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Berkeley, July 3, 2002

Dear Dean Richards,

I am writing in the name of the Department of Earth and Planetary Science (EPS) in an emergency request for permission to recruit, outside of the normal cycle, an assistant professor in Seismology. We wish to start the recruitment process in the Fall of 2003, with the goal of having a new hire on board for the Fall of 2004.

This emergency request is motivated by three recent unanticipated events: Professor Lane Johnson's sudden decision to retire in June of 2002 (i.e. now), which was officially announced in May 2002, as well as the death, in February 2002, of Professor Emeritus Thomas McEvilly. Finally, my stepping in as Chair of EPS, starting July 1, 2002, while continuing my role as Director of the Berkeley Seismological Laboratory (BSL), with the immediate consequence that I will not be teaching any formal courses for the next 3 years.

Professor Johnson's retirement and my release from teaching puts us in the difficult position of having to urgently find solutions to maintain two required undergraduate courses for the Geophysics major: EPS121 (seismology), and EPS104 (mathematical methods in Geophysics), as well as the sequence of graduate level courses that Professor Johnson taught in the Spring semester: EPS 204 ( Elastic Wave Propagation); EPS 205 (Theoretical Seismology); EPS 206 (Geophysical Inverse Methods).

and which cover essential material for all graduate students in seismology. Inverse theory is also essential for other solid earth geophysics PhD students.

Professor Douglas Dreger, the only "full time" teaching seismologist left in EPS, will step in to teach EPS121 in Spring'03, which we have identified as the most essential, instead of EPS20, (introduction to earthquakes for non-specialists). Note that Professor Dreger will also assume the responsibility of Associate Director of the BSL, and will teach EPS130 (Strong motion seismology) and EPS207 (Observational Seismology, graduate level).

In 2002-03, EPS104 and EPS20 will be taught by temporary lecturers, a far from desirable emergency solution, but we haven't yet found any temporary solution for the graduate courses, which, if they cannot be offered, is at the detriment of our current pool of geophysics graduate students.

As you know, seismology is not only one of the key disciplines in solid earth geophysics (the others are geodynamics and mineral physics), it is also a discipline of fundamental importance to the UC Berkeley Campus, because of its location in a highly hazardous earthquake zone (the Hayward Fault which runs through the UB Memorial Campus is

considered to be the most likely location of a magnitude 6.8 or larger earthquake in the next 30 years), and through the central role played by the BSL in providing information, education and support for research on earthquakes, particularly earthquakes in northern California.

In the last 12 years, with significant help from Campus, the BSL has grown to be a world class operation and, by some accounts, the best seismological laboratory in the country. It maintains several state of the art earthquake surveillance networks in northern California, is vigorously involved in research on earthquake wave propagation and its effects on ground shaking, on real-time estimation of earthquake location, size, rupture history and shaking distribution, on understanding the physics of earthquakes, as well as on using earthquake waves to illuminate and understand the deep earth structure and dynamics. Such an active program can only be sustained through the involvement of motivated EPS faculty members, who can provide the basic framework for the support of graduate students, post-docs and other researchers.

In this context, Professor McEvelly, while already retired, and a Professor in the Graduate School, played a major leadership role in one of the most important BSL infrastructure and research programs: the development and subsequent data analysis of two seismic borehole networks (one in Parkfield, CA, site of a decade long earthquake prediction experiment and the other along the hazardous Hayward Fault). His death puts this program in a vulnerable position, right at the time when Parkfield has become the focus of a major nationwide program which involves drilling 3km or more into the San Andreas fault zone, in order to gain understanding on "how faults work".

In the short term, Professor Dreger will assume administrative responsibility for these two programs which we do not want to see disappear, however this is at the risk of spreading his efforts too thin, as it will take time away from his other interests, and in particular his interests in documenting and evaluating earthquake threats to the UCB campus.

We feel that the combined reasons described above, assuring continuation of the teaching program in Seismology in EPS, as well as maintaining the health of the seismology program, and fully exploiting the world class capabilities of the BSL, warrant the recruitment, in the immediate future, of a junior seismologist. At the end of June'02, chair Dietrich polled the faculty and got unanimous support for this plan, provided the search is defined broadly to warrant the recruitment of the best possible candidate.

We therefore wish to recruit, at the assistant professor level, an individual with expertise in seismology, and research interests in earthquake related problems that will complement those of the current faculty members (Romanowicz, Dreger and Burgmann-the latter is not a seismologist but applies remote sensing techniques to problems of earth crustal dynamics), and an interest in participating actively in BSL.

We anticipate that we can provide the new assistant professor with adequate space: the office vacated by Professor Johnson (which will need to be renovated) as well as shared space in BSL for computer access for students. BSL and EPS will jointly provide space for graduate students and post-doc's, at least initially (independent of this hire, we anticipate that space issues in McCone Hall will need to be revisited within the next 5

years).

As for start up costs, we anticipate that, because of the shared BSL facilities, and unless the new hire requires a large field program of his/her own, they should not exceed on the order of \$100,000 for research start-up funds. On the other hand, home purchasing support will be needed, given the current real-estate situation. If the graduated interest rate plan goes into effect, this may provide part of the solution.

Hoping that you will be favorable to our request, I will be happy to provide any additional information/clarification that you may wish.

Sincerely

Barbara Romanowicz  
Chair, EPS