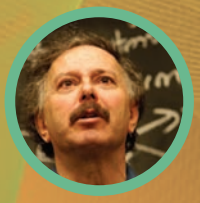
SPRING 2009

UNIVERSITY OF CALIFORNIA, BERKELEY

The Graduate

A Magazine for the Graduate Community



Making a World of Difference: Berkeley Goes Above and Beyond

DICK CORTÉN

Focus on Excellence

National Science Foundation (NSF) Graduate Research Fellowships (2007-2008)	
University of California, Berkeley	**363**
Stanford University	331
Massachusetts Institute of Technology	287
Harvard University	216
University of Michigan, Ann Arbor	98
Princeton University	92

Ford Foundation Diversity Fellowships (cumulative 1986-2008)	
University of California, Berkeley	**100**
University of Michigan, Ann Arbor	66
University of California, Los Angeles	65
Harvard University	46
University of Texas at Austin	45
Yale University	39
Stanford University	35

National Center for Environmental Research (NCER) Science to Achieve Results (STAR) Fellowships (cumulative 1995-2008)	
University of California, Berkeley	**74**
University of California, Davis	50.5
Stanford	43.5
Cornell	42
University of North Carolina at Chapel Hill	33
University of Wisconsin - Madison	32
Yale University	32

In the Beginning

From the University's beginning in 1868, graduate education was part of the plan. The first Berkeley Ph.D. was granted in 1885 to John Maxson Stillman, who became the first head of the chemistry department at Stanford. The first woman to receive a Ph.D. on campus was Millicent Washburn Shinn, in 1898, after filing a dissertation on the new field of child study. In 1909, the office of the Dean of the Graduate Division was established, having been provided for by the Regents in 1908. Before that time, graduate education was under the purview of the Academic Senate.

This year Graduate Division celebrates 100 years of service to the Berkeley campus, and as we look ahead, we're feeling youthful and optimistic. In many ways, we're at the top of our game. We're guiding the progress of more than 10,000 students enrolled in over 100 graduate programs, most of which are ranked among the best in the world. And, we're continuing to award the largest number of Ph.D.s in the nation, including the highest number of doctorates to underrepresented minorities in non-education fields.

We recognize that these are difficult times. Like everyone, the University is feeling budgetary pain. This places a high premium on efficiency, focusing on what you do best. For us, that means supporting excellence across the breadth and depth of academic disciplines at Berkeley.

Even in these challenging times we have managed to improve and expand our services and programs while becoming much more efficient and cost-effective.

Our graduate students, too, are focused on excellence—witness their ability to gain NSF, Ford, Fulbright, and other prestigious outside fellowships. At Berkeley, graduate students play essential roles: they assist in the teaching of undergraduates, and they work with faculty to perform vital research. We help them find the support they need to achieve their teaching and research goals.

The legacy of Berkeley, I believe, can be found in the career paths of our students, in the knowledge they carry forward and the impact they will have upon society. Graduate alumni have served as university presidents, governors, Congressional representatives, Supreme Court justices, and ambassadors, and have become global leaders in education, business, engineering, science, and the humanities. They include 18 Nobel laureates, 28 National Medal of Science recipients, and 36 winners of the MacArthur "genius" award.

Alumni and friends are also crucial partners in maintaining Berkeley's academic excellence. We are very grateful for the generosity they have shown during troubled times. Our alumni and friends have helped us reach one quarter of our fundraising goal for graduate fellowships in the Campaign for Berkeley.

During the past year, I have had the pleasure of getting to know a great many alumni as I've traveled to attend conferences and meetings at home and abroad. These events have been insightful, and also inspiring. Berkeley alumni are truly excited to hear about the latest research on campus. And I am thrilled to see the wonderfully creative ways they are employing their talents for the greater good!

I hope to see you at one of our upcoming events, and to learn more about your path to Berkeley and beyond.

— Andrew J. Szeri,
Graduate Division Dean

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http://www.grad.berkeley.edu

features

Grad Students and Alumni in the Spotlight

Have you noticed that we feature students and alumni on the Graduate Division homepage **www.grad.berkeley.edu**?

Labeled "Grad Spotlight" and "In Their Own Words" (depending), their headlines alternate graphically when you open the website, linking to individual stories. There's also an archive of spotlights, covering a wide range of fields, and new stories appear throughout the year. The current ones in rotation, each worth a look, are:

The Power of Berkeley: a Fulbright Scholar's career is shaped by the intellectual community he found on campus — **Richard Halkett,** MPP, Goldman School of Public Policy

How to Save a Life: the Darfur Stove Project — **Ashok Gadgil,** Ph.D., Physics and **Christina Galitsky,** M.S., Chemical Engineering

In the Center of the World: among presidents and scholars and all walks of life — **Edouard Servan-Schreiber,** Ph.D., Computer Science

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Harry Potter catches the magical Hogwarts Express on Platform 9¾ at King's Cross Railway, neighbor to the King's Cross Tube, where Claire Weldin is a wizard at redevelopment.

7

Dominique Kerouedan with her husband and son in Africa

16

PEG SKORPINSKI

Physicist Rich Muller reassures his students that "the electricity's going through my body to the ground, then back to the apparatus, and no, I'm not killed."

departments

Newsreel

by Lisa Harrington

GETTY IMAGES

And the Oscar goes to… Megan Mylan, who earned master's degrees in journalism and Latin American studies from Berkeley, accepted the golden statue for best short documentary in February. Her film *Smile Pinki* follows the story of a little girl from one of the poorest areas in India as her life is transformed when she receives free surgery through the charity Smile Train to correct a severe cleft lip. Mylan's award-winning films also include *Lost Boys of Sudan,* which helped raise awareness, volunteers, and over a million dollars for refugees in Darfur. Her next project is a documentary on race relations in Brazil. "Documentary, like all filmmaking, is a complete team sport," she noted, as she acknowledged her cinematographer Jon Shenk and her film crew, including field producer Nandini Rajwade, a Berkeley graduate student. She ended by thanking Pinki, now 8, "for letting me share your inspiring story." The little girl, her father, and the surgeon who performed the operation attended the Academy Awards with Mylan, who said, "I feel powerfully that the Oscar is rewarding their humanity as much as my filmmaking."

BILL SCWOB

Picturing Justice … Attorneys Layda Negrete and Roberto Hernandez are at the center of judicial reform in Mexico, using film to document injustices and drive a national movement. *El Túnel,* a documentary written and directed by Hernandez, fueled the passage in 2008 of an amendment to the Mexican constitution, providing basic due process rights. His film connects research they developed at Centro de Investigación y Docencia Económicas (Center for Teaching and Economic Research) with compelling real life stories. Now pursuing doctoral studies in public policy at the Goldman School, they've focused on the case of a street vendor who was convicted of first-degree murder despite an airtight alibi, appealed his case, and lost. Says Hernandez, "By the time we met, he was desperate." Supported in part with a grant from The William and Flora Hewlett Foundation, the self-described "lawyers with cameras" produced *Presumed Guilty,* a film that tells the vendor's story to illustrate overall how justice prevails or fails in Mexico. Their Berkeley training, says Negrete, makes them "feel much more competent to work in teams with social scientists…closer to understanding the chaotic Mexican institutions with something more than rhetoric and poetry." Their cause "To use cameras to rehabilitate Mexican Justice" can be found on Facebook (http://apps.facebook.com/causes/179629).

Making history… Larissa Kelly, a Berkeley doctoral candidate studying Latin American history, became the "winningest woman" on the game show *Jeopardy!* after six consecutive wins last May. Her demure demeanor and bold style of play drew considerable media attention, bloggers, and a legion of fans who created a Larissa Kelly page in Wikipedia. It turns out Kelly has a long history of winning academic contests—going back to high school in Newton, Massachusetts; at Princeton (where she met her husband Jeff Hoppes, also a Ph.D. candidate in history); and on the UC Berkeley Quiz Bowl team. In March, she returned to face 14 other Jeopardy winners in the "Tournament of Champions," breezing through the quarter-final and semi-final games. We followed her winning streak with a "Grad Spotlight" on the Graduate Division website (www.grad.berkeley.edu), where you can see her in action. Kelly's spotlight also set records, averaging 900 hits per day as she advanced to the final game.

COURTESY OF JEOPARDY PRODUCTIONS

Abandoned but not forgotten… A box of letters and war medals, stuffed animals, and sheets on the bed were a family's belongings that Rhyen Coombs found in an empty Vallejo home following foreclosure. "It looked like they had just left on a trip," says Coombs, who was there taking photographs for a classroom assignment on the recession. "I tried to capture the space and the things that were left behind in a way that illustrated who they were and what had mattered to them…." Her images of that day earned her the 2009 Dorothea Lange Fellowship. Coombs, a graduate student pursuing a master's degree in journalism, plans to use the fellowship's $4,000 grant to purchase a digital camera and other photographic tools to continue her project. "This is a hard subject to cover," she says. "I worry that we've seen so many headlines about it that we've stopped noticing." Just a few years ago Wendy Cheng, a graduate student in geography, received the same fellowship for her photographs of sprawling subdivisions, tract homes and McMansions, the American dream for some folks.

STEVE MCCONNELL

RHYEN COOMBS

PUBLIC HOUSE

London Calling

Claire Weldin, MArch, '98 Goes Underground at King's Cross Station

By Lisa Harrington

Claire Weldin took her master's degree in architecture to London a decade ago, "fascinated by the complex structure of cities: the multiplicity of urban experience and, underlying it, the presence of the past." Today, as an Associate with Allies and Morrison Architects, she is leading the £370 million phase 2 King's Cross Underground Station redevelopment.

Weldin feels very much at home across the pond, and has wanted to return ever since her first trip as an undergrad. "There's just something about London that gets under your skin, and I wanted an adventure."

Having an impact on 110,000 commuters during rush hour? Now that's the ticket!

London's Underground is the oldest subway system in the world; the first section opened around 1863. King's Cross is the oldest and busiest Underground station, serving more than 73,000 passengers who pass through it during the morning peak alone (07:00-10:00). This number is expected to rise to 110,000 or more during the London 2012 Olympic Games. The transformation of the station into a contemporary hub for international and domestic rail services began in 2001 and will be completed by 2010. Phase 1 refurbished the existing ticket hall and constructed a new "Western" one, opened to the public in 2006. In Phase 2, Weldin leads the design and construction of a new "Northern" ticket hall, new pedestrian tunnels to the Northern, Piccadilly and Victoria line platforms, and a fully accessible station, with step-free access to all London Underground lines.

Her to-do list includes passageways and background walls with mosaic tiling; hubs with stainless steel wall cladding; transition spaces; the Northern Ticket Hall with folded acoustic ceiling; and customer service areas with stainless steel wall linings. Not to be forgotten are surface and materials, graphic objects, and interactive public elements;

ARUP/ALLIES AND MORRISON

TRANSPORT FOR LONDON

"In the field of architecture, you learn over a great period of time — it's a lifelong pursuit. The Berkeley faculty completely realizes that — they're not out to create a mini-me. At 37, I'm just at the beginning."

customer information and signage; advertising space; access hatches and fire extinguishers; and back of house elements (doors, risers).

The hard-hat project also requires extensive monitoring and testing of work in the tunnels to ensure that buildings above, particularly those that are heritage listed, are not impacted adversely. Ventilation, too, must be addressed.

Previously an associate director at one of London's large commercial practices, Weldin has experience in complex, mixed-use projects. When employed by a small, design practice, she led the refurbishment of Cannon Street Station for Network Rail and also enjoyed working on hotels, "with their complex programmatic requirements and high expectations for a unique experience." Clients there included the Lowry Hotel in Manchester, the Baglioni Hotel in Kensington, the Ambassador's Hotel in Bloomsbury, and a new hotel at Nottingham University.

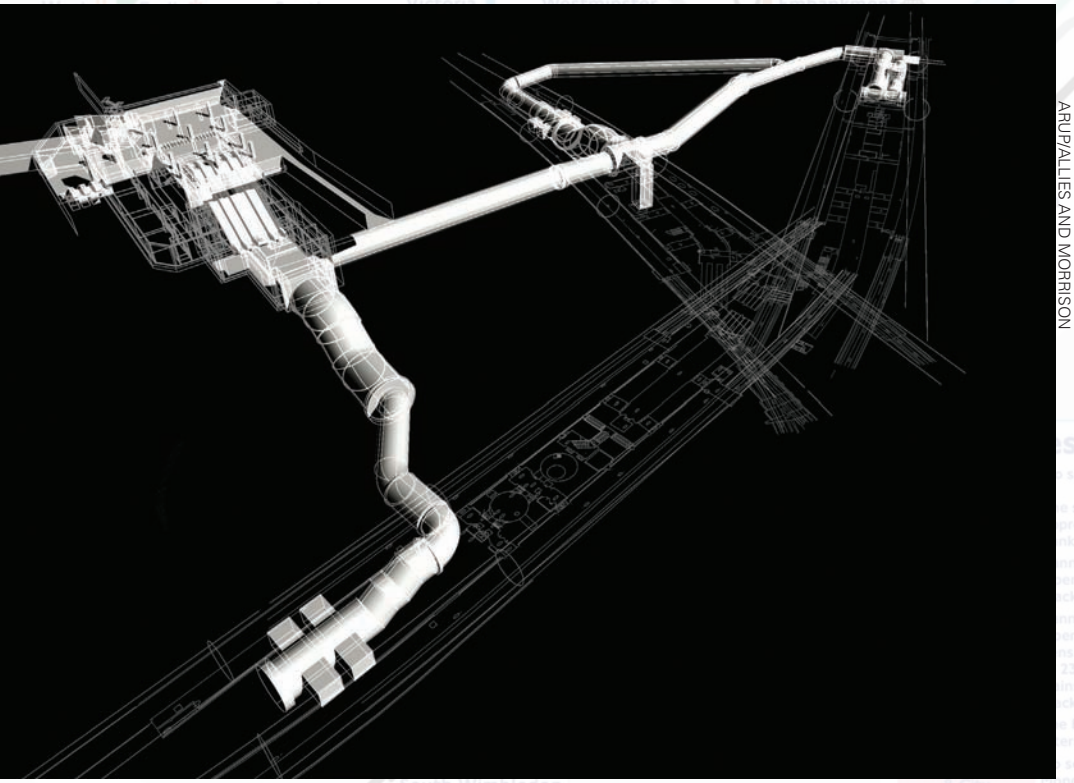
A native of Seattle, Weldin received her undergraduate education from Wellesley College and Wesleyan University. Her interest in architecture grew out of her concern with uncontrolled urban growth that she saw destroying the unique environment of the Pacific Northwest. She spent the year following graduation in Great Britain and South and Southeast Asia "studying at the urban morphology of historical and new towns."

Qualified to practice in both the US and the UK, Weldin has served on the board of the American Institute of Architects UK Chapter. Several years ago, she founded Public House, "a group of architects and other professionals in the built environment who enjoy collaborating on idea-led projects." In addition to being a member of the Royal Institute of British Architects, she's a Fellow of the Royal Society for the Encouragement of Arts, Manufactures, and Commerce (described as "achievers and influencers from an extraordinary range of backgrounds… committed to civic innovation and social progress").

She came to Berkeley for an architecture degree, she says, "wanting something different." As a grad student, she worked on site in the Bay Area and was especially interested in San Francisco's Chinatown, drawn to it because "it was urban, very dense, and had a lot going on."

Weldin says her Berkeley training has had a strong influence on her work so far. "Berkeley helps set your feet on the path," she explains. "In the field of architecture, you learn over a great period of time — it's a lifelong pursuit. The Berkeley faculty completely realizes that — they're not out to create a mini-me. At 37, I'm just at the beginning." ■

(Below) King's Cross Tunnels for the Northern Line, Picadilly, and Victoria routes. (Page 3) A rendering of the new Northern Ticket Hall.



ARUP/ALLIES AND MORRISON

LISA HARRINGTON

Above the Napa Valley

George Rubissow Pairs Science with Wine

By Lisa Harrington

While the spanakopita rests on the counter to cool, George Rubissow suggests a walk through the vineyards. He leads us to the picturesque front porch of his yellow farmhouse, its blue chairs surrounded by spring flowers that tumble downhill toward a breathtaking view of the Napa Valley. We follow him uphill past a small redwood grove to the sustainable vineyards, environmentally-friendly and planted to follow the contours of the property. This is Mount Veeder, an appellation famous for Cabernet Sauvignon, where for nearly a quarter of a century Rubissow and his partner-in-wine Tony Sargent have produced award-winning wines.

"It took three summers of looking at property from Mendocino to Livermore to finally settle on this site," says Rubissow. "It had the 'chateau' quality that I was looking for — distinctive, preferably isolated, and with a 'clos-like' atmosphere: cozy, somewhat closed in, but open for sun and air." His "chateau" was the yellow farmhouse, from the Gold Rush days and in great disrepair when Rubissow took ownership. The land surrounding it, however, was varied and beautiful, and "that was what counted," he says. It also came with "a splendid view of the Christian Brothers Monastery."

Rubissow was born in Paris, France to Russian and Ukrainian parents and grew up in New York City. As a young man he studied piano (at one time with Nadia Boulanger in Paris), composed music, and built radios and hi-fi systems. He graduated from MIT with degrees in physics and electrical engineering and years later came to Berkeley for a Ph.D. in biophysics. Since then, he's worked in science, engineering, and international business, and along the way he became a winemaker. André Tchelistcheff, a seminal figure in California wine history, with whom he enjoyed conversing in Russian, was "a wonderful mentor and very patient." We visited Rubissow (who divides his time between Paris, New York, and San Francisco) at the family's Napa estate in February.

Why did you choose Berkeley for your graduate program?
I wanted to improve my knowledge of medical instrumentation, and Berkeley was by far the best school, with very high standards and an interesting program in biophysics. Before I undertook the doctoral program, I was a consulting engineer specializing in hard-to-tackle problems. Among my projects was some extensive work in biotelemetry in a group headed by R. Stuart MacKay, a professor of electrical engineering at Berkeley. He was instrumental in my decision to pursue higher education at Cal. Professor Mackay guided my research and provided support. We gave seminars on biomedical telemetry all over the world together.

Did you work closely with other professors?
Yes. Professor Howard Mel was an inspiring mentor with a broad scientific and cultural background; he also enlarged my appreciation of wine and winemaking. Professor Nello Pace set an excellent example of how to conduct and administer scientific work at the Environmental Physiology Laboratory. Professor Hardin Jones was a great help in structuring my curriculum and finding some funding for my studies.

What was particularly memorable about the Berkeley campus during your graduate years?
Its beauty, the mix of students, and excellent teachers. Living in the Berkeley Hills afforded great "walk out the door" hikes as respites from the hard work. Carillon concerts from Sather Tower, every day at noon. Magnificent performances at Zellerbach and Hertz halls. The opening of the fabulous art museum. Incredibly exciting lectures on basic organic chemistry by Professor Calvin. The Vietnam Peace Movement, the Free Speech Movement, and frequent tear gas confrontations, which on one occasion were so irritating and toxic that I had to move the guinea

(Above) The monastery below the Rubissow property; (Previous page) George Rubissow stands knee-deep in mustard next to his Cabernet vines.

pigs from experiments I was conducting (on diving and the bends) into special clean air chambers to protect them.

How has your graduate degree helped you?
Initially it opened doors to the scientific and research community, but the amazing thing is that it opened doors in almost all of my activities. It sharpened my ability to grasp, analyze, and act upon complex situations and problems. The doctoral degree commands respect and attention from people normally difficult to reach, and UC Berkeley is recognized worldwide. It also provided me with great insight and confidence.

Tell us how your path turned toward winemaking.
Many factors moved me to go into wine growing. First, good wine was precious and rare. Second, since childhood when I planted radishes and marigolds and to my astonishment they provided a bountiful harvest, I have loved growing things. Third, I appreciate excellence, whether in science, art, music, or agriculture. And wine growing is the quintessence of the agricultural art.

How did you get started?
I picked grapes for Dr. Tony Sargent, a senior researcher at Donner Lab. At first we picked second-crop grapes, which were free, and we made so-so wines. Gradually, we got better grapes, first pickings, and we began winning silver and gold medals for the homemade wine. Then, when I was living in Paris and working in international business, Tony came there on sabbatical leave, and just before he headed back to Berkeley we met in the historic cellars below where he'd been living to taste some wines. One step led to another, perhaps one sip to another, and soon we were shaking hands, having decided to form a winemaking business together. I would grow the grapes, and he would make the wine. Our goal was to make the best Bordeaux-style wines in the Napa Valley. So we formed the Rubissow-Sargent Wine Company, which is now in the hands of my son Peter and daughter Ariel as Rubissow Family Wines.

How is the mountain important in producing Cabernet Sauvignon?
Mountain vineyards produce higher quality, more intense fruit. They produce less of it and are much more work. When Tony and I got started, because we were biophysicists with biology, engineering, and physics training, we thought we could automate the work, but Mother Nature is much more complicated.

What advice would you give to current graduate students?
Be fiercely passionate about what you aspire to be. Do something that is good. And take some business courses that may help you survive. ■

PHOTOS BY LISA HARRINGTON

Between Africa, Asia and the European Union

My work in International Public Health

By Dominique Kerouedan, MD, MPH, PhD

It's very hot outside, the sun is burning, and the light is violent at noon. I walk alongside my sister on an earthy red path through sugar cane fields, on our way home from school. We are thirsty; the sugar cane is refreshing and delicious. This is Africa. This is Bouaké in the early 1960s when it still is in the middle of nowhere, a big village in the bush. Côte d'Ivoire has just become independent from France's colonial powers. My sister is 4 and I am 3 years old. Our brother is not yet born, but he will come soon, after we arrive in Dakar, where we will spend a few years too. I love going to school.

This is my first childhood memory of Africa. Ever since, I have felt I belong to this continent and am so happy each time I land there to work with colleagues, putting our efforts and energy together to improve people's lives, their health and human rights, in a place where economics and politics are driven by the interests of wealthy leaders and nations.

I was fortunate to have completed my medical studies at one of Paris's best medical schools, despite some unexpected challenges. After I began my studies, I was confronted with the dreadful suicide of my father. Following his death, I worked much harder to finance my studies. I wanted to specialize in Tropical Infectious Diseases, to travel around the world, discover other people, and feel useful to those who might need me.

On a leave during my internship, I spent two years in delicate humanitarian situations with "French Doctors" NGOs. Once, when working in southwest Colombia, I was evacuated by the Colombian Army from M19 and FARC guerrilla-occupied zones during a civil war in Cauca. I later served as a medical doctor in an Afghan refugee camp close to Quetta in the Baluchistan desert of southwest Pakistan, in 1986, when the Russian troops occupied Afghanistan. I recall sharing wonderful time with refugee children who came with their mothers to the dispensary on their days off from the Koranic schools. This camp was close to Pakistan's border, not far from Kandahar. Many of these children, I imagine, became the Taliban…

Next, I worked in Karen refugee camps in northwest Thailand, providing care to Burmese refugees along the Salween River. As we vaccinated and treated their mothers and younger brothers and sisters, child soldiers stood with Kalashnikov rifles in the jungle all along the river on the

PHOTOS COURTESY OF DOMINIQUE KEROUEDAN

"The years at Berkeley were among the best times of our lives . . . The Berkeley courses were great and prepared us for our careers in international health."

Burmese side. It seemed as if no one in the world cared about them.

Returning to France in 1987, I met my husband, Thierry, a pediatrician who was planning a clandestine medical mission to the Panjshir Province in Afghanistan, at the request of Commander Ahmad Shah Massoud through an NGO in Paris, Aide Médicale Internationale. Thierry spent almost six months in Afghanistan monitoring health medics trained in Peshawar. He reached villages by walking at night to avoid stingers that targeted the Russian army's helicopters. We met again in Paris and decided to finish our internships before moving around the world together. I was very interested in the work conducted by the Medical Commission of Amnesty International in Paris. In 1988 the office had organized a world conference on the involvement of health professionals in torture and death penalty procedures. We invited MDs from Pakistan, Brazil, Argentina, South Africa, Mauritania, and other places who testified about their situations. I wrote my thesis on their experience and how to prevent this from happening again. I studied law to better understand how the sovereignty of nations could be such an obstacle to protecting people from human rights violations. There has been slow but significant changes with respect to this in the world over the last 20 years.

At that time, HIV/AIDS was spreading rapidly throughout Haiti and the West Indies, as well as Central Africa. I spent my internship conducting epidemiology research on HIV/AIDS mother-to-child transmission in Africa and the Caribbean. I also gave birth to our first son, Theo, who was born at Christmas in Paris!

Thierry and I knew that we wanted to specialize in Public Health, so we chose Berkeley's School of Public Health. It was a great decision. The years at Berkeley were among the best times of our lives together. The place was just lovely, and everything was perfect for our son, too. He enjoyed the childcare center and learned English quickly; he was one year and a half when we arrived; his first word was "cookie!" We carried him all over Berkeley on our bikes. He loved to watch the squirrels as they ran all over the lawns and trees on campus and listening to the carillon.

The Berkeley courses were great and prepared us for our careers in international health. I especially enjoyed working on the technical and policy aspects of health and development, through relevant case studies and publications shared by my professors Dan Perlman and Nap Hosang. Thierry loved James Robinson's course on Health Economics and our Professor Art Reingold was a delight! I still remember examples he gave which suddenly made Epidemiology seem so easy. We learned from the faculty and also from other students we met in class or at our professors' homes. We were invited to evening potlucks, and for the first time in our academic lives, we found professors who believed in us. Their doors were open, which was so different from our student years in Paris. Today we still enjoy so much spending time with our friends from Berkeley, Cheryl living in Kenya, and Giorgio in San Francisco, who is our second son's godfather!

Berkeley impacted us for life. The university name seems to be a kind of a global password: a degree from Berkeley helps so much in the job market. The name also gives you credibility and legitimacy in the professional world, as does your field experience. If you have studied at Berkeley, you find that you belong to the international community, you have a voice in decision-making, you are listened to, which is key in the field of public health.

After Berkeley, Thierry and I were hired by the French Government Technical Cooperation to provide technical support for almost six years to health authorities at national and regional levels in Côte d'Ivoire. We also managed the funding for joint European

Commission-French Government projects in Madagascar. In Côte d'Ivoire, we had two more sons, Johann and Gaëtan.

In Africa our work has been both fascinating and difficult. There I served as an adviser to the National AIDS Control Programme Director in Côte d'Ivoire. In Abidjan, I saw young men, women, and babies who were dying of AIDS. My colleagues and I have felt so frustrated having to implement such unadopted international strategies against HIV/AIDS. I wrote my PhD dissertation on ten years of failure of HIV/AIDS international strategies in Africa and published an article two years ago on "20 years of the failure of HIV/AIDS strategies in Africa"…unfortunately. I am now involved at the Global Fund level and do believe that public-private partnerships involving civil society and universities and the private sector, are definitely the right way to go. I have also served the regional director of the poorest region of Tulear in rural southwest Madagascar, where I found mothers who didn't know whether they were going to be able to feed their children on any given day and couldn't afford to seek hospital care when confronted by emergencies.

In 2001, Thierry passed a competitive examination to enter the European Commission and was posted to Brussels. After almost 15 years abroad, we were returning to Europe. To keep our family together, I became an independent short-term expert. Over the past eight years, I have learned so much in providing technical support and evaluating international agencies' support to health sector development in the Caribbean, Algeria, Eritrea, Mali, Senegal, and Niger, and other places. I've also done policy evaluations of France and the European Commission involvement, as well as contributed to the fascinating work of the Global Fund against HIV/AIDS, TB and Malaria 5-year Technical Evaluation Reference Group. Thierry is currently Geographic

PHOTOS COURTESY OF DOMINIQUE KEROUEDAN

(Above) At the National Aids Control Programme (NACP) in Abidjan, Côte d'Ivoire with France's First Lady Danielle Mitterrand. (Opposite page) In Pakistan, with children from an Afghan refugee camp. (On page 7) Thierry and me with our three sons in Mexico.

Coordinator and Administrator of the European Development Fund to 16 West African countries.

Our thoughts often return to Berkeley and how it continues to shape our work. While I was working with a French Parliamentary committee evaluating France's contribution to the implementation of health MDGs, I discovered that the men in our Foreign Ministry Administration knew little about health and, worse, showed little interest. I decided to sensitize them before they became civil servants and diplomats, and so on. At Sciences Po in Paris, I founded a course called "Health and Politics in North-South Relations," an elective in the Master of Internal Affairs or the Master in Public Affairs. My students love the course because it's about real life, because providing health care is so much about politics. My teaching methods are inspired by my studies at Berkeley. Believe it or not, Berkeley-like comprehensive international public health studies still don't exist in France. In an effort to bring change, I am in touch with the Director of the Ecole des Hautes Etudes en Santé Publique, recently founded in Paris, to suggest developing an International Health Department and training, especially in the field of history, management, and evaluation of international health and development strategies and policies.

Last Christmas, our son Theo turned 20 years old. He is now studying Law at King's College, enjoying so much his life in the U.K. He's particularly interested in International Public Law, Human Rights Law and European Law. His brothers Johann and Gaëtan, are at the European School in Brussels, learning as much from students from all of the European Union Member States as from their teachers! My children miss Africa, and probably will go back… ■

Fire in Space

A Berkeley Lab Group is Focused on How to Prevent Disasters

By Nancy Bronstein

Reno native and triathlete Sara McAllister has a lot going for her these days. The newly minted Berkeley mechanical engineering Ph.D. and current post-doc not only successfully participated in some 16 triathlons–including a grueling half-Iron Man Aqua-bike race, she also recently appeared on the History Channel series "The Universe," published 13 academic papers on her NASA-funded research, and taught an upper level undergraduate "Fundamentals of Combustion" ME 140 class, which she called "a unique and eye-opening experience."

For the last two-and-a-half years, McAllister has been the lead graduate student in the NASA-funded UC Berkeley Microgravity Combustion Processes Lab in Hesse Hall, an ongoing collaboration between NASA, Berkeley mechanical engineering professor and associate dean of the Graduate Division Carlos Fernandez-Pello, and his team of graduate students — this year, five of them women.

Following President Bush's January 2004 directive to complete the International Space Station, develop a new manned space exploration vehicle, and return to the moon "as the launching point for missions beyond," the Berkeley team was tasked with building an experimental apparatus to test the flammability of materials in space environments. It's one piece of a focused effort to reevaluate existing parameters and generate data that could lead to a new set of guidelines for preventing fires in space in next-generation spacecraft.

For years it was widely assumed that fires in space would naturally suffocate themselves due to the lack of buoyant air currents in the absence of gravity. "But that's not always the case," says Professor Fernandez-Pello. "We now know that combustible materials flame up more easily in a spacecraft environment." Hot air does not rise in space, so the air around a piece of smoldering material stays put, insulating it, and causing it to heat up. What's more, the low-velocity air from an air conditioner on a spacecraft helps fan these flames.

It adds up to this, says McAllister: Where there's a high concentration of oxygen [so astronauts can breathe] and low air flow, materials are even more flammable.

The danger of fires in space has long been on NASA's radar. There were the near misses aboard the Mir space station in 1997 when a faulty oxygen supply ignited, endangering the six-man crew, and aboard Apollo 13 in 1970 when an oxygen tank exploded. But the 1967 fire in the command module of Apollo I during a test and training exercise, which killed all three astronauts, was perhaps the greatest fire mishap in NASA's history. It's widely believed that among the many factors contributing to the disaster was the 100 percent oxygen used for the test (we breathe 21 percent oxygen at sea level), and the presence of flammable materials — some of them unexpected culprits, like Velcro — in the cockpit.

Space fires may begin when electrical cables, circuit boards, or combustible materials overheat and begin smoldering. "Smoldering is a weak process," says the professor. "It can go undetected for a long time, but once smoldering materials reach elevated temperatures

and receive additional oxygen, they suddenly flare up. Yet, past understanding of smoldering is based almost entirely on how it behaves in normal gravity."

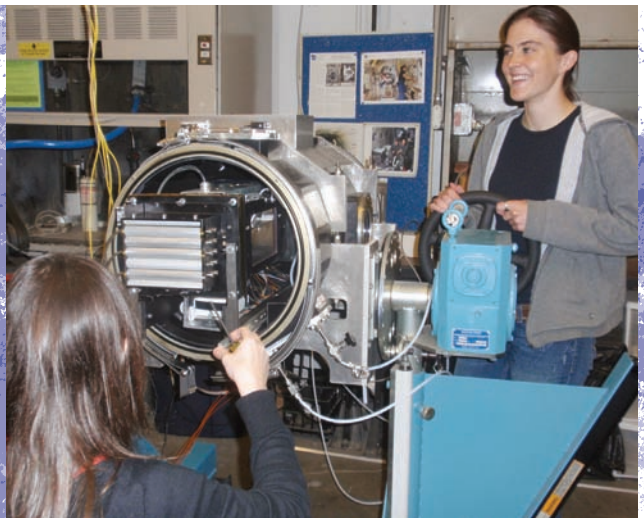
So, Fernandez-Pello's question was how to design and run a set of experiments in a near-zero gravity environment without stepping too far outside Earth's comfortable atmosphere.

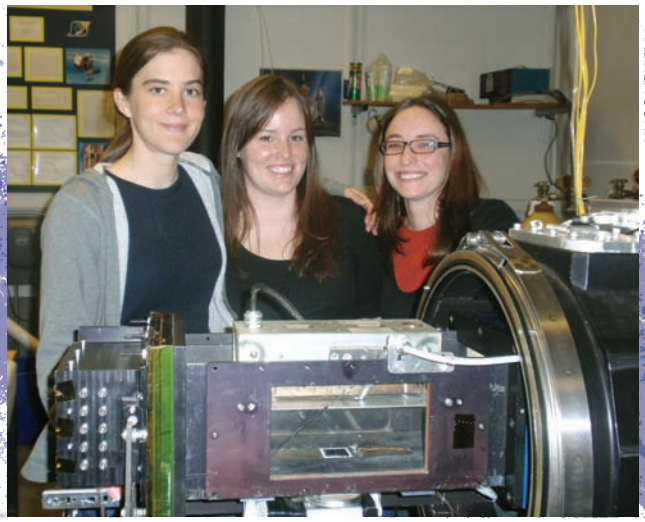
Film director Ron Howard solved it for Apollo 13, and so did Professor Fernandez-Pello, aboard the NASA-owned KC-135 aircraft based at Ellington Field in Houston, used to train astronauts. The fifth such craft since NASA began flying microgravity missions in 1959, the KC-135 is a big plane, the military version of a Boeing 707. NASA calls it the "Weightless Wonder," but it's better known as the "Vomit Comet." Its flight trajectory follows a series of parabolic loops, unusual for such a bulky aircraft, ascending to 30,000 feet before freefalling to level off before the next steep climb. At the top of the loop, passengers experience a 30-second burst of weightlessness, barely enough time, in the Berkeley flammability team's case, to run an experiment and grab their data. Then up it goes again, 10 times in a row, 40 loops in a day's work, plastic baggies at the ready.

These onboard experiments worked well enough, but were costly and had to be complemented with supporting experiments on the ground that allowed for adequate time to take accurate measurements. NASA had already built a mock-up of a vessel capable of holding a vacuum to conduct combustion experiments in the Space Station. It was there that the Berkeley team would start.

McAllister took charge of the new equipment setup at the heart of this round of experiments, the so-called FIST — Forced Ignition and Flame Spread Test — apparatus. One FIST apparatus already existed, equipped with a small-scale wind tunnel where combustible materials are exposed to heat in differing air flow velocities. The new FIST apparatus to be set up by McAllister would be a pressure chamber able to hold a vacuum to perform experiments in varying atmospheric pressure.

"I spent a lot of time planning and thinking things through for the FIST pressure chamber, figuring out how to get a power plug inside a chamber when you have to have it completely sealed off," says McAllister, who is entirely comfortable building and fixing complicated devices, a legacy of long hours spent with her father learning to adjust the valves and change the link pins in the front end of her VW bug. "It hadn't been done before, so nobody knew how to do it and one of us had to sit down and figure it out. You have to learn how to do it the hard way, building it from the ground up. It was my struggle and Professor Fernandez-Pello let me struggle with it, and I'm grateful for that. If he had stepped in, I wouldn't have learned how to do it. And since I created the setup, if something broke or went wrong, I knew how to fix it."





ANDREA SOHN

Sara McAllister, Sarah Scott and Sonia Fereres with the Forced Ignition and Flame Spread Test (FIST) apparatus.

The challenge McAllister faced was to fit the original FIST combustion wind tunnel, initially designed for the International Space Station, into the pressure chamber and incorporate piping for oxygen and nitrogen intake and instrumentation wiring to conduct the flammability experiments, all this while keeping the chamber completely sealed off and capable of holding a vacuum.

M.S. student Sarah Scott, also part of the flammability team, machined several of the metal structures in the apparatus, including heater mounts, sample holders, and the fire suppression system. "Sara and I would discuss what needed to be held or mounted and I'd think about the holds and the space allowed and what would be the most efficient way to go about making it, and

then I'd scrounge around the lab for metals and make it at the machine shop."

"The result is an innovative, finely tuned experimental apparatus that is the first of its kind," says Fernandez-Pello. "It's relatively easy to use and capable of providing interesting data on the flammability of materials in low pressure and varied oxygen-concentration environments."

The beauty of the FIST pressure chamber is that it allows the team to simulate the space exploration atmosphere to test flammability of materials in near-space conditions, dovetailing neatly with NASA's longstanding plan to retire the aging Space Shuttle next year. Work on its replacement vehicle, the "Constellation," is ongoing and will include new parameters set for the craft's interior atmosphere.

While current spacecraft operate at sea-level conditions, and the Apollo missions used low cabin pressure (34 percent of the pressure at sea level) and 100 percent pure oxygen, next-generation spacecraft, including the Constellation, have settled on what engineers now call the Space Exploration Atmosphere: 30 to 32 percent oxygen with air pressure more like Denver's, but somewhat higher than that used for the Apollo missions. It's with the exploration atmosphere, chosen as a compromise between astronaut comfort and material flammability, where Fernandez-Pello's students, including Sara McAllister, Sarah Scott, and Sonia Fereres have worked in sync with NASA's schedule.

"With the pressure chamber, we have the flexibility of changing the ambient atmosphere conditions when we're running tests, increasing or decreasing nitrogen or oxygen as we need to, raising or lowering air pressure to test how flammable the materials are," says doctoral student Sonia Fereres, a native of Spain. "This device gives us the first indicator of how easily a material would ignite aboard a future spacecraft."

Current experiments in the lab are now focused on polymers, such as polypropylene-glass composites, Plexiglas, and other plastics used in the transportation industry. Plexiglas, or PMMA, short for its cumbersome chemical name, is the material they've worked on most recently. "It's what we use to test the flammability of solid fuels in Space Exploration Atmosphere," says Fereres. "We know how PMMA ignites in a normal atmosphere when heated; now we want to know how it will ignite in a low-pressure, high-oxygen atmosphere when exposed to high heat."

To quantify PMMA's flammability, the team measures the time it takes from the moment you start heating a sample until it ignites, as well as the ignition temperature, this in varying atmospheres, according to McAllister. "We're trying to isolate the effects of a low pressure and increased oxygen environment, like the one you'd find in a next-generation's spacecraft's interior."

"The beauty of the FIST pressure chamber is that it allows the team to simulate the space exploration atmosphere to test flammability of materials in near-space conditions . . ."

After two years of experiments, McAllister's results were striking, even unexpected: that the time for ignition was decreased by as much as 27 percent in an exploration atmosphere. Reduce air pressure, increase oxygen concentration, and ignition occurs more quickly.

"Before we did the experiments, we actually had a bet going in the lab. Some, including myself and Carlos, thought that the ignition time would increase because chemical reactions slow down as you reduce the pressure. But solid ignition is a pretty complicated event and there was a lot more going on than just the chemistry."

McAllister leaves the Berkeley lab this spring, more than satisfied with her Berkeley experience. "I started out in heat-transfer for my M.A., but my interests were always in combustion," says McAllister, who, on hiking trips, is the one looking at the camping stove to figure out the combustion process there. "So when there was an opening at the FIST lab, I took it. It was a natural extension of working on cars for me to get into combustion. The research in Carlos' lab is great. It's experimental work, which I'm totally committed to doing. It's hands on, fixing things, touching things. I can't imagine

Photo on page 12, top row (left to right): Sarah Scott and Amanda Dodd; middle row: Michelle Ma, Professor Carlos Fernandez-Pello and Sonia Fereres; bottom row: Janice Lai and Sara McAllister.

working on a computer all day. And it's so great to be able to say my project is funded by NASA."

The flammability team will press on with their experiments, branching out from McAllister's ease-of-ignition research, to work on ways to quantify how solid fuels burn, flames spread, the flammability of fabrics used in space suits, and materials' toxicity. As always, they'll maintain their monthly contact with NASA scientists and engineers, discussing test results, submitting reports, planning future experiments, their ongoing work adding to the massive data NASA is gathering for future missions.

"We know that a fire in space does not have to be large to have dire consequences," says Fernandez-Pello. "Our objective is to help NASA assess the hazard of fires in space, and to provide them with information to screen and rank materials' flammability to help NASA decide which materials they can allow onboard a spacecraft." ■

For a short film clip from the History Channel featuring Sara McAllister and Professor Fernandez-Pello, visit "The Universe: Deep Space Disasters" at www.youtube.com/watch?v=m2A-JHjfcZ8&feature=related.

A Letter to Obama

Women in Academia and the New President

A month before President Barack Obama took the oath of office as President, former dean of the Graduate Division Mary Ann Mason wrote him a letter, published in her *"Balancing Act"* column in the Chronicle of Higher Education. While congratulating him on his stunning victory, she reminded him that the enthusiastic support he received from women, particularly young college-age women who voted for him in huge numbers, helped bring him to Washington. "You depended on them to win, and now they are counting on you," she wrote. She went on to point out that in most universities, far less than half of the tenure track faculty members are women, and in some physical science departments, the number is in the single digits."

While five of the six mechanical engineering graduate students in Professor Carlos Fernandez-Pello's Microgravity Combustion Lab this year are women, what we should make of those numbers is uncertain. Some Berkeley mechanical engineering students posed the same question. "What's up with your lab?" they recently asked Berkeley doctoral student Sonia Fereres. "There are so many girls there."

There's definitely a higher proportion of women in this lab "than any other lab that I know of in our field," says Fereres, a graduate of the Polytechnic University of Madrid, School of Aeronautical Engineering. "When I looked at working in a lab, I checked to see if there were other women there. In other labs, the ratio of women is smaller. For incoming students, it gives the impression there are a lot of women who are comfortable here. It was another plus for working in this lab."

Whether or not their numbers continue to grow remains to be seen. And how they measure their own comfort level in traditionally-male fields varies from one student to the next. Here's what some of them had to say:

"I've been lucky because I haven't gotten too much special treatment for being a girl."

"When I worked on the Super Mileage Vehicle, I never acted feminine. It's just easier to become one of the boys and integrate into their society."

"It's funny to tell people I have a Ph.D. in engineering, but then they see that I'm a normal person after all."

"Times are changing. Guys of my generation are comfortable with girls in their current role."

In 1876, Elizabeth Bragg became the first woman to earn an engineering degree at Berkeley. It took almost a century, however, before the first woman joined the College of Engineering faculty. Today, women make up thirteen percent of the engineering faculty. Recent numbers, reported by Berkeley's College of Engineering, for the most part mirror or exceed the national numbers: 21.7 percent of the total number of engineering students are women — up from 1.2 percent in 1973. When compared with the campus-wide numbers — 51.5 percent of all Berkeley students are women — the discrepancy speaks for itself.

Most recently, it was Berkeley's bioengineering department that drew the highest number of women engineers; 37.6 percent of their undergrads and 40.5 percent of their graduate students are women. But despite the unusual gender balance in Professor Fernandez-Pello's ▶

lab this year, mechanical engineering reports much lower numbers: 13.8 percent of the undergraduate majors and 21.1 percent of their graduate students are women.

An article in the New York Times' Science Times by Natalie Angier in late January wrote of President Obama's enthusiasm and commitment to science, underscoring those who are saying that "now is the time to tackle a chronic conundrum." But how to attract more women into the fold and keep them once they are, she writes, is the key question.

This is where Mary Ann Mason — now professor and co-director of the Berkeley Law Center on Health, Economics & Family Security — has focused her research.

"There are more women in engineering now, but the numbers are still small and the pipeline effect is still similar," she points out. "The huge cultural effect shows up when women have children while they are graduate students. When a student has a child, it's often perceived that they're treated differently. They don't go to conferences because there's no child care.... Taking time out for a couple of years, even six months, can be the whole life in the competitive world of science.... Reentering can be brutal. Less than half of the women who earn Ph.D.s in engineering, math, and the sciences continue through to positions in academic research."

Mason's letter pressures the President to change that destructive pattern. "Parental leave, affordable, reliable child care, more flexible work hours, medical insurance you can count on, support at both student and faculty levels, and equal compensation in the workplace would go far to reduce the loss of women in the science workplace, even if they're adjunct or part-time professors," she says. "Many mothers have had to give up their professional dreams to handle the realities of family life." ■

— Nancy Bronstein

Pushing Limits to Become Stronger

A Student's Discovery

By Sanaz Rezaeian

"Berkeley offered the best environment to grow as a scholar. The department of structural engineering and mechanics of materials (SEMM) has been ranked number one in the nation, and its faculty is well recognized in my major field, structural dynamics and earthquake engineering."

The most challenging part of being a graduate student in the Structural Engineering and Mechanics of Materials (SEMM) program is to "survive." Berkeley is a diverse place where students come from many locations and backgrounds — all good at what they do, which makes programs very competitive. In addition, there are major exams that evaluate your work of many years and decide your future in just one day. This forces me to constantly push my limits and become stronger in what I do, in the end knowing that it was all worth it.

After obtaining my B.S. in Civil and Environmental Engineering from Berkeley, I worked as a structural engineer for eight months before coming back as a graduate student, aiming for higher goals. Berkeley offered the best environment to grow as a scholar. The department of structural engineering and mechanics of materials (SEMM) has been ranked number one in the nation, and its faculty is well recognized in my major field, structural dynamics and earthquake engineering.

Currently I'm working on a research project that's interdisciplinary and bridges the fields of structural and geotechnical engineering. The research has great potential for the design and analysis of buildings, bridges, and other structures. I work on a model that predicts and simulates ground motions for a given earthquake source and site of interest. These simulations will eventually be used to design and analyze structures for future earthquake events of high magnitude. I've published a

paper on this topic in the Earthquake Engineering & Structural Dynamics journal. I've also made presentations at conferences in Japan and China.

I felt honored to be awarded the Chancellor's Fellowship when I was accepted into the program. This award provides me with the opportunity to purse a research topic that I am really interested in without having to worry about funding issues. As a first-generation college student from a low-income family, I've been able to overcome financial challenges because of the generous donations and scholarships I've received over the years.

Having an advisor who cares about your work has a significant impact on your success in graduate school, and I've been fortunate for the support of my research advisor, Professor Armen Der Kiureghian, and the support of other professors in the SEMM program. As a graduate student, I juggle many responsibilities — classes, teaching, preparing for preliminary and qualifying exams, writing papers, preparing seminar presentations, in addition to my research. It's very easy to get distracted from my research, but my advisor helps keep me on track. He's also provided opportunities to present my work at conferences and seminars, which have broadened my horizon as a scholar.

At Berkeley I've also found support and networks through student groups and activities. I'm an active member of a group called "Women of SEMM" — we created this group last year to provide support for women in structural engineering and particularly doctoral students. Taking a break from academic work now and then has also been important. When I've had time I've been active in soccer, martial arts, and even dancing. I should say that I am not particularly athletic, but I do enjoy playing soccer with friends once a week and taking taekwondo classes on campus. I've even tried classes in salsa, flamenco, and belly dancing at the YWCA across from the campus.

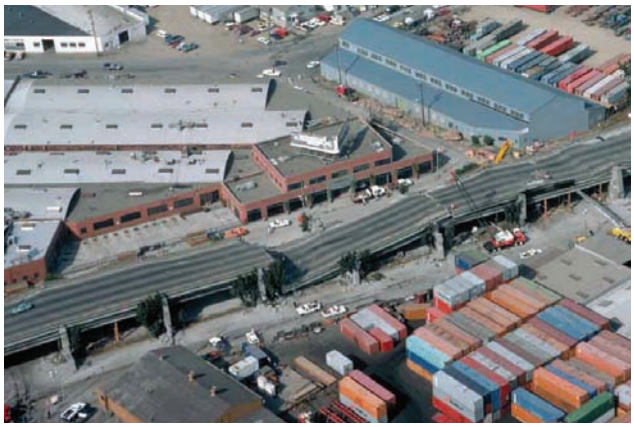
PHOTO COURTESY OF SANAZ REZAEIAN

H.G. WILSHIRE, U.S. GEOLOGICAL SURVEY

"I felt honored to be awarded the Chancellor's Fellowship when I was accepted into the program. This award provides me with the opportunity to purse a research topic that I am really interested in without having to worry about funding issues."

Surprisingly, one the best experiences I've had as a graduate student has been teaching undergraduates, interacting with younger students and sharing my experiences with them. As a graduate student instructor, I discovered that teaching not only helps students understand their course materials, but also allows me to better absorb the subject matter myself. After graduation, I hope to work as a faculty member in a university, with opportunities to continue research in the field of earthquake engineering.

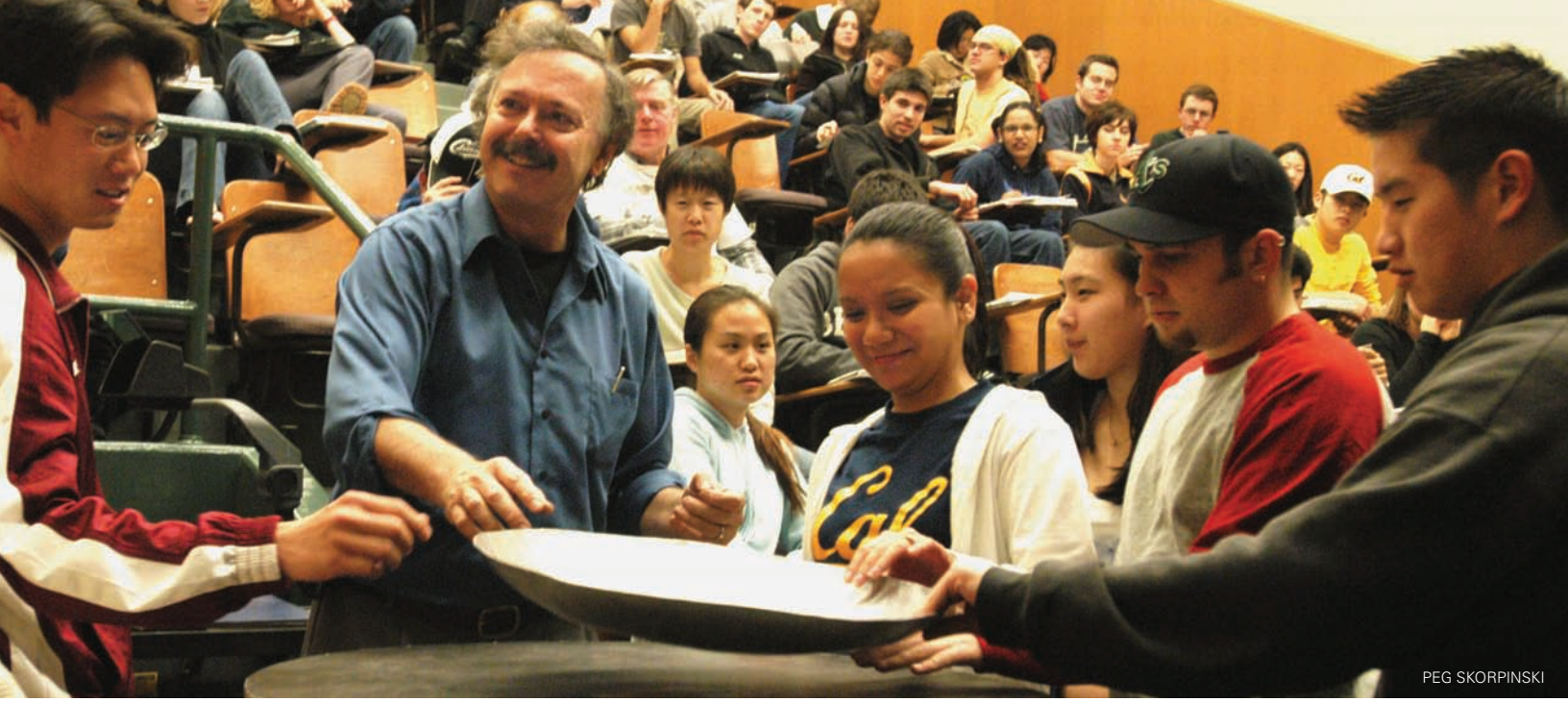
My passion for math and science, wanting to apply my theoretical knowledge to real world problems, developed at a young age. The field of structural engineering is the perfect choice, because it allows me to apply my unyielding ambition in problem-solving to practical applications that could benefit many people. After all, everybody lives in structures, so we might as well build them to be safe! ■



H.G. WILSHIRE, U.S. GEOLOGICAL SURVEY

(Above) Side view of support-column failure & collapsed upper deck, Cypress viaduct.

(Left) Aerial view of collapsed sections of the Cypress viaduct of Interstate Highway 880.



PEG SKORPINSKI

Adventure Man

The Periodic Metamorphoses of Richard A. Muller, Ph.D. '69

by Dick Cortén

ROSEMARY MULLER

Not a casual observer — *traveling in Morocco, Muller watched a "charmer" use his fingers and tongue to tease his cobra. The cobra repeatedly struck, but the man, with a good grip keeping the striking distance short, was faster. Good showmanship involves the audience as participant; note whose neck the snake is wrapped around. The site is Djemaa el Fna, the main square of Marrakesh, which featured prominently in Alfred Hitchcock's 1956 classic "The Man Who Knew Too Much."*

In a field where the progress of research and career are usually sequential, orderly, and predictable, Rich Muller is a wild card, rocketing wherever the first tantalizing inkling of a puzzle takes him until he has the explanation pinned down satisfactorily. Then he abruptly goes elsewhere, as if cued by the Monty Python catchphrase (first used to introduce a sketch about a man with three buttocks) — "And now for something completely different."

Muller has become famous over several decades for his Berkeley-based endeavors — wide-ranging research that's all tied to physics, his popular and audacious teaching, and, along the way, winning a MacArthur "genius" grant. Most recently, it's his classroom identity, as melded into a briskly-selling book, *Physics for Future Presidents,* that's become well known in part because it coincided, conveniently and coincidentally, with a long-lasting and hotly-contested presidential campaign.

To the Richard Muller who came to Berkeley in 1964, fresh from Columbia University as a physics graduate student, the noted teacher he has become since was not even a speck on his far horizon. "I was in such awe of my professors, that was beyond even my wildest dreams," he says now. "I wanted to do research. I loved physics. But I never thought I would have the capability of being a professor."

There was no family pattern of tweed-wearing to follow — "Neither of my parents even graduated from high school." When he went to college as an undergrad, his parents "worked very hard to help pay for that. They were deeply in debt and they never let me know that. I got a scholarship that helped, but nonetheless, they put me through Columbia."

Finding Who to Be

At Berkeley Muller, originally aiming at nuclear physics, worked in grad school as a teaching assistant (or TA, the predecessor title to Graduate Student Instructor, or GSI), and found, to his great surprise, that he enjoyed teaching and was good at it. But his initial motivation for taking the job was not imparting knowledge. He needed the money.

Plus, it was the only way he might have a chance to meet a scientist whose

How many future presidents does it take to grasp magnetic levitation? Muller, shown with undergrads in Pimentel Hall, favors a hands-on, brain-engaged approach.

research intrigued him, physics professor and Lawrence Berkeley Laboratory researcher Luis Alvarez, a daunting figure who as part of the Manhattan Project in World War II developed the detonators that set off the plutonium bomb and flew in the chase plane over the Hiroshima explosion to measure the blast, and devised several radar systems, one of which is still in use today.

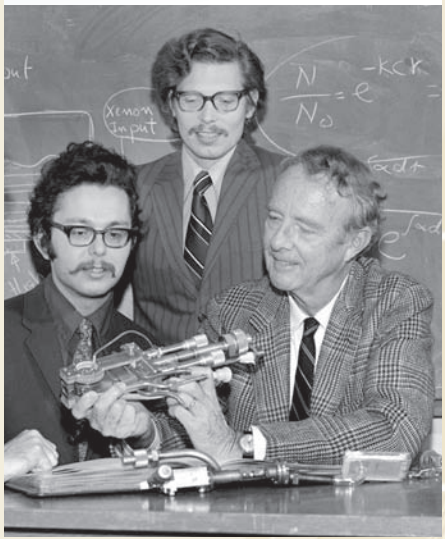
Along with his awe, Muller had another hurdle to deal with in his quest to somehow connect with Alvarez. "I never considered myself anything more than a B student, so I figured he wouldn't look twice at me." Meanwhile, he applied for a TA position, and fate conveniently stepped in: the department assigned him to a course taught by Luis Alvarez. Muller, determined to stand out, "did a really good job," and became the head TA. "I was a TA for two years, and it was one of the most important things I've ever done." It not only brought him to Alvarez's notice, it caused him to do the very thing that never occurred to him he could do: teach.

"There's a great joy in teaching," he says now. "It's one thing to know something; if there's nobody to share it with, it's not as much fun."

In Alvarez, he found a lifetime role model, mentor, and friend, relationships that evolved at their own pace over time. "Alvarez could be very harsh on people. He was somewhat famous for that," Muller remembers. (The phrase "doesn't suffer fools gladly" became an old standby for writers of Alvarez profiles.)

"Alvarez was such a great man," says Muller, "that I told myself when he criticized me, 'That's not really a criticism, it just means I'm not up to his standards'. And I would let him insult me and just accept it as part of the learning experience."

Until he found Alvarez, Muller had wondered what path to follow, because most of the professors he encountered were "so scholarly, and understood things in so much detail. Alvarez, I soon discovered, didn't try to learn everything. He tried to learn what was important in everything, and not go into the great depth until he discovered something important that wasn't being worked on.



LAWRENCE BERKELEY

Muller and mentor — *physicist Luis Alvarez was a huge influence on Richard Muller, his student and protégé. Here, Alvarez (right), holds a liquid xenon radiation detector, a device he developed with Muller (left), and two other postdocs, Stephen Derenzo (standing) and Haim Zaklad (not shown).*

And then he would learn to whatever depth he needed."

Muller worked for Alvarez as a grad student and then a postdoctoral researcher, essentially on soft money, for over a decade, during which he had offers for faculty positions elsewhere and turned them down so he could keep learning from Alvarez (who thought he was crazy to stay in any non-faculty position).

What especially drew Muller to Alvarez was that he was "doing research that was unlike anybody else's. He wasn't fine-tuning previous work. He was coming up with brand-new, truly innovative things, totally unlike anything that had been done before, and I wanted to learn how to do that. I told him 'I don't necessarily want to learn what you're doing, I want to learn how you do that.'"

In the late '80s, Muller wrote, of his formative self: "I was beginning to see, in the way Luie worked, a possibility for my own research. There were always others far more talented in mathematics than I was, and there were always others far more comprehensively knowledgeable. But Luie's approach to physics wasn't mathematical or comprehensive; it was clever and inventive. The gaps in his knowledge were surprisingly large, but not detrimental to his work. He seemed to have a knack for learning just the right amount about everything. Luie was a puzzle-solver, an adventurer, an explorer."

HAPPE *Times*

During the world war, events had shifted Alvarez away from nuclear physics. On his return to Berkeley in peacetime, he changed his career emphasis to investigating the subnuclear, using a variety of particle accelerators. At the time Muller came to Berkeley, Alvarez was devising a radically new approach, using cosmic rays to study the properties of particles. Because the earth's atmosphere stops most of the rays, Alvarez was going to suspend a complete physics experiment from a 300-foot balloon that would fly to the upper edge of the atmosphere. During his second year in grad school, Muller heard about the attempt from a fellow TA and was "entranced," not only by the boldness of the experiment, but by the fact that Alvarez was trying something so different, as if he were shedding his skin, leaving his previous research persona behind. Muller was soon itching to take part.

After one of Alvarez's Physics 4A lectures, Muller got plucky and asked Alvarez about the balloon project. Alvarez sat him down and asked why he was interested. Muller blurted his dream of not being in the rut of a specific kind of physicist, but becoming one who did experiments that had never been done before. Alvarez promptly invited Muller up the hill to the Radiation Laboratory to see the experimental hardware, gave him a tour, probed the way his mind worked, and recruited him on the spot to the High Altitude Particle Physics Experiment (HAPPE, pronounced happy) project team.

To the surprise of his other researchers and grad students, Alvarez spent a lot of time with Muller, the new guy. The growing association survived even a mishap that Muller feared would cost him his career in science. Helping another grad student mount a light-detecting tube in the experimental apparatus, Muller dropped it. "It imploded just like a TV picture tube, with a loud and sickening crash. I had just destroyed $15,000 worth of hardware." Which was twice what Muller made in a year as a research assistant. When the gruff Alvarez appeared, Muller abjectly confessed his sin. Alvarez shook his hand enthusiastically and said, "Welcome to

LBNL

The gates of heaven — *A young Richard Muller, who had already founded the search for supernovas, sought the theorized red dwarf Nemesis star, which might have caused periodic mass extinctions on earth, using the 30-inch telescope at Berkeley's Leuschner Observatory in the hills of Lafayette. The facility is named for its founder, astronomer Armin Otto Leuschner, who served as dean of the Graduate Division from 1913 to 1918 and 1920 to 1923.*

"The project was actually a great success. It was the first measurement of the cosmic microwave variability that had ever been done. It earned me several national awards and suddenly earned me, ten years after my Ph.D., a position on the Berkeley faculty. That of course was a very big moment in my life."

the club! Now I know you're becoming an experimental physicist."

The Thrill of Them All

One event with Alvarez was such a high-water mark that the thrill is still fresh, even four decades later.

"I became his graduate student in 1965," Muller recalls. "He got the Nobel Prize in 1968. So I had the great thrill of turning on the radio in the morning and hearing while trying to tune in a station, "The Nobel Prize in Physics…Berkeley...Alvarez!" It was the most exciting moment in my life. I called up the lab and I spoke to Alvarez's secretary, Ann McLellan, and said, 'Ann, I just heard on the radio…' 'Yes,' she interrupted, 'isn't it wonderful!' Alvarez was so loved, nothing else happened that week. There was champagne every day. It was such a wonderful, happy time."

The prize was given to Alvarez for all the discoveries that had come from the bubble chamber, which he had turned into the primary exploratory tool of elementary particle physics. He was the sole physics winner that year. (The bubble chamber, invented by Berkeley's Donald Glaser, is essentially a pressure cooker with windows, filled with superheated liquid into which atomic particles are fired, their path marked by tiny bubbles which reveal much about the particles' nature.)

Clocking the Universe

While still a graduate student, Muller was more than content working on a project that Alvarez had come up with, but, with degree in hand, "I felt I had to create my own project to see if I could do it, and use the principles that he did."

Muller spent a summer studying astrophysics, a hot field at the time, and at its end proposed a project in which he and a team would measure the microwave background radiation from the Big Bang and look for a variation in different directions. Alvarez was less than enthusiastic. "He thought it was a waste of time," says Muller. "I persisted anyway."

As with much in science, it was an uphill climb. "When I began, I had no experience with microwave apparatus, except what I had learned as a teaching assistant for the introductory Physics 4 labs. I had no credentials to begin this project. Alvarez eventually gave at least a partial blessing and funding came through from LBL's physics division, and, in a highly irregular move, since no "real experts" were interested in that aspect of the Big Bang at that time, Muller became the project's principal investigator — as a postdoc.

Muller's group found, in the mid-'70s, what came to be called a "great cosine in the sky," showing that earth and the Milky Way are zipping through space at approximately one million m.p.h., away from that Big Bang. Their measurements were taken not from a mountaintop or a balloon, but from a modified U-2, the infamous "spy plane."

"The project was actually a great success," says Muller. "It was the first measurement of the cosmic microwave variability that had ever been done. It earned me several national awards and suddenly earned me, ten years after my Ph.D., a position on the Berkeley faculty. That of course was a very big moment in my life."

When he began the cosmic microwave project, Muller knew he would need help, so he asked a talented physics postdoc who also worked on the Alvarez balloon experiment if he'd be interested in working on this new one although Muller was not yet a faculty member. Muller was shocked to receive a yes, but glad the postdoc "recognized

this was something that was really going someplace." And it did.

Muller, in his "Luie Alvarez mode," didn't want to stay on the same train, and, seeing that "there was someone who was perfectly capable of doing everything himself," he stepped away.

That someone was MIT-educated Berkeley postdoc George Smoot, who is now a UC physics professor and LBNL astrophysicist, and in 2006 became Berkeley's newest Nobel Laureate. Smoot extended the reach of cosmic microwave measurement from high-altitude plane to COBE, the Cosmic Background Explorer satellite.

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He partnered with NASA's John Mather (who earned his 1974 Ph.D. at Berkeley, and ultimately shared the Nobel with Smoot). Their cosmic microwave background data for NASA proved that the universe was indeed expanding, and rapidly, from the Big Bang. (Stephen Hawking called it "the scientific discovery of the century, if not all time.")

Muller tells people, "everything of value I learned in physics, I learned from Luis Alvarez. You learn all the academic stuff as an undergraduate, you learn a lot more as a graduate student, but not the know-how. How do you pick a research project that's really going to be important, how do you exclude all the ones that are going nowhere? How do you stop a project that's not going anywhere and do something new? How do you change your research field?" The answer to this last question came from Alvarez's life, and then from hard-won experience in Muller's own.

"Alvarez," says Muller, "won the Nobel Prize for the work he did in particle physics, on the bubble chamber. Then he started doing astrophysics. Then he moved into what killed the dinosaurs. And then he was X-raying the pyramids. Wonderful things. He invented a new kind of optics, the first stabilized binoculars that really worked. And this was my model: staying fresh is what life is all about."

An Astral Serial Killer?

Alvarez and Muller — Luie and Rich to each other — came up with a utilitarian working relationship that lasted decades.

"He would have an idea," relates Muller, "and he'd usually spend a couple of days working it out, writing things up, and then he would show it to me. And he'd ask me to prove it wrong. Often I could, and he loved it, because proving him wrong saved him so much effort."

Also, Alvarez found pleasure in proving other theorists wrong. "There was nothing Luie enjoyed more," Muller says. Occasionally, these debates had a payoff for Muller, too, such as one day in 1983, "Luie came to me and said, 'Here's a paper that's complete nonsense. They say great catastrophes occur on earth every 26 million years, like clockwork. I'm wiring back to the authors; here's my letter to them, pointing out their mistakes. Check it over.' And he came back an hour later, and I said, 'Luie, I think you're wrong, you're not taking into account the possibility that the sun might have a companion star, a deadly one for earth.' And that discussion led to my Nemesis theory."

Muller's Nemesis theory posits an as-yet-undetected red dwarf star that orbits our sun one to one-and-a-half light years away on a track that periodically diverts comets from the Oort cloud into the central solar system, causing mass extinctions that show up like disturbing rhythms in this planet's geological record.

"Once he had heard my thoughts, Alvarez had a reaction of absolute delight — that I'd shown him wrong and come up with a way to work around it. And he thought my Nemesis theory was one of the greatest things I'd ever done. It may be proven correct someday, and then I'll be the guy who showed that the sun has a companion star, and I'll be famous for that. That will last forever. If it turns out to be right."

All that (including his 1988 book *Nemesis)*, Muller says, "came about specifically because I was Alvarez's man for looking at what he did and trying to find the flaws."

Supersensitive Dating

Alvarez put together a new project to look for quarks, and Muller worked with him on it for about a year. At that point, "I realized that our new instrumental technique could also be used to make supersensitive radiocarbon dating." Alvarez checked his preliminary calculations, agreed it could be done, and congratulated Muller.

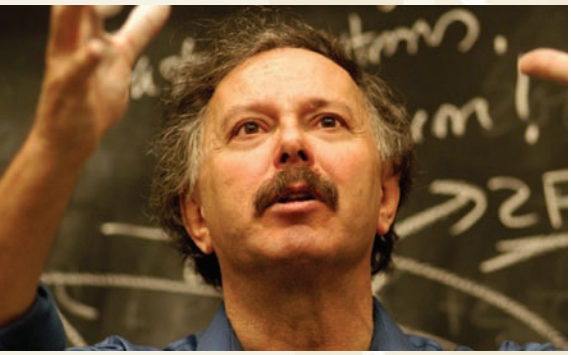
As he looks back, Muller says, "In some ways, this may have been my greatest achievement."

Muller was the sole author on the seminal paper in what became known as accelerator mass spectrometry, or AMS. Within a few years an international conference was held on AMS, and last fall the 11th such meeting took place Rome. Muller had, in effect, created an entire field. A thousand times more sensitive than its "decay-counting" predecessors, AMS is widely used in archaeology, geology, and cosmogeochemisty as well as environmental, biomedical, and nuclear safeguards research.

He could have remained in the field and become the Grand Old Man of accelerator mass spectrometry, but once again he wanted to move on.

Lots of Supernovas

"So I did something totally different," Muller says. This time it was the supernova search. Another wide-ranging scientist, Stirling Colgate, long associated with the weapons labs at Livermore and Los Alamos, had come up with a way of automating the search for supernovas, but had been unable to make it work. Colgate shared his approach with Muller, who felt that with tweaking and "the skill of people here in Berkeley working on it, it might be a relatively straightforward project." So he enlisted several others, including his graduate student Saul Perlmutter, and "after several years, we were discovering supernovas with our automated telescope." They discovered 20. Perlmutter continued the project while Muller, characteristically, branched out in yet another direction. Perlmutter, who received his Ph.D. here in 1986, is now a Berkeley physics professor and heads LBNL's Supernova Cosmology Project. Perlmutter and his team in 2007 shared the Gruber Cosmology Prize with an Australian scientist for discovering through their supernovae



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measurements that the expansion of the universe has not slowed, as most people thought, but is actually accelerating.

Making Even Presidents Understand

Working on *Nemesis* sparked Muller's interest in climate, and he's become an expert on the last million years or so. This basic approach to life on earth spilled over into his teaching, especially when he took on the course for liberal arts students, known to generations as Physics 10, nicknamed for some of its existence as "Physics for Poets."

Muller completely recast the course content for current, real-world relevance, renamed it "Physics for Future Presidents," then wrote a textbook with the same title and, more recently, a popular non-textbook version.

"Just as we expect a president to know the difference between Shiite and Sunni," Muller says," the President has to know the difference between a uranium bomb and a plutonium bomb. If the President doesn't understand this, it's hard to know what to do about North Korea or what's going on in Iran."

He teaches physics without heavy number-crunching, in the context of terrorist attacks, solar power, space travel, and global warming, and assumes everyone in the class will be a leader someday. From an initial 50, course enrollment has grown every semester, and is now 500 students plus a waitlist. One of his students told CBS radio listeners, "It's not just for future presidents. Anybody who votes should know these things."

More and more people clearly want to: his course is now available online through the campus and Google Video, and tens of thousands view each lecture, in (so far) 49 states and 80 countries. Muller has received email from students in Colombia, Slovakia, Poland, Mali, Tibet, and a naval officer stationed in Bahrain. He beams. "Learning is one of the great joys in life."

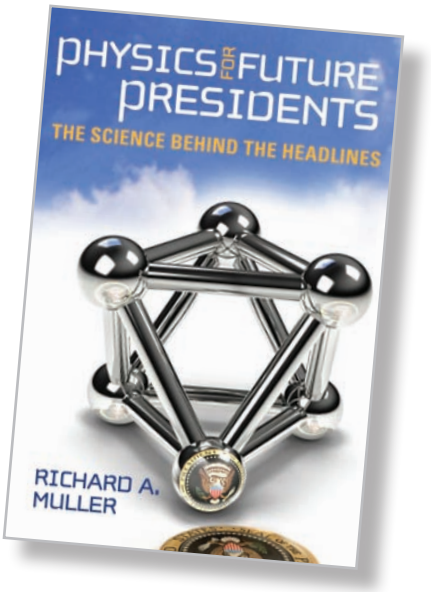
Muller is proud to have played a big role in moving the Lawrence Berkeley National Laboratory into astrophysics and cosmology.

"These days," he says, "the physics division of LBNL has one of the best astrophysics programs in the world. When I first came there, and when Alvarez wanted to do an astrophysics project, he was told by the director, 'No, this is not proper for the Laboratory.' He wound up doing it at the Space Sciences Lab." With help from Alvarez, Muller put his "cosmo-microwave background thing" together at LBL, and "that was really one of the first astrophysics projects at the Lab. Now, astrophysics is major, and it's important that they're involved in it."

Besides administrative culture, another endemic hazard for field-shifters like Alvarez and Muller is funding, or its absence.

"Some of the great discoveries here really had a hard time getting support," Muller says. He gives as an example the pioneering work that Luis Alvarez and his son Walter did on the comet that caused the great extinction 65 million years ago. "They could never get support for that, from anyone. It turned out to be one of the great discoveries of the 20th century, and affected many people in many realms of physics, but because it didn't fit the normal funding categories of the National Science Foundation or Department of Energy, they had a very hard time getting support. And Alvarez already had the Nobel Prize! But he wasn't an expert in that field." Muller notes that while a Nobel Prize has dramatically changed the lives of many of its recipients, Muller says "Alvarez was very careful not to let it take over his. He wanted to continue to be productive. And if he hadn't, we still would not know what killed the dinosaurs."

So what has made the difference for innovative zig-zaggers like Muller and Alvarez? "The best funding I have, by far," Muller says, "is private funding. Funding from individual donors, small foundations. Government funding can be a long, difficult, and frustrating, and in many cases ultimately unsuccessful road. Private funding has been invaluable. It's been what has allowed me



to move into a new field where I don't have credentials. Primarily, I've used it to fund graduate students, so I could tell them 'Yes, you can work with me on this project.' Graduate students are the huge leverage. You're getting someone who's highly motivated, interested in learning. This is where you can get the explosion, where the person can give you far, far more than you invest."

Discomfort? Learn to like it.

Muller clearly wouldn't alter his own past to follow a straighter line. But he does indicate that the roses have thorns.

"If you're going to change fields," he says, "you have to be ready for a lot of discomfort. It's suddenly like you're a graduate student again. You don't know things, people look at you as if you're ignorant, you have to do your homework very hard to catch up. The experts in the field regard you as an outsider who doesn't even know the fundamentals."

To Muller, that's just part of the price of adventure. "Adventure doesn't mean excitement, it doesn't mean fun. I think the key characteristic of adventure is discomfort. Adventure is when you feel queasy, you feel sick to your stomach, you feel lost — even stark terror — but certainly uncomfortable. Think back to the adventures you've had in your life; many of them were ones you were uncomfortable with at the time. But you can look back and you realize that this was a seminal change in your life. That's the feeling when you're entering a new field, creating a new field. You feel lost."

And then, usually with some hard work and a bit of luck, you find your way. ■

PHOTOS BY PEG SKORPINSKI

On the following pages, photos from the Graduate Fellowship Reception and Meet the Graduate Dean events are interwoven with lists recognizing fellowship donors, recipients & endowed fellowship funds.

Top, from left: Ph.D. candidate in science and math education Adi Adiredja (B.A. Math '06), Graduate Division Dean Andrew J. Szeri, fellowships coordinator for the Graduate School of Education Karen Sullivan (MSW '82), and Professor David Stern gathered for the Graduate Fellowship Reception.

Dr. Larry Thal (B.S. '73, O.D.'75), Clinical Professor and Assistant Dean for External Relations in the School of Optometry, greets Professor Richard A. Muller (Ph.D. Physics '69), keynote speaker at the Graduate Fellowship Reception.

Meet the Dean Events

Since the inaugural gatherings of UC Berkeley alumni and friends in Shanghai and Beijing, Dean Andrew J. Szeri has hosted receptions and dinners in Chicago, Washington, D.C., London, Paris, Philadelphia, Seoul, and New York, and shared research highlights from the campus and our goals for increasing the University's fellowship endowment during the Campaign for Berkeley. Look for photos from the May 2009 New York dinner online at grad.berkeley.edu/alumni_friends/index.shtml. Our next event will take place in San Francisco during the second week of September. In an effort to use our resources wisely, we will be sending electronic invitations to future Meet the Dean events. **To make sure we have your current email address, please complete the form at: www.grad.berkeley.edu/meetdean.**

Transforming Lives

Last fall, the Graduate Division hosted the Graduate Fellowship Reception in Stanley Hall to honor graduate fellowship donors and provide an opportunity for them to meet and hear from current fellowship recipients.

Graduate Dean Andrew J. Szeri and Executive Vice Chancellor and Provost George Breslauer welcomed the assembly and emphasized the critical relationship between retaining top faculty and recruiting the best and brightest graduate students. UC Berkeley Foundation Board of Trustees Chair Bill Ausfahl (B.A. '61) offered reflections on his own motivation to become a graduate fellowship supporter.

Erika Houtz, doctoral student in civil and environmental engineering, spoke about the ways in which her fellowship from the ARCS Foundation enables her to pursue groundbreaking research on the quality of water runoff from farms. "I'm working on identifying organic contaminants of concern in the potable reuse of drinking water," she explained. "This is a relatively unexplored topic and definitely new to my research group. My fellowship allows me to develop a new topic, collect preliminary data needed for continued support in the research that I want to do, and, eventually, publish in a timely manner."

Pietro Calogero, a doctoral student in the College of Environmental Design, said his fellowship, supported by a gift from the late William T. and Helen S. Halstead, allows him to research issues related to the growth of Kabul, the capital city of Afghanistan. He pointed out that few American organizations are willing to fund advanced research in Afghanistan, which is unfortunate, he said, "because the United States has a strategic interest in understanding Afghanistan." For academics, he continued, "Afghanistan is exceptionally important because of the rapid changes taking place there. If we want to understand the modern world, we need to study the places where modernity is emerging."

The student presentations were followed by a rousing and often interactive lecture from Physics Professor (and Berkeley graduate alum) Richard A. Muller, who discussed, among other things, his latest book, *Physics for Future Presidents*. (See Muller article on page 16.)

Fellowships donors and recipients at the Graduate Fellowship Reception on November 6, 2008.

Thank You for Your Generous Support!

The Graduate Division would like to recognize all donors who made gifts and pledges to our fellowship programs in 2008. All gifts to the Graduate Division count toward the Graduate Fellowships portion of the Campaign for Berkeley, a major campus-wide fundraising campaign launched on September 20, 2008.

Meet the Dean in Philadelphia

From left: Dean Andrew J. Szeri, Ritu Saxena, and Ritesh Agarwal (Ph.D. Chemistry '01) on October 22, 2008.

Meet the Dean in Chicago

From left: Nancy (B.A. Social Sciences '67) and Peter (B.S. '64, Ph.D. Chemical Engineering '68) Clark enjoy a conversation with Associate Dean Susan Muller on May 2, 2008.

$100,000 and Above

ARCS Foundation, Inc. Northern California Chapter
Jewish Community Endowment Newhouse Fund
George and Nancy Leitmann
Margaret W. Read
The Rose Hills Foundation
Eric and Rachel Stern

$50,000 to $99,000

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Jeffrey K. Chan
The Rosalinde and Arthur Gilbert Foundation
Paul R. and Judith S. Gray
Patricia W. Jekel
Mei-Yee (Teresa) Orr
John A. Swearingen

$10,000 to $49,000

The Anglo-California Foundation
The Irving and Helen Betz Foundation
The Capital Group Companies, Inc.
Arthur and Mary Fong
The Graduate Assembly
Howard Hughes Medical Institute
The Jewish Community Endowment Fund
Terence S. Kissack
Sarlo Foundation
The Albert and Janet Schultz Supporting Foundation of the Jewish Community Endowment Fund
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The Tanner Foundation
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$1,000 to $9,999

American Council of Learned Societies
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Spectra-Physics
Judi Sui and Bruce Bernhard
Andrew J. Szeri

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ARCS Fellow Erika Houtz speaks about the impact of fellowship support at the Graduate Fellowship Reception.

$999 and below

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Susan R. Anchondo
Joshua E. Barnes
John J. Battles
David M. Berke
David Blinder
Glenn R. Butterton
Dee Birch Cameron
Yvonne Cannon
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Sean R. Ford
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George T. Hervey
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Bradley Hubbard-Nelson
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Barbara L. Nehring
Susan M. Osborn
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Endowed Fellowship Funds

The following is a list of all endowed fellowship funds which support winners of dissertation, multi-year and single-year fellowships awarded by the Graduate Division. These funds represent fifteen percent of the total number of UC Berkeley endowed fellowships, many of which are awarded by individual departments. The Graduate Division wishes to thank all the generous donors whose gifts to endowments will support graduate education at UC Berkeley both today and in perpetuity.

Class of 1883 Fellowship Fund
Ira Abraham Sr. and Georgina Koenig Abraham Scholarships
Audrey and Charles Kelly Aikin Scholarship Fund
Paul J. Alexander Memorial Fellowship Endowment Fund
Dorothy and Ivan Anixter Scholarship Fund
Earle C. Anthony Fellowship Fund
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Sylvan C. and Pam Coleman Memorial Fellowship
O'Neil Ray Collins Memorial Fellowship
William F. and Albertine C. Cordes Scholarship Fund
Louis W. Dessauer Scholarship Fund
Robert M. Douglas Fund for Graduate Students
Sidney Hellman Ehrman Studentship Fund
Elizabeth Roboz Einstein Fellowship in Neurosciences and Human Development
Faculty Fund for Graduate Fellowships
Faculty, Staff and Student Fund for Graduate Fellowships
David G., Clara M., Eulah, and Norma Fankhauser Scholarship Fund
Fritz O. Fernstrom Fellowship Fund for Swedish Students
Charles Fish Scholarship Fund
Lee Adelle Fleming Graduate Fellowship Fund
Art and Mary Fong Graduate Fellowship in the Health Sciences
Katherine Frederick Scholarship Fund
Dr. David Gale and Sylvia S. Gale Award Fund
Alice Galloway Memorial Fellowship Fund
Dora Garibaldi Research Scholarship Fund
Charles Mills Gayley Fellowship
James M. Goewey Scholarship Fund
Anita and Orel M. Goldaracena Fund for Graduate Student Fellowships
Joseph Leconte Goldsmith and Amy Seller Goldsmith Public Service Award
Ted Gould Fund
Graduate Assembly Endowment for Graduate Student Support Fund
Eugene F. Graff Fellowship Endowment Fund
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Anna Hashagen Graduate Scholarship Fund
Sigmund Martin Heller Traveling Fellowship Fund
Irvine Memorial Scholarship
Nellie, Emmett and Ida Louise Jackson Fellowship Fund
Japanese Women Alumnae Scholarship of UC Berkeley
Amy Bowles Johnson Memorial Fellowship
Clyde Sanfred Johnson Memorial Scholarship
Alfred B. Jordan Fellowship Fund
Kaiser Medical Science Fellowship Fund
Charles A. Kofoid Eugenics Fellowship Fund
May J. Koshland Fellowship Fund in Memory of H.A.Jastro
Florence M. Lankershim Scholarship Fund
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Nellie M. Lowry Scholarship Fund
Micheline Maccario Fellowship in Neuroscience
Melvin L. Makower Scholarship Fund
G. Fitzgarrald Martin Fellowship Fund
William Harrison Mills Fellowship Fund
Alfred F. and Chella D. Moore Scholarship Fund
Janet New Fellowship Fund
Mark and Minnie Newman Fund
Ning Fellowship for Chinese Students
Nonresident Tuition Fellowship Fund
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John U. Ogbu Graduate Student Support Fund
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Alice J. Rosenberg Research Fellowship Fund
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Katherine E. Sherston Scholarship Fund
Charles Shew King and George Konhall Shew Fellowship Fund
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Evelyn V. Staton Fellowship Fund
Eric H. and Rachel K. Stern Health Sciences Graduate Student Award Fund
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La Rue Tappan Fund
Stanley M. Tasheira Scholarship Fund
Emma M. and Rudolph J. Taussig Memorial Fund
Bertha Henicke Taussig Memorial Scholarship Fund
Willard D. Thompson Memorial Scholarship Fund
Chang-Lin Tien Graduate Fellowships in Environmental Sciences
Yoyishe & Yaye Togasaki Fellowship Fund
Yoshiko Uchida Children's Book Fund
Una's Fellowship
Ralph C. and Anne F. Vollmar Graduate Fellowship Fund in the Humanities
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The Bay Area Water Quality Scholarship
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NINA HORNE '09

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Graduate Division Development Office ◆ 431 Sproul Hall, Berkeley, CA 94720-5900
gradsupport@berkeley.edu ◆ http://www.grad.berkeley.edu/gradsupport

Congratulations!

2008-09 Fellowship Recipients

The Graduate Division at the University of California, Berkeley makes fellowship awards annually to graduate students in all disciplines on campus. Recipients are selected on the basis of academic merit through rigorous fellowship competitions.

Dissertation-Year Fellowships

Chancellor's Dissertation Fellowship
Molly Brunson, Slavic Languages and Literatures
Kimberly Cassibry, History of Art
Alan Drosdick, English
Dace Dzenovska, Anthropology
Hannah Freed-Thall, Comparative Literature
Lisa Jakelski, Music
Nathalie Khankan, Near Eastern Studies
Vasudha Paramasivan, South and Southeast Asian Studies
Kristina Paulsen, Rhetoric
Joanne Rondilla, Ethnic Studies
Peter Skafish, Medical Anthropology
Cinzia Solari, Sociology
Gabriel Trop, Interdisciplinary Studies
Christopher Weinberger, English

University of California Dissertation Fellowship
Kristel Ann Acacio, Sociology
Jane Cho, History
Naomi Choi, Political Science
Daniela Cusack, Environmental Science, Policy, and Management
Sapana Doshi, Geography
Sara Gonzalez, Anthropology
Roberto Hernandez, Ethnic Studies
Raisa Karasik, Applied Science and Technology
Lucrezia Miranda, City and Regional Planning
David Palaita, Ethnic Studies
Jasquelin Pena, Civil and Environmental Engineering
Lindsay Stovall, Mathematics

Multi-Year Fellowships for Incoming Students

Achievement Rewards for College Scientists (ARCS) Foundation Fellowship
Karl Erhard, Plant Biology
Erika Houtz, Civil and Environmental Engineering
Alejandro Levander, Materials Science and Engineering
Mark Lipke, Chemistry
Brian McDonald, Civil and Environmental Engineering
Vincent Ng, Electrical Engineering and Computer Sciences
Laura Nielsen, Earth and Planetary Science
Naomi Ondrasek, Integrative Biology
William Regan, Physics
Bryan Schubert, Electrical Engineering and Computer Sciences
Hoday Stearns, Mechanical Engineering
Alberto Stolfi, Molecular and Cell Biology
Kevin Woods, Environmental Science, Policy, and Management
Elizabeth Zimmermann, Materials Science and Engineering

Berkeley Fellowship for Graduate Study
Paul Albertus, Chemical Engineering
Simona Balan, Environmental Science, Policy, and Management
Maya Barzilai, Comparative Literature
Timur Bazhirov, Physics
Joanna Bechtel, Mechanical Engineering
Angela Becker, Molecular & Biochemical Nutrition
Jessica Becker, Hispanic Languages and Literatures
Sima Belmar, Performance Studies
Gautam Bhan, City and Regional Planning
Anand Bhaskar, Computer Science
Jacques Bothma, Biophysics
Timothy Brackbill, Mechanical Engineering
Krista Brune, Hispanic Languages and Literatures
Ricardo Cardoso, City and Regional Planning
Jennifer Colby, Molecular Toxicology
Jonathan Combs-Schilling, Italian Studies
Pamela Coukos, Jurisprudence and Social Policy
Joshua Craze, Anthropology
Lara Cushing, Energy and Resources
Emily Dangremond, Integrative Biology
Anindya De, Computer Science
Sibyl Diver, Environmental Science, Policy, and Management
Paul Dobryden, German
Kateri Dubay, Chemistry
Onsi Fakhouri, Astrophysics
Ann Marie Faust, Molecular and Cell Biology
Lyle Fearnley, Medical Anthropology
Alexander Fink, Mathematics
Margaret Frye, Sociology and Demography
Brie Fuqua, Molecular & Biochemical Nutrition
Jared Garvey, Mechanical Engineering
Vikash Gayah, Civil and Environmental Engineering
Douglas Gildow, Buddhist Studies
Tatyana Gordeeva, Statistics
Eric Greene, Buddhist Studies
Julian Guzman, Materials Science and Engineering
Steven Hall, Environmental Science, Policy, and Management
Shaun Halper, History
F. Lane Harwell, Performance Studies
Katie Hasson, Sociology
Jonathan Haynes, Rhetoric
Alani Hicks-Bartlett, Romance Languages and Literatures
David Hoffman, Chemistry
Mary Agnes Hoopes, Jurisprudence and Social Policy
Di Hu, Anthropology
Julia Jarcho, Rhetoric
Min-Jeong Jeon, Education
Zahra Kadkani-Schmitt, Architecture
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Shih-Yang Kao, Geography
Roshni Kasad, Molecular and Cell Biology
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Catherine Kunkel, Energy and Resources
Anna Labno, Biophysics
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Joseph Neeman, Statistics
Sarah Newman, Astrophysics
Pei-San Ng, Chinese Language
Yookyung Noh, Astrophysics
Nandini Pandey, Classics
Monica Park, Classics
Lars Plate, Molecular and Cell Biology
Jacob Pollock, Bioengineering
Rachel Preminger, Classics
Marco Purpura, Italian Studies
Matthew Rahaim, Music
Garvesh Raskutti, Statistics
Corinne Rocca, Epidemiology
Benjamin Ross, Applied Science and Technology
Benjamin Runkle, Civil and Environmental Engineering
Florian Saile, Japanese Language
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Jimmy Tran, Environmental Science, Policy, and Management
Nu-Anh Tran, History
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Rachel Wamsley, Comparative Literature
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Christopher Wilkens, Computer Science
Fiona Willis, Demography
Brandon Woolf, Performance Studies
Miranda Worthen, Epidemiology
Margarita Zaydman, Comparative Literature

Chancellor's Fellowship for Graduate Study
Mario Aceves, Psychology
Edwin Ackerman, Sociology
Victor Acosta, Physics
Kehinde Ajayi, Economics
Viviana Alcazar, Comparative Literature
Manuel Thomas Aldan, Nuclear Engineering
Fatima Alleyne, Materials Science and Engineering
Candice Allister, Endocrinology
Estela Almanza, Environmental Health Sciences
Jean Alupay, Integrative Biology
Richard Amador, Hispanic Languages and Literatures
Lydia Ashton, Agricultural and Resource Economics
Carolina Balazs, Energy and Resources
Kathryn Baldwin, Materials Science and Engineering
Phenocia Bauerle, Education
Felicia Becerra, Scandinavian Languages and Literatures
Dalida Benfield, Ethnic Studies
Helaine Blumenthal, History
Vanessa Brutsche, French
Sahai Burrowes, Health Services and Policy Analysis
Suzanne Butler, Astrophysics
Ann Byrne, Mechanical Engineering
Maya Cano, Neuroscience
Mariana Carrera, Economics
Jason Chang, Ethnic Studies
Celeste Chavis, Civil and Environmental Engineering
Jacob Chestnut, Mathematics
Letha Chien, History of Art
Tessa Childers, Statistics
Anselmo Cisneros, Nuclear Engineering
Jadine Collingwood, History of Art
Anthony Conway, Chemical Engineering
Sharif Corinaldi, Physics
Mary Cousins, Civil and Environmental Engineering
Sergio Covarrubias, Infectious Diseases and Immunity
Chad Crosson, English
Frank Cruz, English
Manuel Cuellar Chacon, Hispanic Languages and Literatures
Maria Cueto, Mathematics
Benjamin Cullen, English
Daniela Cusack, Environmental Science, Policy, and Management
Vera Dadok, Mechanical Engineering
Adrienne Damiani, German
Nygerma Dangleben, Molecular Toxicology
Gray Daniel, Education
Timothy Davenport, Chemistry
Anthony DeFilippo, Mechanical Engineering
Jennifer Devine, Geography
Monica Deza-Ortiz, Economics
Naomi Diaz, Civil and Environmental Engineering
Michelle Dizon, Rhetoric
Bradley Dotson, Plant Biology
Timothy Downing, Bioengineering
Alejandra Dubcovsky, History
Lea Dulatas, Chemistry
Nathaniel Dumas, Anthropology
Joseph Duong, History
Sasha-Mae Eccleston, Classics
Terra Edwards, Anthropology
Joshua Eng, Psychology
Allison Engstrom, Materials Science and Engineering
Dennis Evangelista, Integrative Biology
Alan Farahani, Ancient History and Mediterranean Archaeology
Gregory Fayard, Sociology
Adrienne Felt, Computer Science
Christopher Ferguson, African American Studies
Lisa Fernandez, Environmental Science, Policy, and Management
Yomaira Figueroa, Ethnic Studies
Angela Fillingim, Sociology
Nicole Fox, Political Science
Pablo Gaston, Sociology
Brandon Gaytan, Molecular Toxicology
Frederick Ghansah, Economics
Matthew Gichohi, Political Science
Virginia Gidi, Public Health
Brian Gillis, English
Angela Gomez, Education
Andre Gomez, Physics
Michael Gonzales, History
Teresa Gonzales, Sociology
Monica Guerra, City and Regional Planning
Jose Gutierrez, Education
Kristina Hargraves, Endocrinology
Blake Hausman, English
Maya Hayden, Environmental Science, Policy, and Management
Derrick Hensman, Medical Anthropology
Tuan Hoang, Nuclear Engineering
Ashley Hodgson, Economics
Maria Hollowell-Fuentes, Sociology
Eddie Howell, Bioengineering
Iris Howlett, Molecular and Cell Biology
Lily Huang, Chemistry
Lynn Huang, English
Charles Hull, Astrophysics
Irvin Hunt, English
Ryan Hynd, Mathematics
Reginauld Jackson, Public Health
Adam Jaffe, Mechanical Engineering
Tyrone Johnson, Education
Arthur-Damon Jones, Economics
Jessica Kennedy, Business Administration
Anthony Kim, Education
Mimi Kim, Social Welfare
Kathleen Lask, Applied Science and Technology
Priscilla Layne, German
Loan Le, Political Science
James Lee, English
Pamela Lee, Electrical Engineering and Computer Sciences
Tarisa Lerro, Mechanical Engineering
Munira Lokhandwala, Rhetoric
Flor Lopez, Hispanic Languages and Literatures
Gabriel Lopez, Bioengineering
Ricardo Lopez, Romance Languages and Literatures
Jamie Lyon, History of Art
Nadia Madden, Energy and Resources
Alexandra Main, Psychology
George Marti, Physics
Rhia Martin, Chemistry
Tyler Matthews, Materials Science and Engineering

Meet the Dean in Washington D.C.

From left: Jeremy Monat (Ph.D. Chemistry '02), Ann Mathison, Jon Pennington (Ph.D. Sociology '05), and Paul Reverdy (B.S. Engineering, Physics & Applied Math '07), in Washington, D.C., gathering on May 21, 2008.

Meet the Dean in London

From left: Daniel Mouen-Makoua (M.S. '85, M. Eng. '86), Jeffery Kile (M.A.'93, MPH '94), Graduate Dean Andrew J. Szeri, Callen Sor, Claire Weldin (M. Arch.'98), Richard Halkett (MPP '05), and Obebe Ojeifo on July 1, 2008.

Shawn McDougal, Mathematics
Andre McSwain, Economics
John Metcalfe, Epidemiology
Damien Mondragon, Mathematics
Nathan Moore, Physics
Joseph Patrick Michael Motion, Bioengineering
Kristen Nelson, Sociology
Natasha Nguyen, Agricultural and Resource Economics
Cortney Norris, Classics
Karina Palau, Comparative Literature
June Park, Education
Lynette Parker, Education
Erika Parra, Mechanical Engineering
Mary Phillips, Mechanical Engineering
Ryan Phillips, Political Science
Sophrol Pin, Political Science
Emmanuel Pizano, Comparative Literature
Samia Rahimtoola, English
Paul Ramirez, History
Sara Ramirez, Ethnic Studies
Zachary Ramirez, History
Sanaz Rezaeian, Civil and Environmental Engineering
Margaret Rhee, Ethnic Studies
Petra Rivera, African American Studies
Ana Rocca, Economics
Timothy Rodriguez, Anthropology
Daniela Rodriguez, Public Health
Jacob Rodriguez, History of Art
Adrianne Rosales, Chemical Engineering
Luis Salas, History of Art
Alisa Sanchez, Rhetoric
Miguel Sanchez, Molecular and Cell Biology
George Schaeffer, Mathematics
Jeffrey Schauer, History
Serena Scott, Bioengineering
Christyna Serrano, Education
Bhavna Shamasunder, Environmental Science, Policy, and Management
Daniel Shu, Classics
Jessica Shu, Materials Science and Engineering
Marisol Teresa Silva, Ethnic Studies
Andrea Silverman, Civil and Environmental Engineering
Jeremiah Sims, Education
Tyfahra Singleton, Comparative Literature
Claudia Sitgraves, Economics
Shadrick Small, Sociology
Elizabeth Smith, Chemistry
Stephen Smith, Microbiology
Cyndy Snyder, Education
Anna Sofranko, Civil and Environmental Engineering
Peter Soler, Chemical Engineering
Pablo Solis, Mathematics
Marcelo Sousa, History of Art
Krystal Strong, Anthropology
Cynthia Sturton, Computer Science
Thomas Swensen, Ethnic Studies
Alisa Szatrowski, Sociology
Iris Tien, Civil and Environmental Engineering
Chantal Toledo, Agricultural and Resource Economics
Hoang Tran, Education
Tri Tran, Chemistry
Nguyen Truong, Industrial Engineering and Operations Research
Julie Underhill, Ethnic Studies
Rachana Vajjhala, Music
Adriana Valencia, Architecture
Jessica Vechakul, Mechanical Engineering
Tea Visnjic, Civil and Environmental Engineering
Anh-Thu Vo, Integrative Biology
Barbara Wang, Nuclear Engineering
Julie Ward, Hispanic Languages and Literatures
Santina Watts, Civil and Environmental Engineering
Ronald Williams, African American Studies
Sarah Wodin-Schwartz, Mechanical Engineering
Derek Wong, Political Science
Jenna Wong, Civil and Environmental Engineering
Elizabeth Wueste, Classical Archaeology
Connie Wun, Education
Kevin Wynter, Rhetoric
Sunny Xiang, English
David Xu, Materials Science and Engineering
Megan Ybarra, Environmental Science, Policy, and Management
Kristina Yoshida, Environmental Science, Policy, and Management
Kara Young, Sociology
Julia Zaks, Applied Science and Technology
Cristopher Zeballos, Industrial Engineering and Operations Research
Tianjiao Zhang, Electrical Engineering and Computer Sciences

Regents' Intern Fellowship for Graduate Study
Stephanie Bahr, English
Emily Buzzell, Demography
Lyndsay Campbell, Jurisprudence and Social Policy
Rachel Ceasar, Medical Anthropology
Katherine Chiou, Anthropology
Kimberly Christensen, Anthropology
Jessica Cleary-Kemp, Linguistics
Erin Collins, Geography
Jessica Crewe, Comparative Literature
Michael D'Arcy, Medical Anthropology
Lisa Eberle, Ancient History and Mediterranean Archaeology
Desmond Fitz-Gibbon, History
Ruth Goldstein, Medical Anthropology
Nina Hagel, Political Science
Michelle Hamel, Demography
Adam Hill, Jurisprudence and Social Policy
Verena Hoefig, Scandinavian Languages and Literatures
Emiliano Huet-Vaughn, Economics
Kimberley Kinder, Geography
Andrew Kornbluth, History
Adeline Mueller, Music
Allan Mugishagwe, Music
Alexandra Munck, Classics
Aaron Platt, Sociology
Tom Recht, Linguistics
James Redfield, Anthropology
Andreea Sprinceana, Romance Languages and Literatures
John Stehlin, Geography
Asrat Tesfayesus, Economics
Chloe Thurston, Political Science
Alexander Toledano, History
Adeline Tran, Comparative Literature
Megan Wachspress, Jurisprudence and Social Policy
Joseph Williams, Psychology
Paige Wyatt, Social Welfare
Ahmed Zildzic, Near Eastern Studies

Eugene Cota Robles Fellowship for Graduate Study
Adam Ahmed, English
Jennifer Allen, History
Mason Allred, German
Daniela Bazan, Ethnic Studies
Francisco Brito, Comparative Literature
Stephanie Cardoos, Psychology

Javier Cikota, History
Christian Crisostomo, Near Eastern Studies
Patience Fielding, Education
Armando Franco, Economics
Alejandro Garcia, History
Maxwell Gee, Philosophy
Angel Gonzalez, Education
Luke Haqq, Jurisprudence and Social Policy
Mattie Harper, Ethnic Studies
Savet Hong, Demography
Elizabeth Horevitz, Social Welfare
Marie Le, Education
Manya Lempert, English
Veronica Luna, Education
Willow Lung Amam, Landscape Architecture & Environmental Planning
Bryan Mason, African American Studies
Paul Nadal, Rhetoric
Amy Nguyen, Business Administration
Joseph Orbock, History
Rene Pena-Govea, Hispanic Languages and Literatures
Craig Perez, Ethnic Studies
Kailani Polzak, History of Art
Sumitra Ranganathan, Music
Gerald Reyes, Education
Robert Reyes, English
Reginold Royston, African American Studies
Niral Shah, Education
Justin Spence, Linguistics
James Telesford, Psychology
Dagmar Theison, German
Stephen Thurman, Philosophy
Dragan Trninic, Science and Mathematics Education
Kris Trujillo, Rhetoric
Fithawee Tzeggai, Sociology
Luis Valladares, Italian Studies
Alma Vega, Demography

University Predoctoral Humanities Fellowship for Graduate Study
Yael Almog, Comparative Literature
Marc Boucai, Performance Studies
Daniel Brooks, Slavic Languages and Literatures
Corey Byrnes, Chinese Language
Rachel Carden, Japanese Language
Leon Chisholm, Music
Juliana Chow, English
Kathleen Derrig, Classics
Aglaia Glebova, History of Art
Matthew Goodheart, Music
David Humphrey, Japanese Language
Molly Jacobs, Scandinavian Languages and Literatures
Miki Kaneda, Music
Micha Lazarus, English
Caitlin Marshall, Performance Studies
Tiffany Ng, Music
Gillian Osborne, English
Joellyn Palomaki, German
Francesca Pomara, Italian Studies
Simon Porzak, Rhetoric
Joseph Scalice, South and Southeast Asian Studies
David Simon, Comparative Literature
Marianne Tarcov, Japanese Language
Luke Terlaak Poot, English
Sonali Thakkar, Rhetoric
Sean Williams, German

Single-Year Specialized Fellowship Programs for Incoming and Continuing Students

Paul J. Alexander Memorial Fellowship
Amy Russel, Ancient History and Mediterranean Archaeology

Sidney Hellman Ehrman Fellowship
Kenzo Sung, Education
Jesse Torgerson, History

Elizabeth Roboz Einstein Fellowship
Kevin Ford, Molecular Cell Biology
Emily Jacobs, Neuroscience
Allyson Mackey, Neuroscience

Gateway Fellowship for Graduate Study
Seda Aydin, Sociology
Chloe Baldasseroni, Materials Science and Engineering
Tianhu Deng, Industrial Engineering and Operations Research
Zhijuan Gao, Chemistry
Kevin Grosvenor, Physics
James Hinton, Physics
Lina Hu, Sociology
Hatav Khademi, Public Health
Jessica Singer, French
Louise Anastasia Skinnari, Physics

Graduate Opportunity Master's Program Fellowship
Michael Arzabe, Art
Fayola Autry, Public Health
Angela Bass, Journalism
Bob Bell, Information Management and Systems
Tierra Bills, Civil and Environmental Engineering
Naomi Bragin, Folklore
Zara Bukirin, Public Policy
Stephanie Camoroda, Social Welfare
Regina Chagolla, Education
Zachary De Werff, Law
Derrick Del-Pilar, Latin American Studies
Yarigtnetzilem Diez, Optometry
Hector Duenas, Optometry
Amanda Dyer, Journalism
N'Jeri Eaton, Journalism
Shalwah Evans, Journalism
William Jamil Farbes, Energy and Resources
Jennifer Gage, City and Regional Planning
Megan Garcia, Public Policy
John Gavino, Social Welfare
Maya Gomez, Education
Kenya Huezo, Landscape Architecture
Erica Kashiri, Public Policy
Ly Lam, Optometry
Kaiwa Lui, Optometry
Marcus Markle, Education
Shaddai Martinez-Cuestas, Public Health
Laura Meehan, Public Health
Juana Miranda, Law
Sara Mithra, Folklore

HAROLD S. YUN

Meet the Dean in Seoul

The Berkeley Alumni Association of Korea offered Dean Andrew J. Szeri a warm welcome on January 12, 2009.

HAROLD S. YUN

Plucking a Star from the Sky
하늘의 별따기

Dr. Youngok Ahn (B.S. Chemical Engineering '58) Shares his Memories of Berkeley at the Meet the Dean Event in Seoul

Going to America as a Korean student in the 1950s was nothing like it is these days. After you were admitted by an American university, you had to obtain an Affidavit of Support to receive a visa to enter the United States. As Koreans would fondly say, it was like plucking a star from the sky. Twenty of us were lucky in the winter of 1953, becoming eligible to go to America with support from the Bay Area Armed Forces Wives Club. At that time, I was a junior at Seoul National University studying Chemical Engineering. There were about 50 Korean students at Berkeley when we transferred there in 1955. Of these, only five were female students.

To get to campus from where I lived at Eton Court, I rode a bicycle along College Avenue, passing the Berkeley Presbyterian Church where I married my wife. I think the Berkeley campus was even prettier at that time. Back then, there was no Student Union in front of Sather Gate. One of my most distinct memories of Berkeley is of the debate between Dr. Edward Teller, who was in favor of building a hydrogen bomb to use against the Communists, and Dr. Linus Pauling, who was opposed. It was the beginning of the student movement called Slate. But we engineering students were too busy with our studies to get involved. We studied hard and also played hard. I remember dances at the Westminster House and I-House. The library was open 24 hours on weekends for those who had to submit their homework by Monday.

Many who are building Korea today are those of us who studied at Berkeley and came back to do our part. In every sense of the word, Korea is a country whose survival was a miracle in the early 1950s. We could not have become what we are today without the help of America. I hope Berkeley and its graduates will continue to contribute to this unending endeavor, for our friendship for a long time to come.

Mary Nguyen, Optometry
Tuy-Ngoc Nguyen, Health and Medical Sciences: Medical Program
Olufisayo Oke, Public Health
Fairley Parson, Social Welfare
Lauren Pettis, Social Welfare
Samson Reiny, Journalism
Judy Rivera, Optometry
Paola Rizzuto, Architecture
Steve Saldivar, Journalism
Sheila Sanchez, Education
Viridiana Sanchez, Education
Ernest Sandoval, Education
Geraldine Slean, Health and Medical Sciences: Medical Program
Jennifer Tillett, Public Health
Dung Tran, Education
Carlos Velasquez, City and Regional Planning
Christopher Vercammen-Grandjean, Public Health
Betty Wang, Optometry
Adrianne Wheeler, City and Regional Planning
Brook Williams, Education
Gerrell Wilson, Architecture

International House Fellowship for Graduate Study
Todd Cameron, Microbiology
Yuwei Liu, Geography
Sivan Eldar, Music
Viacheslav Sheremirov, Economics
Daniel Viragh, History

Mentored Research Award for Graduate Study
Aditya Adiredja, Science and Mathematics Education
Jacqueline Bass, Political Science
Rebecca Calisi, Integrative Biology
Robert David, Anthropology
Sherrie Gallipeau, Integrative Biology
Melissa Hidrobo, Agricultural and Resource Economics
Gina Jibrin, Education
Gwendolyn Leachman, Jurisprudence and Social Policy
Maxine McKinney de Royston, Education
Jennifer Morazes, Social Welfare
Arnab Mukherjea, Public Health
Ryan Rideau, African American Studies
Amy Shen, Ethnic Studies
Jonathan Snowden, Epidemiology
Shauhin Talesh, Jurisprudence and Social Policy

Arthur Ferreira Pinto Foundation Fellowship
Idalina Baptista, City and Regional Planning
Isaac Hacamo, Business Administration
Felicia Viator, History

Dr. and Mrs. James C.Y. Soong Fellows Program
Chih Chiang, Anthropology
Tsung-Te Liu, Electrical Engineering and Computer Sciences
Chung-Min Tsai, Political Science

Rosalie M. Stern Graduate Student Award
Thea Gold, Near Eastern Studies

Chang-Lin Tien Graduate Fellowships in Environmental Sciences
Christopher Ellison, Microbiology
Lillian Fritz-Laylin, Molecular and Cell Biology
Philip Johnson, Biophysics
Kristin Robrock, Civil and Environmental Engineering
David Soergel, Biophysics
Eric Steen, Bioengineering
Michael Wasserman, Environmental Science, Policy, and Management

Una's Fellowship
Stephanie Peltner, German

The View

A two-story rotunda greets visitors at the newly-reopened Bancroft Library, following a three-year, $64 million seismic retrofit and upgrade financed in equal amounts by the state and more than 700 private donors. The Bancroft is home to the world's finest collection of primary sources on the history of California and the American West.

PEG SKORPINSKI

The library contains some of the most heavily used special collections materials in the country and draws readers from around the world. The Bancroft houses the University Archives, the Mark Twain Papers and Project, rare books and manuscripts, the Regional Oral History Office, paintings, millions of photographs, the Center for Tebtunis Papyri, original sketches of the atomic bomb, four hand-powered printing presses, and wide-ranging literary collections representing the best of the Beat Generation as well as authors Joan Didion, Maxine Hong Kingston, Frank Norris, Bret Harte, Ambrose Bierce, Yoshiko Uchida, Eldridge Cleaver and others. The library's valuable collections will benefit from improved fire suppression systems, four different climate control zones, and a cold storage vault to protect film and prints.

Each year, the Bancroft serves more than 12,000 inquisitive library users and records nearly 300,000 visits to its various Web pages, while answering close to 45,000 reference questions and hosting almost 200 course-related sessions for 19 different campus departments. Its primary users come from College of Letters & Science departments such as history and English and from students of foreign languages such as Spanish, Latin, ancient Greek and Middle Persian/Pahlavi. Interest from scholars in other academic fields, including engineering and the sciences, is on the rise. In fact, the first item charged out over the new circulation desk was a microfilm containing correspondence, manuscripts, and notes relating to the teaching and research of the late Robert Spencer Stone, a UC Berkeley professor of radiology and leader in the development of radiation therapy.

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GRADUATE COUNCIL

LECTURE Series

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Even an academic lecture series can have its greatest hits. These four speakers have all given talks at Berkeley during the last decade, each to a capacity crowd. You can watch these lectures anywhere you can fire up a computer.

Amartya Sen, an Indian-born economist, won the Nobel Prize in that field in 1996. He gave a pair of Hitchcock Lectures at Berkeley in 2005, *The Violence of Illusion* and *Making Sense of Identity.*

Elizabeth Warren, a Harvard law professor, gave a 2008 Jefferson Lecture called *The Coming Collapse of the Middle Class.* She has since become the chair of the Congressional Oversight Panel keeping tabs on the U.S. banking bailout (a.k.a. the Troubled Assets Relief Program, or TARP).

Steven Chu, who earned his Ph.D. at Berkeley, had already won the Nobel Prize in physics before his 2003 lectures on *Holding on to Atoms and Molecules with Lasers.* He has since returned to Berkeley as director of the Lawrence Berkeley National Laboratory and most recently was appointed U.S. Secretary of Energy by President Barack Obama.

DONNA COVENEY/MIT

Noam Chomsky, an MIT professor and one of the most influential linguists of our time, came here in 2002 to deliver two Hitchcock lectures on *Language and the Mind Revisited.*

These speakers (and many more) also sat down for Berkeley's excellent interview series, *Conversations with History,* adding a more personal dimension to their presentations. These shows, and many more, are available online for your enjoyment.

See and hear them online, day or night at

www.grad.berkeley.edu/lectures