach."

### 1988

**F. Jon Geske, B.S., Genetics,** received a Ph.D. from the University of Colorado Health Sciences Center in 2000 and is now working at ELISA Tech, a biotech company in Aurora, Colo. "I greatly enjoyed the courses in genetics, which were taught by a very impressive faculty. I also enjoyed my many friends met at Davis, and went on to marry one of them."

### 1999

**Nam V. Nguyen, B.S., Cell Biology.** "I worked in the biotech industry in South San Francisco for four years. Now I'm heading off to UC San Francisco for a Doctor of Pharmacy degree. Yeah!!! The friends I met at UC Davis, I will always remember."



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