EXCITING TIMES

“You can dismiss one Nobel Prize as a statistical fluke,” Walter Kohn remarked, “but a spate of three signals something important and exciting happening at UCSB.”

The three Nobels reflect UCSB’s longstanding commitment to excellence in science and engineering. They also highlight a core strength of UCSB: the enthusiasm for interdisciplinary research. Alan Heeger, a member of both the physics and materials departments, received the 2000 prize in chemistry for discovering and developing conductive polymers. Herb Kroemer, who received the 2000 prize in physics for developing semiconductor heterostructures used in high-speed and opto-electronics, calls himself “an applied theorist” and works with faculty in physics, electrical engineering, and materials. And Walter himself, the founding director of the Institute for Theoretical Physics, received the 1998 prize in chemistry.

ENDOWED CHAIR

We are delighted that a chair in experimental physics has been endowed by Bruce and Susan Worster. The department is deeply grateful to the Worsters for their generous support and affirmation of the value of physics at UCSB to our students, to California, and to the nation. The new chair will aid greatly in attracting new experimental faculty of the highest quality.

GRADUATE APPLICATIONS SOAR

Last spring’s applications to the graduate program surged by 30 percent over previous years. Four hundred fifty students applied for the approximately thirty positions available in the fall of 2001. Visits by prospective students nearly doubled the number for the previous year, and 33 new graduate students appeared in the fall of 2001. We were especially pleased that 30% of the entering class were women. I hope this is no “fluke” and that we continue to increase the participation of women in physics. The applications for the fall of 2002 number over 500 and we look forward to enrolling another strong class.

OUR FUTURE

Three new faculty joined our ranks: Crystal Martin, an observational astrophysicist from Caltech; David Stuart, a high energy experimental physicist from Fermi Lab; and Dik Bouwmeester from Oxford, who works on quantum optics and experimental quantum information science. We continue to search for new faculty in experimental condensed matter, string theory, biophysics, theoretical astrophysics, and gravitational physics.

LONG-TERM PLANNING

A cornerstone of our long-term vision is a new building, comprising classrooms, offices, commons, and a community science center. This new building will enable us to recover important laboratory space in Broida that we are currently forced to use for other purposes, such as offices.
Bruce and Susan Worster have established the first endowed chair in experimental physics with a gift of $510,000.

It is the happy privilege of the experimentalist to know that nature never gets it wrong. Bruce Worster (PhD 1971) did his thesis work in the high-energy physics group, conducting experiments to probe the structure of the proton with deep inelastic Compton scattering. “We tested the [then current] model. The tests succeeded,” he says cheerfully, “but the model didn’t.”

After earning his doctorate, Bruce went into industry, bringing his experimental expertise to such endeavors as using lasers to automatically detect defects in semiconductors and developing fiber optics components for telecommunication. “While the purpose of the equipment is different,” he says, “you’re applying the same techniques: designing and building equipment, making measurements, interpreting data. And a general knowledge of physics is invaluable in an engineering environment.”

“Susie and I felt that a physics background was extremely valuable for the success we had,” said Bruce, who retired last February from his position as vice president for strategic manufacturing technology at JDS Uniphase, the largest supplier of optical components for the telecommunications industry.

“In addition, the research group I was in, with folks like Dave Caldwell and Rolly Morrison, was extremely supportive. It’s history now, but the late sixties and early seventies was a very turbulent time: riots, the burning of the bank in Isla Vista, sabotage on campus. The physics faculty never wavered in their support and concern for our well-being.

“We wanted to give something back.”

Susan Worster (BS in environmental biology 1970), now a trustee of the UCSB Foundation, adds, “As students, we learned from highly principled and dedicated professors who transferred the value of learning to their students. Our hope is that this gift will help enhance the academic process for faculty, students, and staff, and that quality people will continue to come to work and study at UCSB.”

It is the happy privilege of the physics department to have such thoughtful alumni. “The Worster Chair in Experimental Physics,” says Rolly Morrison, who was department chair when the gift was made, “will be crucial in attracting and retaining outstanding faculty in this most important and highly competitive area.”

Chancellor Henry Yang, who characterizes the endowment as “visionary and generous,” echoes that view: “Competition for recruitment and retention of top-notch experimental physicists today is fierce,” he says. “This endowment comes at a critical time and will be of significant help to our efforts in this area.”

For more information on gifts and bequests to the physics department, please contact:

Jim Allen, Chair
Department of Physics
University of California
Santa Barbara, California 93106
(805) 893-4888
allen@qi.ucsb.edu

or

Regina Rivera, Development Assistant
(805) 893-5228
development@physics.ucsb.edu
INCANDELA JOINS HIGH ENERGY GROUP

Joseph Incandela joined the faculty last summer as a full professor of physics. Previously, he was a staff scientist at Fermi National Accelerator Laboratory. There, he led the design and construction of an instrument crucial to the discovery of the top quark: the first silicon vertex detector to be used to study collisions produced at a high-energy proton-antiproton collider.

“Joe brings to UCSB a tremendously exciting program at the high-energy frontier,” says Jeff Richman, head of the high-energy physics group. “He has an extraordinary record of accomplishments as both a scientist and a leader. He brings these talents to two of the most important experiments that will point the way in high-energy physics for the next decade and more.”

As part of the CDF collaboration at Fermilab, Joe and his research group study collisions between quarks and antiquarks in the hope of achieving one of the main goals of elementary particle physics: understanding why some particles have mass. He is also pursuing experimental investigations of string theory and supersymmetry. Since particle physics experiments require many years to plan and carry out, Joe’s group is building equipment for a future set of experiments at the Large Hadron Collider, now being constructed at CERN, the international particle physics laboratory near Geneva, Switzerland.

Joe earned his BA (physics) and BS (math) from the University of Chicago in 1981. He stayed on at Chicago and completed his MS and PhD degrees, both in physics, by 1986. He has received a CERN Fellowship, an INFN Fellowship from the Italian Particle Physics Institute, and a Wilson Fellowship from Fermilab.

FACULTY AWARDS AND HONORS 2000–2001

Leon Balents was awarded a Packard Foundation Fellowship for Science and Engineering for his work in theoretical condensed matter physics. The fellowship provides $125,000 a year for five years for Leon to continue his work on nanoconductors, nanotubes, and novel magnetism.

France Cordova, who is vice chancellor of research as well as professor of physics, was named a laureate of the Kilby Awards Foundation, which seeks to “identify, celebrate, and provide heroic role models for future generations.” France was cited for establishing new paradigms in research across disciplines at UCSB. In April 2002, France was named chancellor of the University of California’s Riverside campus, and will begin her appointment July 1.

Deborah Fygenson has been named an Alfred P. Sloan Research Fellow. Described as “an extraordinarily competitive award,” the fellowship carries with it a grant of $40,000 to support her research in biological physics. The focus of Deborah’s work is on understanding the physical character of such counter-intuitive phenomena as single molecule machines, self-assembling architectures, and spontaneous information processing. She is an expert on microtubules, which provide mechanical support to cells.

Alan Heeger has been elected to the National Academy of Sciences. Election to the Academy is considered “one of the highest honors that can be accorded to a U.S. scientist or engineer.”

Walter Kohn, professor emeritus and founding director of the Institute for Theoretical Physics, received honorary doctorates from Oxford and Rutgers universities in 2001, as well as the Harvard Graduate School of Arts and Sciences Centennial Medal, awarded for “contributions to society as they have emerged from one's graduate education.” Walter is a condensed matter theorist who has made fundamental contributions to our understanding of the electronic structure of materials. His many awards include the Niels Bohr/UNESCO Gold Medal, the National Medal of Science, and the 1998 Nobel Prize in chemistry.

James Langer has been elected vice president of the National Academy of Sciences. He began his four-year term in July 2001. Jim was elected to the Academy in 1985 for his theoretical studies of nonequilibrium pattern formation, particularly dendritic crystal growth. His current research interests include the dynamics of earthquakes.

Phil Lubin has been elected a Fellow of the American Physical Society, an honor reserved for no more than one-half of one percent of the members in any given year. Phil was cited for his pioneering experimental studies of the cosmic background radiation, which have provided new information about the earliest moments of the universe and the origin of the large-scale structure that we perceive in the universe today.
KOHN TALKS ABOUT EXPERIENCE WITH CATHOLIC CHURCH

Professor Walter Kohn was invited to give the first lecture in a series entitled “Science, Religion, and the Human Experience.” The three-year program of public lectures at UCSB is supported by the John Templeton Foundation.

Walter spoke last spring to an audience that overflowed the main seminar room of the Institute for Theoretical Physics. In his talk, “Reflections of a Physicist after an Encounter with the Vatican and Pope John Paul II,” he discussed what unfolds when religious institutions take an active role in scientific discourse, and his correspondence with the Holy See “on the subject of religions that make exclusive claims to truth and the ultimate good.” (His talk, along with more information on the lecture series, can be found at www.srhe.ucsb.edu.)

Walter describes himself as religious in two senses: he adheres both to liberal Judaism, the tradition in which he grew up, and to what he calls “non-denominational deism, which springs from my awe of the world of our experiences and is heightened by my identity as a scientist,” he says.

“Science alone,” he is convinced, “is an insufficient guide to life.”

GOOD REASONS TO CELEBRATE

David Gross, director of the Institute for Theoretical Physics, chats with Steven Hawking at a conference on “Heterotic Dreams and Asymptotic Visions,” held last March in honor of David’s 60th birthday. (The event’s whimsical title alludes to David’s seminal work in both string theory and in the theory of the strong and weak forces.)

This year, two institutions conferred honorary doctorates on David: the University of Montpellier and Hebrew University in Jerusalem. David also received the 2000 Harvey Prize in Science and Technology. The prize is awarded annually by the Technion (Israel’s Institute of Technology) for breakthroughs that have been a source of inspiration to other scientists.

Another cause for celebration is the decision of the National Science Foundation, following a comprehensive review, to increase its funding of the ITP to $17.3 million for the next five years—the largest single federal research grant ever made to UCSB.
Banana Hammers and Slinkys

Graduate students share fun and physics at local schools

Can you suspend an object in mid-air if you’re not Harry Potter? Can you use a banana to pound a nail into a board? Are these physics questions?

How students in the Santa Barbara area answer these questions may depend on whether they’ve encountered the UCSB Physics Circus, a collection of hands-on demonstrations using everyday objects presented by a lively group of volunteer graduate students and faculty.

“The main idea is to show students that science is fun and within their reach,” says faculty sponsor, professor Jean Carlson. She would like to see the Physics Circus visit every school in the Santa Barbara district within three years.

Conceived five years ago by Abigail Reid, then a graduate student in physics and education at UCSB, the Physics Circus comprises presentations designed for elementary, middle school, and high school students.

Physics Circus graduate student program coordinator, Miriam Friedel, and local teachers help shape the presentations to fit in with the schools’ science curricula.

Is the program successful? Rob Geller, who runs the graduate student course in which UCSB students develop, evaluate, and revise the demonstrations and scripts for the program (and, not incidentally, hone their teaching skills), points to the enthusiastic thank-you letters the program has received. One of his favorites is from an elementary student:

“...My brother is in high school and he takes physics. I explained what you did and he said that you guys just told us the fun part. Oh well.”

It is undeniably enjoyable to see an object hovering in mid-air, repelled by a magnetic field, and to watch a nail pounded into a piece of wood by a banana that has been hardened in liquid nitrogen. The engaging discussions of the phenomena are themselves compelling; they demonstrate that achieving a better understanding of nature may be the most fun of all.

For more information, visit our website (www.physics.ucsb.edu) and click on outreach.
How Do You Take a Snapshot of the Universe When It Was Only 300,000 Years Old?

by John Ruhl

Cosmologists from UCSB and their international colleagues recently released the most precise measurements yet of the Cosmic Microwave Background. The new data analysis reveals harmonics of the early universe that further strengthen initial results showing that the universe is flat and confirm current ideas of the big bang expansion.

During its first few hundred thousand years, the universe was so hot and dense that atoms did not exist; instead, the universe was filled with an ionized plasma, primarily consisting of photons, protons, and electrons. The expansion of the universe cooled the plasma, eventually enough that the photons could no longer keep the plasma ionized, and hydrogen was able to form.

In this process, the universe was transformed from opaque plasma to a clear gas, and the photons that were present simply continued to fly through space; we see those photons today, some 15 billion years later, and call them the Cosmic Microwave Background, or CMB. Any structures that were present in the very early universe would leave traces in the CMB: faint patterns of variations in brightness.

For decades, researchers have been trying to map its brightness across the sky to learn about such variations. These variations are reflected in tiny temperature variations, just a part in $10^5$ in the average temperature of 2.73 degrees Kelvin.

To measure these variations, the BOOMERANG (for Balloon Observations of Millimetric Extragalactic Radiation and Geophysics) collaboration built and flew a specially constructed instrument. The instrument consists of a telescope with a 1.2-meter primary mirror and a bolometric detector array, and was flown at an altitude of 120,000 feet (to get above atmospheric water vapor). The detector array was cooled to 0.28 K and had angular resolution of about 0.17 degrees, with four frequency channels from 90 to 400 GHz. The 10.5-day flight circumnavigated the pole, riding the stratospheric polar vortex, and was brought down within 30 miles of the launch pad. The images obtained represent about three percent of the sky—so much data that new techniques of data analysis had to be invented by the team. The BOOMERANG team is drawn from 16 organizations in Canada, Italy, the U.K., and the U.S. Primary U.S. support comes from NSF and NASA.

In the past year, there have been two major steps forward in CMB research, led by results from BOOMERANG. For about 30 years, the simplest (and preferred)
cosmological models anticipated that acoustic oscillations in the primordial plasma would imprint their signature on the CMB sky. Oscillations of all wavelengths would be occurring in the plasma, but a coherent phase relationship between them would lead the CMB, which provides a snapshot of those oscillations at a particular time, to have brighter variations on some particular scales.

In fact, it was predicted that if the universe were characterized by a flat geometry, there would be a dominant scale of roughly 1 degree on the sky, with harmonics appearing at approximately one degree, 1/2 degree, 1/3 degree, and so on. If the geometry of the universe was not flat, the fundamental “tone” and its harmonics would shift slightly in angular scale.

In April 2000, the BOOMERANG team released the first detailed image of the microwave background; this image had enough sensitivity and angular resolution to precisely measure the dominant angular “scale” of the brightness variations of the CMB sky, i.e., the fundamental tone. These results indicated that the universe is essentially flat and, combined with data from distant supernovae, as shown in the second figure, favor a repulsive cosmological constant (a positive value of $\Omega_\Lambda$).

What’s next? BOOMERANG heads to Antarctica again in December 2002, this time to map even fainter images encoded in the polarization of the CMB. By imaging the polarization, the collaboration may be able to look back to the inflationary epoch itself—right back to the very beginning of time.

For more information on BOOMERANG visit http://www.physics.ucsb.edu/~boomerang/

Professor John Ruhl heads a laboratory of experimental cosmology at UCSB. (“No, we don’t make Universes,” says the group’s website; “just stuff to study the one in which we live.”) He holds a BA from the University of Michigan and an MS and PhD from Princeton, all in physics. After spending two years as a postdoc at the University of Chicago, he was appointed to our faculty in 1995. John is the principal investigator from the U.S. for the polarization measurement phase of the BOOMERANG experiment.
After 34 years on the UCSB physics faculty, Rollin (Rolly) Morrison has retired. Rolly’s research focused on experiments to explore elementary particles, particularly the photon and the charmed quark. He is recognized by his colleagues in the high-energy physics community for his intuition into how complex experiments work, his gift for knowing how to make the right measurement, and his ability to solve problems of many kinds. Three of his close department colleagues offer their appreciation below.

Harry Nelson, professor of physics:
Rolly came to UCSB in 1967. A full professor of physics since 1978, he served as chair of the department from 1997–2000. He was awarded a Fulbright Fellowship and was named a Fellow of the American Physical Society. He also served on the Fermilab Physics Advisory Committee from 1993–1997, which he chaired from 1995–1997.

As department chair, Rolly enhanced our graduate student recruiting, which led to an entering class of record size in Rolly’s first year. Rolly also took on squarely a few of the most challenging issues that our department has ever faced, including a staff reorganization, renewal of the Broida Hall complex, and comprehensive planning for future classroom, lab, and office space. Our department is healthy, flourishing, and looking toward a bright future in large part due to Rolly’s vision and skill in problem solving.

Jeff Richman, professor of physics:
Rolly has had a remarkable and distinguished career in experimental high-energy physics; he has also been a great colleague and friend.

Rolly played a leading role in the historic Fermilab E691 experiment that forever changed our field by introducing the technology of silicon microstrips to the problem of identifying particles with heavy quarks. The match between this technology and the physics of charm, bottom, and top quarks seems made in heaven. The high position resolution of these devices provided a tool to distinguish in a spectacular manner the decay points, or vertices, of particles containing charm and bottom quarks. A silicon detector system was crucial to the later discovery of the top quark, because the vast majority of top-quark decays produce bottom quarks.

It is hard to imagine a modern particle physics experiment without silicon microstrip detectors. Their high resolution, fast response, and robust nature has led to their use on a scale scarcely imaginable even a few years ago. Mike Witherell and Rolly Morrison, together with their collaborators in E691, showed the world what was possible.

Mike Witherell, director of Fermi National Accelerator Laboratory:
Rolly is the first physicist with whom I discussed the ideas for the Fermilab charm experiment that made my career. I needed somebody to encourage me to develop those ideas and to help me keep it grounded in reality. He did those things and then went on to work with me on building the silicon vertex detector that made the experiment a success. It was the most productive period of my career and the most enjoyable.

I had the pleasure of working with Rolly for about 15 years on that Fermilab experiment and on the CLEO experiment at Cornell. His enthusiasm and love for physics helped to make it a wonderful collaboration.

While at UCSB I missed the chance to tell people there how much credit Rolly deserves for giving me the chance to build my career. I would like to correct that now.

Thanks, Rolly.
The Road Less Traveled

by Kate Metropolis

In the early eighties, when Dale Pfost (pronounced “Post”) was wrestling with the requirements to obtain a PhD in physics at Brown University, his advisor discovered on his desk a copy of A Guide to Venture Capital Sources. The professor noted the price—a few months’ rent for grad student housing—and said, “You’ll be lucky to ever get your money back.”

“I hope,” Dale adds as he tells the story, “that he’s a shareholder now.”

Dale has served as chairman, president, and chief executive officer of a biotech company, Orchid BioSciences (ORCH on NASDAQ), since 1996. When he came on board, he was the company’s second employee. He has since been joined by some 640 more, who work at eight locations in the U.S. and Europe; last year the company generated over $28 million in revenues and is slated to do over $60 million this year.

A fourth-generation Californian, Dale grew up in Los Altos, when it was still surrounded by apricot orchards, not multimillion-dollar houses. Both his parents attended Berkeley. His father, an electrical engineer, was one of five original inventors of the first commercial video tape recorder; he also invented the first disc recorder that enabled instant replays of sports events.

His father’s vocation strongly influenced the family’s recreational activities: together they built Heathkits, pinewood derby racers, an astronomical observatory in the Santa Cruz mountains, and “exceedingly, dangerously large” aluminum kites.

As Dale grew up, silicon took over the orchards. When he was 14, he started working after school and over the summers at a company that produced die and wafer inspection systems for the automation of microelectronics fabrication and testing. It was not a venture on the scale of Intel: at one point Dale constituted one-third of the work force, which gave him “a lot of experience in all facets of the business.”

When he arrived at UCSB, his first inclination was to go into biology. His pleasure in the family engineering projects pointed to another possible direction, leading Dale to sign up as a physics major. He had never taken a physics course before, but was confident that “physics is the one science that gives you the ability to answer fundamental questions and to solve a huge variety of problems.”

Before he had completed his first year of introductory work, his internal special-project detector emitted a strong signal. Having heard that the high-energy group was well funded, he approached the group’s leader, David Caldwell. David told him to go talk to Rolly Morrison. Dale spent the next three and a half years helping to design, build, test, and install a calorimeter for an experiment to detect charmed particles.

“Working in the high-energy physics group changed my life. The department has earned its top ranking, and I am proud to be an alumnus.”

Heroes: Edison, Hewlett and Packard, Steve Jobs, Bill Gates, his parents: “People who took great initiative and blended science, technology, and commerce to create great things.”

Other passions: Spending time with his wife and son. Inventing recipes (“maybe one dish out of ten becomes approved for guests”). Travel. Reading history and biographies.

“Initiative is a desperately scarce resource that has risks and rewards.”

Number of patents: 10.
People who hear only about the results of high-energy physics research can get the notion that it’s a pretty esoteric subject.

People who actually build successful high-energy physics experiments, however, work in the very real world. To look for phenomena that have never been seen before, you have to figure out how to build things that have never been built before.

Such undertakings rely on diverse talents. “I can’t say enough about how positive my impressions were of the people in the machine shop, the technical support groups, the supply and purchasing teams while I was at UCSB,” Dale says. “They were fantastic and have been a source of inspiration my whole career.”

Dale went on to graduate work in condensed-matter physics at Brown. The special project of that period began with a visit to a friend who was doing graduate work in pharmacology at Harvard. Dale began thinking about the laborious manual processing of liquid samples. Wasn’t there a way to automate it?

While finishing his course work and completing the experimental part of his thesis, he conducted market research. Venture capital guide in hand, he and some friends founded a company and built the Biomek 1000, a programmable robot for performing repetitive tasks in biotechnology research laboratories.

For one nervous period of about a year he had to put his PhD on hold and run the company full time. His advisor was supportive but skeptical that Dale could return and finish his thesis. Beckman Instruments acquired the company in 1984. Remaining with Beckman, Dale traveled to Brown one week every month for about a year and completed his PhD.

After spending a couple of years as head of Beckman’s robotics and automated chemistry systems group, Dale became managing director, president, and chief executive officer of a newly formed company in England. Its goal was to commercialize the expertise of Oxford University researchers in the role carbohydrates play in normal biological processes and in such threats to human health as AIDS, arthritis, and blood clots. Oxford GlycoSystems was the first commercial venture in the University’s 800-year history. That company is now publicly traded in England.

Dale returned to the US in 1996. For the past six years, he has been chairman, president, and chief executive officer of Orchid BioSciences. This biotechnology company came into being because of individual variations in DNA known as single nucleotide polymorphisms (SNPs). Millions of these are the source of differences between you and the person in front of you in line at the supermarket—differences not only in appearance, but also in biological processes, such as the response of cells in your bodies to particular chemical compounds.

If such differences can be deciphered and codified, it could one day lead to a revolution in medicine: prescriptions for the drug that will be most effective, not just for a particular disease, but for a particular individual’s unique metabolism. Orchid is on the cutting edge of developing the DNA tools necessary for such a revolution: vast databases, software, ultra-high throughput SNP scoring, and rapid throughput DNA analysis for pharmaceutical companies.

Orchid’s website is www.orchid.com.
Rudi Stuber, Machine Shop Manager, Retires

by Nancy Fraser

Rudi Stuber, Physics Department Machine Shop Manager, retired in the Fall of 2001 after more than 30 years of service. During his tenure, Rudi was a significant contributor to countless numbers of faculty, graduate students, and researchers across the campus (as well as to universities across the nation) in the achievement of the instructional and research missions of the university. As a result of his leadership, the Department was able to create and nurture an exceptionally fine machine shop. In a recent external review of the Department, it was noted that the UCSB Physics Machine Shop is “arguably the best in the UC system”. Physics faculty member, Paul Hansma, credits Rudi with raising the level of the possible because of his machining excellence. We wish Rudi a long and happy retirement.

2001 Physics Department Student Awards

Outstanding Teaching Assistant Award
Ian Eisenman, Mark Henle, Carol Johnston

Ferrando-Fithian Fellowship
Viorica-Cristina Bena

Hanan Baddar Graduate Fellowship
George Khoury

Wheelon Fellowship
Christopher Savage

Arnold Nordsieck Award
Craig Cusworth

Boston Area Undergraduate Physics Competition
Worawat Meevasana

Outstanding Senior Award
Keith Copsey

John Cardy Award
Eric Dunham, Jeff Endelman, Matt Foster

PLANNING TO VISIT SANTA BARBARA?

If you are interested in visiting the UCSB Department of Physics, we will be pleased to assist you with coordinating meetings with faculty and providing campus resource information.

Regina Rivera, Development Assistant
UCSB Department of Physics
Phone: (805) 893-5228
e-mail: development@physics.ucsb.edu
Lifetime E-Mail Address Offered to Alumni

Worry that your electronic correspondents will lose track of your new e-mail address if you change your job or your Internet service provider? Want to deftly remind people that you’re a UCSB alum? Now you can keep the same e-mail address for life, at no cost to you.

Graduates of UCSB Physics Department programs qualify for free e-mail forwarding accounts. You will be given an “@alumni.physics.ucsb.edu” address. E-mail sent to you at that address will automatically be forwarded to your preferred e-mail address. Should that address change, you update our record of your preferred address, but the change is invisible to your correspondents: they continue to use the same @alumni address.

UCSB is very well connected to Internet2, and we expect no appreciable delays in forwarding your e-mail.

This forwarding service is not an Internet service provider. You must have an independent e-mail account to store your e-mail.

We respect the privacy and time of our alumni. We will not disclose your e-mail address to any outside vendor, nor will we pester you with daily news messages.

For more information, or to sign up for this service, please contact:
Regina Rivera
Department of Physics
University of California
Santa Barbara, California 93106
phone: (805) 893-5228
e-mail: alumni@physics.ucsb.edu