# MCB Transcript

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**Newsletter for Members and Alumni of the Department of Molecular & Cell Biology at the University of California, Berkeley**


## Undergraduate Program Wins Accolades

For three years running, the university has recognized MCB professors for their outstanding efforts in undergraduate education. In May, Gary Firestone (CDB) and Caroline Kane (BMB) were each awarded one of the five 2002 College of Letters and Science Awards for Distinguished Research Mentoring of Undergraduates. Last year Caroline Bertozzi (BMB), who has a joint appointment with Chemistry, won the university's coveted Distinguished Teaching Award. And Nilabh Shastri (Immunology) won it the year before that.

MCB, it seems, is giving the lie to the conventional wisdom that a department can't be tops in research and teaching at the same time. Since recipients of the teaching and mentoring awards are chosen largely based on input from the undergraduate students themselves, MCB must have some very satisfied customers. What's the secret? It turns out it isn't any one thing but a combination of factors that are winning the recognition of the University and the appreciation of the students.

"If we excel at anything, it's giving students research experience," says Regan Ronayne, who supervises the MCB Undergraduate Affairs Office. This year 68% of MCB majors were doing research either in labs on campus or at other local institutions, including Lawrence Berkeley National Lab and Children's Hospital in Oakland.

Firestone, who is head of undergraduate affairs, has always been an ardent proponent of exposing undergraduates to research, in part because of his own experience "Doing research is one of the few things I remember from college," Firestone says. He calls it the biggest factor in his choice of career.

Firestone's award-winning mentoring works on a team model in which undergrads, grad students and postdocs collaborate on a project. Within 6 months even the most inexperienced members of a team are familiar enough with the techniques to design their own experiments and contribute actively to the project. Undergrads are no exception and co-author roughly half of the papers Firestone publishes. "They are independent members of the lab in all senses of the word," he says.

Promoting access to research opportunities has been one of Caroline Kane's top goals as well, and her efforts earned her two awards this spring. In addition to the mentoring award, she received a citation from the Academic Senate now known as the Henkin award. It was first given to math professor Leon Henkin in 2000 for his commitment to

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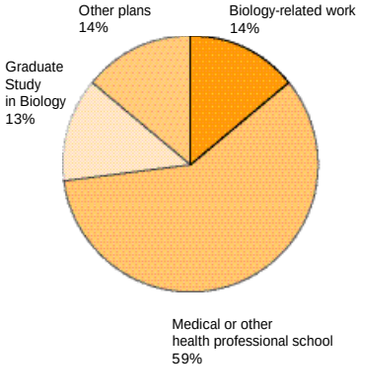
**Where do MCB graduates go?**

*The career goals of this year's 543 graduating seniors.*




## Sudden Oak Death Strikes Campus

A disease that has injured and killed trees up and down the Pacific Coast appears to have invaded the East Bay. Since Sudden Oak Death (SOD) was first confirmed on the Berkeley campus in November, it has been discovered in dozens of trees and shrubs on campus as well as in the world-renowned UC Botanical Garden.

"The Berkeley campus isn't an island, so if it's here, it's probably all around us." said Matteo Garbelotto, a forest pathologist in the College of Natural Resources and a leading researcher on Sudden Oak Death.

Last fall, Garbelotto noticed yellowed leaves on some California bay laurel *(Umbellularia californica)* and a California buckeye *(Aesculus californica)* on campus and confirmed the presence of Sudden Oak Death by PCR. A more complete survey

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*SOD has been detected in the browning needles of some campus redwoods.*

. . . *Continued from page 1*

students from groups underrepresented in math and science.

Many groups count as underrepresented in science, Kane says—students of color, Latino students, women, low-income students—and the projects she has taken on have sought ways to give a leg up to those with fewer role models and personal connections in the world of science.

In 1991, with a grant from the Howard Hughes Medical Institute, Kane, Corey Goodman and John Matsui set up the Biology Fellows Program, which awards competitive stipends to undergraduates, especially to students whose financial need would make such work difficult without pay. Since then she has taken on a number of other programs with related objectives. The Biology Scholars Program, begun in 1992 and directed by Matsui, provides academic support and guidance for students from underrepresented groups entering science. The Berkeley Transfer Consortium works with three community colleges to maximize students' chances of being accepted as transfers to UC. There are several others as well. Kane says she has only recently begun to say no to new projects for lack of time.

MCB also has a respectable number of Distinguished Teaching Award recipients. Shastri, who received one in 2000, is in some ways a traditionalist. He says he doesn't go in for whiteboards or PowerPoint, but keeps a small red pail of colored chalk in his office that he takes to every lecture. "Chalk is my tool," he says. Teaching runs in the family. His mother taught Hindi and his father Sanskrit in India, and although the subject matter is different, all teaching is the same, Shastri says. "The goal is to make students feel like they want to know, rather than just to give them a description."

One trick to doing this is to relate the material to daily life. Shastri once saw a bone marrow donor drive in Sproul plaza, so he worked a discussion of tissue compatibility into the class that day. He showed them why, for example, people of minority groups have a very limited pool of donors to draw on. "Then they could walk by the bone marrow donor drive themselves and think about it," he says.

Firestone, who was a 1995 DTA winner, says he structures his lectures with the principle aim of making science exciting. He avoids encyclopedic detail in hopes of instilling students with the desire to learn more. Often they get the chance right in class. "Students are a vital part of the classroom. I'd rather lecture a little less and let them ask questions," he says. Jasper Rine (1997) and Caroline Bertozzi (2001) have also won the teaching award.

Award or no, professors agree that good teaching would be impossible without the graduate students. As teaching assistants, they handle lab classes and discussion sections, and are generally in much more intimate settings with the students. Most were recently undergraduates, giving them insight into the challenges of learning biology that their charges face. "Most of the TAs really care and put a lot of effort into it," says Robert Beatty (Immunology). In fact, several of his TAs have told Beatty they chose Berkeley specifically because they wanted teaching exposure. MCB programs at many other universities do not offer grad students the chance to teach.

Despite all the great classes, no undergraduate would have an easy time navigating through Berkeley if it weren't for the Undergraduate Affairs Office. Students can be seen lining up outside the door of 2083 VLSB all semester long, particularly around registration time. All 1300 MCB majors are required to stop in for advising before they register, but any student with an interest in MCB is welcome. Ronayne and her staff of three counselors answer every question from "What can I do with this major?" to "How can I work in study abroad?"

*Distinguished Teaching Award winner Carolyn Bertozzi discusses biochemistry with a student.*

The UAO is also a place for students to turn when things go wrong—a crisis in the family that takes them away from their studies, for example. "We get involved in some pretty heavy stuff," says Ronayne. "They come to us with personal issues because they know we take an interest in them."

To some extent, the quality of MCB's undergraduate program comes down to the undergrads themselves. Every year at Cal Day, the university holds a campus-wide open house designed to attract the best and the brightest from California's high schools to Berkeley. Cal Day falls on the third Saturday in April, right between the time acceptance letters go out and the day prospective students must decide where to go.

David Presti (Neurobiology) and Beatty coordinated the MCB open house this year. They ran tours and laboratory demonstration all day. Around 300 visitors came to the MCB information session, and many more than that wandered through the lab classrooms in VLSB to see DNA in a tube or to try their hand at streaking out bacteria.

Part of the purpose, says Beatty, is to let them know that to be serious about the MCB major, they have to start taking prerequisites like calculus and chemistry in their first year. But it's also to help the students decide whether MCB is the right place for them. Both of the current undergrads who spoke to prospectives at Cal Day this year were students whose introduction to the department at Cal Day years ago clinched their choice of major, Beatty says.

Whatever draws students to the department, whether it's a great lab experience or a Shastri chalk talk, MCB remains one of the largest majors on campus. No one should be surprised if the awards keep rolling in.

*Robert Beatty delivers his MCB 150 lecture on vaccines, one of his favorite subjects.*

# Students Communicate Science

*Everyone needs their science news. For an alternative to the* New York Times Science Times, *try one of these offerings by graduate students in the department.*

## Berkeley Groks

You may have heard National Public Radio's *Science Friday,* but have you checked out Berkeley Groks? Every Wednesday at noon, UC Berkeley's beloved KALX takes a break from its eclectic musical fare to bring you this unusual look at the world of science. Your hosts are Charles Lee, an MCB graduate student in Jeffery Winer's lab, and Frank Ling, a graduate student in chemistry, who talk about science a little like Tom and Ray Magliozzi (the Tappet Brothers) talk about cars on another NPR show, *Car Talk.*

*Charles and Frank: the Tappet Brothers of Science.*

**Frank:** Did you know you could hook up a bottle of nail polish remover to your stereo and get cold fusion?

**Charles:** Uh, no.

**Frank:** Well it turns out you can, according to *Science* magazine.

Frank then launches into a description of the controversial paper published in *Science* in March that claimed to have produced a fusion reaction by sonicating acetone (*Science* **295**, 1868-1873)

**Charles:** How big is your brain?

**Frank:** I don't know, I haven't measured it. Not that big I guess.

**Charles:** Well you might be interested to know that…

Charles then describes a paper in *Nature Neuroscience* questioning the evolutionary link between brain size and intelligence (*Nat Neurosci* **5**, 272-276).

After they bat a few recent scientific findings around, they interview a guest expert on some science topic such as artificial intelligence and then answer the Question of the Week, which is usually something like "how do airplanes fly?" There are no big prizes, but you can e-mail your answer to them from the Groks web site: http://www.ocf.berkeley.edu/~clgroks/

What is a Grok? It's not really a thing, but a verb taken from Robert Heinlein's 1961 novel "Stranger in a Strange Land". To grok is to comprehend something deeply and thoroughly. Still, the temptation is to think of Charles and Frank as Groks themselves. Make up your own mind next Wednesday at noon. In the Bay Area you can get KALX at 90.7 FM, and elsewhere point your browser to http://kalx.berkeley.edu/ for streaming audio.

## Berkeley Science Review

The Berkeley Science Review started as an e-mail flurry 3 years ago. A group of graduate students in different science departments felt frustrated that there was no good way to keep up with all the first-rate science going on outside their own labs. Of course there are seminars all the time, but as Jessica Palmer, a 4th year student in Corey Goodman's lab and one of the original e-mailers, points out, seminars and papers are so rich in jargon that no one outside the field can be expected to figure out what is going on.

"Jargon may be essential to the work but it makes it hard for other people, even in the lab next door, to understand what you are doing," Palmer says.

It took nearly a year to assemble, but in spring 2001 the first issue of the BSR emerged. Its aim was to bring jargon-free science to the educated reader. It included a series of shorts on current campus research as well as features on the Berkeley Radiation Lab in wartime and the use of science in art.

Editor-in-Chief Eran Karmon, a grad student in biophysics, says the magazine was originally intended to be something like the UCLA Graduate Science Journal, a student-run journal of campus research. But the group soon realized that what they were really after was something anyone with an interest in science could read.

They soon discovered that starting a magazine from scratch is not easy. Among the many challenges were getting money, finding a printer, designing a layout, and coordinating the dozens of decisions that need to be made, from the type of paper to the resolution of the images. "We pretty much had no idea what was involved," Palmer says.

Perhaps the hardest thing was getting people to write, and getting them to write accessibly. Palmer and the other editors soon found that grad students who might be phenomenal researchers have had little experience writing for a general audience. To remedy that, the BSR has sponsored writing tutorials and organized frequent talks by local science writers. Guest speakers have included David Perlman, who has covered science for the *San Francisco Chronicle* for many years,


and Evelyn Strauss, a correspondent for *Science* magazine based in Santa Cruz.

These efforts have paid off. The second issue of the BSR (pictured) hit coffee rooms, library tables and student mailboxes all over campus in February. It has the look and feel of a real science magazine, complete with shorts, features, back page quotes, and, this time only, a photo of a naked physicist at the South Pole (with the pole marker strategically placed).

It even has full-color display advertising, a key ingredient in any unsubsidized publication that hopes to survive. At this point, all signs are that there will be a third issue. "We have it down to a system," says Palmer, "I think it can keep going."

http://sciencereview.berkeley.edu

# FACULTY NEWS

**Sharon Amacher** (G&D) was named a Pew Scholar for 2002. The Pew Scholars Program in Biomedical Sciences is run by the Center for the Health Professions of UCSF.

▲ **Carolyn Bertozzi** (BMB) will receive the Irving Sigal Young Investigator Award of the Protein Society at the society's August meeting in San Diego. She was also elected a Fellow of the AAAS (2001).

▲ **David Bilder** (CDB) received a career development award from the Searle Scholars Program, which recognizes exceptional young faculty in the biomedical sciences.

**Carlos Bustamante** (BMB) was elected to the National Academy of Sciences. He also received the 2002 Biological Physics Prize of the American Physical Society.

▲ **Jamie Cate** (BMB) and six co-authors received the Newcomb Cleveland Prize, awarded annually by the American Association for the Advancement of Science to the authors of an outstanding paper published in *Science*. The paper (Yusupov**,** M. M. *et al. Science* **292**, 883-896) described the structure of the ribosome to a resolution of 5.5 Ångstroms. Cate did the work while he was a postdoc in Harry Noller's Lab at UC Santa Cruz.

**Jennifer Doudna** (BMB), who moves to Berkeley in the Fall, was elected to the National Academy of Sciences. She was also promoted to Investigator in the Howard Hughes Medical Institute (HHMI) and elected to the Pomona College Board of Trustees.

**Michael Eisen** (G&D) was named a 2001 Pew Scholar in the Biomedical Sciences. He was also awarded the 2002 Benjamin Franklin Award for the promotion of freedom and openness in bioinformatics.

▲ **Gary Firestone** (CDB) was appointed Chair of the Beckman Foundation Scholars Program Executive Committee to start this July. He was also one of five Letters and Science professors to receive the 2002 Award for Distinguished Research Mentoring of Undergraduates (see cover story).

**Walter J. Freeman** (Neurobiology) received the Premió Calabria, a prestigious prize given for achievements in Literature, Journalism or Science by the Università "Mediterranea" di Reggio Calabria, Italy. The ceremony was held in Reggio across the Strait from Messina on January 11. The university cited Freeman's studies in nonlinear brain dynamics, particularly as exemplified in the Italian translation of his book, "How Brains Make Up Their Minds".

▲ **Donald Glaser** (Neurobiology) received an honorary Doctor of Science degree from the University of Michigan at its April commencement. Glaser taught physics at Michigan from 1949 to 1959, during which time he developed the bubble chamber, a particle detector for which he earned the Nobel Prize in Physics in 1960. He also gave the Grass Award Lecture on 29 April at the Krasnow Institute for Advanced Study of the George Mason University in Fairfax, Virginia.

▲ **Caroline Kane** (BMB) was one of five Letters and Science professors to receive the 2002 Award for Distinguished Research Mentoring of Undergraduates (see cover story).

Professor of Psychology **Robert T. Knight** has replaced **Corey Goodman** (Neurobiology) as director of the Helen Wills Neuroscience Institute (see cover story, Fall 2001 issue). Goodman began a leave of absence on September 1 to serve as CEO and President of Renovis, Inc., a neuroscience biotech company he helped found.

**Michael Marletta** (BMB) was elected a Fellow of the American Association for the Advancement of Science (AAAS) for his seminal work on nitric oxide signaling.

**Eva Nogales** (BMB) was elected to the council of the Biophysical Society. One of seven distinguished biophysicists elected, she will serve from 2002 to 2004.

▲ **Geoffrey Owen** (Neurobiology) has been appointed Dean of Biological Sciences in the College of Letters and Sciences effective July 1, 2002. At press time, Owen's successor as Chair of MCB had not been chosen.

**Edward Penhoet** (BMB) was elected to the Institute of Medicine of the National Academy of Sciences.

▲ **David Raulet** (Immunology) received the Cancer Research Institute's 2002 William B. Coley Award for Distinguished Research in Basic and Tumor Immunology. The award ceremony was held in New York City on May 15. More information at www.cancerresearch.org. He also received the CaP CURE award from the Association for the Cure of Cancer of the Prostate.

The American Society for Biochemistry and Molecular Biology has established the annual **Howard K. Schachman** Public Service Award. The first award was presented on April 22 to the Honorable John Edward Porter at the Annual Meeting of the Society in New Orleans. The former Congressman from Illinois was largely responsible for recent increases in financial support for the National Institutes of Health. Schachman has long been active in science policy matters, particularly with regard to rules on scientific misconduct.

▲ **Paola Timiras** (CDB) is the 2002 winner of the Academic Service-Learning Award for her campus-wide leadership in the advancement of service-learning at Berkeley.

▲ **Robert Tjian** (BMB) gave the 89th Faculty Research Lecture on April 3 in Wheeler Auditorium. Each year the Academic Senate selects two faculty members (only one prior to 1972) on the basis of distinguished scholarship in their field. Tjian's talk was entitled "Regulating Genes and Disease."

## Stanley Hall Replacement Project Moves Ahead

Two recent victories—one with the Berkeley City Council and the other at the Board of Regents—have allowed the university to move ahead with plans for the new biosciences and bioengineering building at the site of Stanley Hall (see cover story, Fall 2001 issue).

In February, the university avoided a threatened lawsuit when it hammered out an agreement with the Berkeley City Council. The city had raised questions about the environmental impact report for the the larger construction program, known as the Northeast Quadrant Science and Safety Projects, of which replacing the 47-year-old Stanley is part. Among the city's concerns were noise and the project's effect on traffic and parking near the intersection of Hearst Avenue and Gayley Road.

On March 14, the UC Regents approved a capital budget of $143 million to build the replacement facility. The money will come from a mix of private gifts and state funding, including some funds from Governor Davis's California Institutes for Science and Innovation.

Before demolition begins, the labs in Stanley Hall will be decanted (to use the administrative jargon) into several other buildings. The labs of Caroline Kane, Hiroshi Nikaido, Daniel Koshland, Jasper Rine, Qiang Zhou, Stuart Linn and Randy Schekman, and the peptide sequencing and synthesis facility of David King will move to Barker Hall as labs become available following completion of the seismic retrofit sometime this summer. Peter Deusberg's lab will move to Donner Hall. The other Stanley labs—Jack Kirsch, Howard Schachman, Susan Marqusee, Tom Alber, James Berger, Tracy Handel and Carlos Bustamante—will move to renovated space in Hildebrand Hall.

Stanley is scheduled to be empty by December, after which a several-month decomissioning process will begin before it is demolished in Spring 2003. The other northeast campus projects include replacing the old portion of Davis Hall, strengthening and refurbishing Cory Hall, the Naval Architecture Building and new Davis Hall, as well as adding parking spaces to the Lower Hearst parking structure.

[adapted from the *Berkeleyan*]

# STUDENT AWARDS

## GRADUATE AWARDS

- Åsa Engqvist-Goldstein (Drubin Lab) was one of seventeen graduate students from North America and Europe to receive the 2002 Harold M. Weintraub Graduate Student Award, sponsored by the Basic Sciences Division of the Fred Hutchinson Cancer Research Center in Seattle. The recipients, all advanced students at or near the completion of their studies in the biological sciences, participated in a scientific symposium on May 3d and 4th at the Hutch's South Lake Union campus in Seattle.

**Five current MCB students have received graduate fellowships from the National Science Foundation.**

*Entering class of 2000:*
- Erin Goley (Welch Lab)
- John Merlie (Hoffmeister Lab)
- Pamela Vanderzalm (Garriga Lab)

*Entering class of 2001:*
- Hunter Fraser (Eisen Lab)
- Catherine O'Connor (Collins Lab)

**The following graduate students who taught MCB courses were selected as this year's Outstanding Graduate Student Instructors:**

- Susan Schwab (Ames Lab)

- Deborah Moniot (Raulet Lab)
- Farzin Yaghmaie (Endocrinology student, Diamond Lab)
- Virginia Flanagin (ESPM student, Getz Lab)
- Shyam Laxminarayan (Endocrinology student, Nandi Lab)
- Scott Blitch (Microbiology student, Hofmeister Lab)

- Patrick McDonel (Meyer Lab)

- Elizabeth Shank (Marqusee Lab)

- Mark Voorhies (Handel Lab)

- Stephen Moyer (Botchan Lab)

- Ariel Krakowski (Luo Lab)
- Tinya Fleming (Garriga Lab)
- Chin Yee Loh (Meyer Lab)
- Jennifer Kerns (Health and Medical Sciences)
- Robert Froemke (Dan Lab)

## UNDERGRADUATE AWARDS

- *University Medal Finalist* – Geoffrey David Wool
- *MCB Departmental Citation* – Gloria A. Brar
- *MCB Outstanding Scholar* – Oliver Bemborn

### Division of Biochemistry and Molecular Biology

- *Division Citation* – Gene F. Kwan
- *Grace Fimogniari Memorial Prize* – Lawrence R. Shiow
- *Kazuo Gerald Yanaba & Ting Jung Memorial Prize* – Heather Michelle McGee
- *F. H. Carpenter Memorial Prize 2001* – Lawrence R. Shiow

### Division of Genetics and Development

- *Spencer W. Brown Award* – Sabrina Hom, Masoud F. Tavazoie
- *Edward M. Blount Award* – Gloria A. Brar

### Division of Immunology

- *Outstanding Undergraduate* – Andrew Spencer Phelps, Marcus Abraham Zachariah

### Divisions of Cell & Developmental Biology and Neurobiology

*Chaikoff Memorial Awards* –
- Emily Jia Chen
- Jennifer Ann Chen
- Lawrence L. Choy
- Angela Lee Gee
- David Henry Gire
- Janelle S. Lamberton
- John Davis Long II
- Lisa Janelle Turner
- William W. Tseng
- Maria Vaysberg
- Randy L. Wei

# CLASS NOTES

**Moving? Keep up with what's going on back at Cal by sending us your new address. Just send an e-mail to the Alumni Records office (alumrecs@dev.urel.berkeley.edu) and never miss an issue of the MCB Transcript.**

### BA 1992

- **Teresa J. Chan** is a 4th-year resident in General Surgery at UC Davis. She received her MD in 1998 from UC Irvine.
- **Peter S. Chin** is a 3rd-year neurology resident at the University of Washington in Seattle. He graduated from Dartmouth Medical School in 1999. Prior to that he was a research associate at the Gladstone Institute at UCSF. He says his classmate from Cal, Sumi Jayadev, is also a neurology resident at UW, although they hadn't met before. E-mail: petechin@u.washington.edu
- **Tommy Korn** has a private practice in Ophthalmology in San Diego and is an Assistant Clinical Professor in Ophthalmology at UCSD. He graduated from medical school at the University of Texas Southwestern in 1996 and completed a residency in ophthalmology at UCSD in 2000. Last year he did a fellowship in Cornea/Refractive Surgery at UCLA. He plans to travel to Thailand on a medical mission to perform cateract surgeries and lecture. E-mail: tskorn@hotmail.com

### BA 1996

- **Alan C. Cheng** finished his PhD in Biophysics at UCSF and started a job at Pfizer in Cambridge, Mass., at the beginning of this year as a Research Scientist in Molecular Informatics. E-mail: alanccheng@yahoo.com

### BA 1997

- **Kun H. Kim** is a second-year dental student at the University of Detroit Mercy School of Dentistry. She received her Master's of Public Health in 2000 from the University of Southern California. E-mail: khk910@hotmail.com

### BA 2001

- **Michelle D. Payne** is a graduate student at Texas A&M University's School of Rural Public Health (the only such school in the US). This summer she is working with the US Public Health Service at the Indian Health Service in Pierre, South Dakota. E-mail: paynemichelle@hotmail.com

## CLASS NOTES WANTS TO HEAR FROM YOU

Do you have a BA, MA, PhD in Molecular and Cell Biology from Berkeley? Have you recently changed jobs, schools, or countries? Have you had kids, climbed a mountain, cloned yourself, started a company or done anything else you'd like your classmates to hear about? Send us your class note for the next issue.

It's so easy. You can:

1. clip and mail this form
2. send e-mail to jonknight@nasw.org
3. or fill out the online form at http://mcb.berkeley.edu/alumni/survey.html

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*Oak Death continued from page 1 . . .*

turned up 34 infected trees and shrubs, including some at the Botanical Garden. Garden director Ellen Simms immediately stopped the distribution of plants and plant parts to scientists and arboretums and suspended the sale of plants to the public.

Among the trees testing positive were several coast redwoods (*Sequoia sempervirens*), which are of great symbolic and economic value to California. Tests are now underway to determine whether the disease can actually harm redwoods, or is merely an opportunist on sick branches.

In 1995 large numbers of tanoak (*Lithocarpus densiflorus*) and coast live oak (*Quercus agrifolia*) around the Bay began to succumb to an unknown disease. The first symptoms included a dark red sap oozing from the bark. Within 3 weeks the entire canopy would turn brown, earning the disease its name.

SOD has since spread throughout a 200-mile swath of coastal forest. In June, 2000, David Rizzo, a plant pathologist at the University of California at Davis, identified the culprit as a member of the genus *Phytophthora*, to which potato blight also belongs. Garbelotto then discovered that Rizzo's *Phytophthora* had only previously been found infecting rhododendron in Germany and the Netherlands. German scientists had given it the species name *ramorum*.

Other *Phytophthora* species have caused devastating epidemics. *P. cinnamomi*, for example, has reduced vast tracts of the Jarrah forest in Western Australia to grassland since its accidental introduction in the 1920s. That fungus spreads through the soil, and under

damp conditions kills many of the 1000 or so tree species it infects.

By contrast, *P. ramorum* has the alarming ability to spread through the air, which could allow it to move rapidly on the windy coast. One saving grace may be that, *P. ramorum* is less often lethal than its Australian cousin. While it usually kills oaks and sometimes rhododendron, in other species it causes only leaf spots or shoot dieback.

Efforts are underway in several East Bay cities, including Berkeley, to educate homeowners and gardeners about how to spot the disease and how to deal with it. On campus, arborists are treating oaks with copper sulfate, which Garbelotto has found helps prevent infection. So far there is no cure for SOD.

The campus is home to around 300 species of tree, with some individuals dating back to the 1870s. Nearly 1000 coast live oaks populate the campus, and so far they appear to have escaped infection.

*[taken in part from a story by Robert Sanders, Media Relations]*

**MCB Transcript**

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