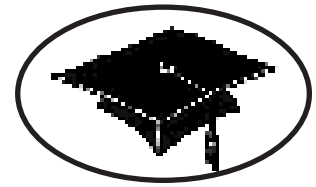

Berkeley Emeriti

TIME S



May 2003

Professor Robert J. Full

Department of Integrative Biology

“Bio-Inspired Search and Rescue Robots”

Saturday, May 3, 2003

Robert J. Full, Professor of Integrative Biology, is “swamped” these days as he heads off to Washington D.C. to discuss bio-inspired search and rescue robots. He suggested this could be the topic of his talk at our luncheon on Saturday, May 3.

As director of the Poly-PEDAL Laboratory, he studies the Performance, Energetics and Dynamics of Animal Locomotion, applying the same techniques used in the study of human gait. His internationally recognized research program in comparative physiology and biomechanics has shown how examining a diversity of animals leads to the discovery of general principles of locomotion. Discovering the function of simple, tractable neuromechanical systems along with a knowledge of evolution can provide new design ideas applicable to the control of animal and human gait. His research has also provided biological inspiration for the design of multi-legged robots and computer animations. His research interests extend from analyzing the motion of a Hall of Fame pitcher to assisting computer animators make children’s movies.

Full received his doctoral degree in 1984 from SUNY Buffalo, followed by a research and teaching postdoctoral position at the University of Chicago before joining the Berkeley faculty in 1986. He is the recipient of an NSF Presidential Young Investigator’s Award, a Distinguished Teaching Award, the Chancellor’s Professorship and the Goldman Professorship for teaching.

Mark Your Calendar 2003-2004

Please take note and mark your calendars for the following future UCBEA luncheons.

September 13, 2003
November 8, 2003
January 31, 2004

March 20, 2004
May 8, 2004

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**The Scientific and Engineering Response
to the Challenge of Earthquakes**

At the UCBEA luncheon on Saturday, March 22, 2003, Professor of Seismology Bruce Bolt spoke of "Earthquakes: Hazards and Predictions."

The great San Francisco earthquake of 1906 was a tragedy, but it was also an opportunity for advancement of knowledge, a decisive event in the history of seismology. The quake study, lead by Professor Andrew Lawson of UC Berkeley, changed completely ideas of the origin of ground movement. Lawson concluded that shaking is caused by the sudden release of energy as slippage occurs along a fault, a view that is still accepted. However, Professor G. D. Louderback, his associate and former student, later questioned Lawson's conclusion that quake intensity is greatest near the fault. Indeed, Professor Bolt showed old photographs of buildings along the 1906 ground break of the San Andreas Fault that appear to be undamaged, with window glass unbroken. It is now appreciated that shaking intensity depends greatly on the physical properties of the land. In the 1989 Loma Prieta earthquake, areas of Oakland underlain by soft alluvial deposits suffered much more severe shaking than did San Jose, which was fifty miles closer to the beginning of fault rupture. This amplification of motion is much less on rock or firm soil.

Professor Bolt would not be drawn into predicting when earthquakes will occur. That is still beyond scientific capabilities. However, there is now at hand data and understanding to estimate potential ground movement. Seismologists and geologists can give engineers these estimates to guide structure design. Professor Bolt showed a brilliant example of the success of this procedure. The trans-Alaskan oil pipeline crosses the Denali fault, and engineers building the line were advised by seismologists, including our speaker, about the potential ground motion. In November 2002, a 7.9 magnitude quake occurred on the fault. A spectacular post-quake photograph shows the huge pipe displaced and bent 18 feet out of line without breaking! Based on the seismologists' estimates engineers had made flexible mounts permitting twenty feet of horizontal movement, enough to accommodate the actual movement.

Today, we have a global theory of earthquakes based on plate tectonics and arrays of instruments to measure ground motion going beyond the relatively small number of seismographs in institutions. Information from recent quakes in Turkey and Taiwan add to our knowledge.

Berkeley can take pride in its leadership in earthquake research – Professor Bolt described the 1906 event as a "Berkeley earthquake." In light of this record and the presence of outstanding engineers and seismologists at Berkeley, why do so many of our campus buildings, some of fairly recent construction, fail to meet seismic standards? This question has long troubled our speaker and, in the past, his publicly calling attention to such

Did You Miss the George Leitmann Special Event?

For those who missed Professor George Leitmann's presentation of "A Legacy of Shame: Nazi Art Loot in Austria" on February 21, the Center has copies of his hand-outs. To have a packet mailed to you call the Retirement Center.

Berkeley Emeriti

F I M E S



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Published two weeks before each meeting of the UC Berkeley Emeriti Association: To provide closer networking for members with meeting announcements, meeting reviews, executive committee actions, pertinent campus news, and to reach out to members who cannot attend the meetings.

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UCRS Portfolio Management Policy

In the last edition of the *Emeriti Times*, I raised several questions about the revised management of the UCRS portfolio. UC Treasurer and Vice President David Russ saw an email version of that article and invited me to discuss with him privately my “incorrect interpretation of the facts.” On Tuesday, March 17, he generously spent 2-1/2 hours laying out the background and the analysis leading to the new policy.

Treasurer Russ asked me if I thought the portfolio had been well managed. I thought it had – it is overfunded and no contributions have been required for about 10 years. He responded that indeed the *overall* performance of UCRP was good, but that the UC internal equity fund, while showing positive returns, had not done so well. He presented data showing the performance over a ten year period (7/1992 to 6/2002) of the overall portfolio, the internal bond fund and the internal UC equity fund. Compared to benchmarks (S&P 500 and Russell 3000), the UC equity did not earn as much, 8.1% vs. 9.4%, a relative loss of 1.3%. However, the UCRP bonds returned 10.7% compared to the bond policy benchmark of 8.9%, a relative gain of 1.8%, which gave the overall UCRP a 9.9% return compared to 9.6%, a relative gain of 0.3%.

There is evidence that over a long time period equity managers do not beat the benchmark. Russ agreed that some studies show this, but that under his management at Stanford, the University of Texas, and Pacific Telesis, benchmark performance was regularly exceeded. I remarked that his comparison of UC internal managers to the benchmark would have been more convincing had it also included the performance of external managers, such as those he might choose. He said he has such data.

The underperformance of the internal management of UC equities is the major but not the only reason for the new management policy. The former policy was a single concentrated large capitalization strategy, while the new calls for less risky multiple diversified strategies.

Is control of public assets passing from public officials to private parties? Treasurer Russ objected to the term “privatization.” I think of the term as meaning the transfer of responsibility for public functions from public officials to private individuals, so I believe it may be relevant. However, Russ asserts that he will be very much in control, choosing managers in an *open process with due regard to possible conflicts of interest*.

Treasurer Russ stated that management fees would

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be far less than some that have been quoted. UC is a big player, and managers will be eager to have its business. The negotiated fees will be very low, but the benefits of high performance will be shared giving incentive to managers. On the other hand, those who fail to perform will be cut immediately. Risk assessment analysis indicates the portfolio is more secure now, particularly because at this time it is all in the Russell 3000. In the future, equities not in the Russell will be much more diversified than in the past, reducing risk.

The Regents’ possible connection to financial managers who may benefit from management contracts was beyond the scope of our discussion, as was the Regents’ decision to hold closed meetings.

I was very pleased to have had the benefit of such an informed discussion with Mark Russ who has been acting conscientiously for the benefit of UC annuitants. Story telling is important to the shaping of a community. Your stories can remind us and those who follow what it was like on the campus in earlier decades. In this way we can make a contribution to the memory of the place we love and help sustain.

We hope to collect anecdotes, archive them on the Retirement Center web-site, print them in the *Emeriti Times* and/or read some at our annual meetings. These memories “from the everyday” will be an adjunct to the histories and documentaries already in existence about UCB. Send remembrances by mail to UCBEA, in care of the Retirement Center, or by email to emeriti@uclink.berkeley.edu.

Lending Library

No, it’s not the latest best seller; it’s a volume of useful information if you have a crisis and need a starting place for sound advice. The Center has the first of what we hope will be an on-going series of useful volumes on many subjects.

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UC Botanical Garden Events

Spring Plant Sale, Members' Preview - Friday, April 25, 2003, 5 pm - 7:30 pm

This is the Garden Members' featured sale of the year. It includes a variety of plants for home, garden and landscape uses and a silent auction of choice and unusual plants. Become a member at the door. Free for members.

Spring Plant Sale, Public - Saturday, April 26, 2003, 10 am - 2 pm

The entire Bay Area plant-loving community is invited to this featured sale of the year. A huge variety is available: check their website (<http://www.mip.berkeley.edu/garden/>) close to the sale date to see a list of featured plants. Free.

Mothers' Day Tea - Sunday, May 11, 2003

Here's a novel way to celebrate Mom's special day - luscious treats, music, and a peaceful stroll in the Garden. Seatings are at 1 pm, 2 pm, and 3 pm. \$30, members \$20, children under 12, \$10. Reservations please.

California Spring Wildflower Walk - Saturday, May 17, 2003, 10 am - Noon

Join Nathan Smith, Garden horticulturist and California natives expert, for an informative stroll through the Garden's magnificent collection of native wildflowers. You'll learn to recognize many of the wildflowers found around the state in spring and discover which of these are suitable for planting in your home garden. Fee \$10, includes admission; members free. Registration recommended.

**Call the kiosk for reservations or information (643-2755).
Beginning Memorial Day, the garden is open until 7 pm.**