Hello Alumni —

The years creep up on you, then go speeding by like a bullet train. As chairman of this great department, I’ve had the chance and challenge to both look over my shoulder to gain perspective, to learn from the chairs that preceded me, and try to look forward, sometimes far forward. The job has its predictable and unpredictable moments, but a constant is that we have always had a department that cares about students and people who thrive on the feeling that being an Earth Scientist is important and unique. Like a well-kept secret, sometimes our administration doesn’t quite ‘get’ us….but just take a look at the numbers: we teach >2600 undergrads per year, lead dozens of field trips, support research projects totaling >$14,000,000 per year. We still teach some classes using chalk-boards! We make our own thin sections! We study the ocean adjacent to Los Angeles like no one else! Our worldwide leadership in Shake-Out training for earthquakes will save hundreds or thousands of lives. We take undergrads to the Andes, we take graduate students to the Andes! We have research projects from Indonesia to Antarctica, Cascades to Palisades.

We sadly lost Katrina Edwards who passed away at a very young age earlier this Fall. We also see the end of the Greg Davis era (>53 years), as he will retire following the Spring 2015 semester. Both Charlie Sammis and Ken Nealson will start a transition to retirement, going half time starting next year. Working among these giants gives me pause and pride and although Earth Sciences teaches that change is the norm, I hate to see them go!

The past year included mini-reunions of Alumni and friends at AAPG, GSA and AGU and in October, a select Alumni get-together on campus, with the primary purpose to help bolster opportunities for our undergrads but also to discuss ways to improve our interaction with all Alumni. You can expect to hear from this Alumni group in the near future on plans to hold a larger reunion here at USC.

Alumni financial support was also discussed by this group. This issue has become more important to the department due to budgetary cutbacks from the USC administration. As a department, we have never been good at “fund-raising”, in part because we don’t really know how to do it. But as Greg Blake said to me during the group discussion, “Just send us a letter asking for a donation.” OK, so the last page of this newsletter describes how we would use donations and how you can donate. Please keep in mind that donations made to USC do not get passed on to the Earth Sciences department unless you make very specific notes on where you want your money to go.

Below are short progress reports provided by some of our faculty. Read about the ‘adventures’ of those old-timers you know and those who’ve joined us in recent years. I hope it stirs up some fond memories.

Very best for the holidays and beyond. Please come by and see us if you are in the area.

Will Berelson
**Thorsten Becker:** The last year has seen the graduation of PhD student Melanie Gerault and arrival of Jessica Stellman, co-advised with Josh West. Thorsten received the Astor visiting professor fellowship at Oxford University where he gave two lectures, next to ten other invited presentations elsewhere. We published 12 papers in 2014, including one in Science and one in Geology. Starting in 2015, Thorsten will be serving on the National Academy of Sciences’ National Research Council for Geophysics, and continues to serve as Editor in Chief for AGU’s journal *G-Cubed*. He is looking forward to spending another few months in Germany next Summer to complete his Humboldt foundation fellowship.

**Ken Nealson** has had a nice year, being very busy in the lab (exciting work with extremophilic bacteria, and electricity-producing bacteria), field (expeditions to a pH 12 serpentinization site in northern California), classroom (teaching the undergrad honors course), and office (24 papers published in 2013, and 13 so far in 2014). I was honored by election as a fellow of the AAAS, and by Thomson Reuters as one of the top 1% cited scientists in my field. One of my recent grads, Jeff McLean, just took a job at the Univ. of Washington, one of my recent postdocs, Moh El-Naggar received a million dollar Presidential Early Career Science & Engineering (PECASE) award, while three others received tenured jobs in Japan (Okamoto as a professor at Tokyo Univ., and Ishii & Suzuki at JAMSTEC (Japanese Marine Sci. & Technol. Inst.). Finally, I am a Co-I with a recent graduate, Rohit Bhartia, who is the Co-PI, on a funded proposal (SHERLOC) to build an instrument for the 2020 Mars Rover mission. This instrument has as its main core, a deep UV microscope and spectrometer that was the heart of Roh’s thesis work at USC a few years ago — Yippee, we are going to Mars!

**Greg Davis:** I am happily in the middle of my last school year in the Department before retiring in May (“finally” someone whispered … 😊). I became a “Trojan” in the Fall of 1961, *not a typo* by joining the Geology Department’s then 6-faculty members (Tom Clements [Head], K. O. Emery, Bill Easton, Orville Bandy, Dick Merriam, and Richard Stone). The department was small enough then that it occupied two post-WW II wooden barracks buildings (only one still remains on campus), plus space in Hancock Hall for the marine-oriented programs. I still remember (amusedly now, but not then) two aspects of teaching that first year — 7 undergrad and grad courses at a salary of $500 a month!

For me, the highlights of this just-ending semester were the teaching of my last TEWNA (Tectonics of Western North America) seminar and its final fieldtrip — this year to the Clark Mountains of the eastern Mojave. TEWNA was quite possibly the first course of its kind in the country and the one course I will miss teaching. Retirement in May will enable me more time with my wife Yaming in our new Studio City home, more time on writing and publishing past research, and much less time commuting on LA freeways. What a great combination!
**Doug Hammond:** It has been an eventful year for the Hammond group. Research has been very busy with 3 grad students and 4 funded projects active. Willie Haskell has been heading up an effort with Masha Prokopenko (alum, now adjunct faculty at Pomona), looking at the response of gross and net oxygen production in response to upwelling near the San Pedro Time Series station between LA and Catalina. The effort involves applying a wide range of radioisotopes and stable isotopes to define the rates of regional upwelling and the biological response to nutrient input, with a goal of characterizing the fraction of carbon production that is exported during the course of the spring bloom. Field work is completed and Willie plans to finish next summer. Jotis Baronas has been working to define the extent of germanium isotope fractionation during the cycling of Ge. This element has a chemistry that is closely related to silicon, one of the essential nutrients in the ocean. If the key processes causing fractionation can be defined, this may prove to be a useful tracer of both modern and past biogeochemical cycles of Ge and Si. Audra Bardsley has been working on the role of pyrite oxidation in Orange County marine rocks, and its role in mobilizing trace metals in runoff. She has also begun work on exploring what radium isotopes might reveal about the behavior of water-rock interaction in response to hydrofracking. Audra came to USC after working with alum Jian Peng who is now with the Orange County Water Board. Two undergrads have also worked hard in the lab this past year. Minda Monteagudo (now a grad student at UCSB) analyzed CaCO3 content in sediments of a Chinese reservoir, to see if these might reveal variations that could serve to characterize annual cycles and accumulation rates. Zhenyu Fu has helped with analyses of 227Ac that will be used to characterize mixing rates in the deep waters of the South Pacific.

*Doug Hammond (cont’d):* In addition to trying to keep up with these hardworking students, Doug continues to teach a lot (Oceanography, Geochem, Mineralogy - not a typo), and serve as the undergrad advisor. The undergrad program has been growing, with about 35 majors now, the most in over 3 decades. The mineralogy field trip is becoming famous, as Jane Hammond has been joining the expeditions to provide gourmet hot meals to keep the undergrads well fed. Doug and Jane will celebrate their first anniversary this year. Several geochem alums have been in touch this year. Blayne Hartman (now THE consulting expert on vapor intrusion), Madeline Worsnopp (environmental geologist at AE Com), and Larry Miller (USGS Research Scientist) all visited for a retreat with undergrads to discuss options for careers in geosciences. Tabitha Esther has just produced her second play about science for K-12 kids. Steve Colbert continues teaching at U Hawaii Hilo. Bret Leslie continues to work for the Nuclear Waste Technical Review Board in Washington. Masashi Kusakabe presented work at the Ocean Sciences Meeting on the migration of radioisotopes released during the Fukushima disaster. He was ready to retire when the disaster occurred, but since then he has been too busy to leave. Christa Wolfe has married Joel and is enjoying her new career managing his holistic medical office. Chris Fuller continues at USGS, with many field projects going on. Jim McManus (former post doc) left Oregon State to become Department Head at the University of Akron. Hong Chun Li is now Professor at National Taiwan University, in charge of the 14C accelerator lab, close to Chih An Huh at the IES of Academica Sinica.

(cont’d on next page)
Dave Bottjer spent the spring of 2014 on sabbatical, and used that to complete some travel to the Galapagos, Florida, the United Kingdom, and China for work and exploration. While here at USC he occupied himself with finishing the first draft of a textbook that he is completing on paleoecology. In the summer of 2014 Dave joined faculty colleagues Frank Corsetti, Will Berelson and Josh West in Peru for several weeks of field work on an NSF-sponsored project to study the Triassic-Jurassic mass extinction. Former grad student Kathleen Ritterbush and current grad student Joyce Yager joined with the faculty in field work in the Andes and also participated in the celebration of a new geology program at a major Peruvian university, PUCP, in Lima. Upon return from Peru Dave geared-up for teaching the general education course on Earth history this fall. All this was pleasantly punctuated by receiving the Albert Raubenheimer Award from the USC Dornsife College at the end of last year, being made an Honorary Member of the Pacific Section of the Society for Sedimentary Geology (SEPM) at their April meeting in Bakersfield, and receiving the Raymond C. Moore Medal for Excellence in Paleontology from SEPM at their annual meeting in Houston.

Scott Paterson: I hope to see all of you soon at meetings or in sunny LA. Come visit if time allows. First some news about alums and students: Adam Ianno is now fully active in a research position at the University of Texas, El Paso. Dr. Valbone Memeti recently completed her Marie Curie Fellowship at Durham, University, England and has now accepted a tenure track position at Cal State Fullerton. Dr. Rita Economos has completed her research position at UCLA and now accepted a tenure track position at Southern Methodist University. I’ve also got a great group of Ph.D. students include Wenrong Cao who will graduate shortly and start a postdoc at Rice; Sean Hartman (working on a ductile-brittle fault transition in the Sierras), Barbara Ratschbacher (working on arc sections in Mongolia and the Cascades), and two new students Snir Attia (deformation partitioning in the Sierras) and Katie Ardill (magmatic structures in Argentina and the Sierras).

My own recent efforts have particularly focused on the study of arc tempos (both magmatic and tectonic) in continental margin arcs and better incorporating field studies, geologic map-making, and studies of rocks in curricula at USC. In regards to the first activity we now have an Elements Volume on “Arc Tempos” that is now accepted, and of which I am a guest editor with Mihai Ducea that will be published in April of 2015. For the latter I am teaching a new “Field Techniques” course for USC undergraduates, and Advanced Mapping course, and am continuing our International program of undergraduate mapping and team research both through formal USC courses and through our field research in the North American Cordillera, Mongolia, Peru, and Argentina. With help from Wenrong Cao, I also organized a short course for the Earth Sciences department on digital mapping techniques with Dr. Terry Pavlis (UTEP). We are also having great fun completely reorganizing our rock teaching collections and now have great teaching collections of igneous, sedimentary, metamorphic, and structural samples including both magmatic and solid-state structures in plutons.
Sarah Feakins: This year the lab has been a hive of activity surrounding a remarkable collection of plant samples from the tropical rainforest of the Amazon up to the cloud forests of the Andes, some of the most biodiverse ecosystems in the world. Our goal is to understand how climatic and ecological signals are encoded in the C and H isotopes of the waxy molecules in the plant leaves. This is towards understanding biogeochemical processes and towards resolving unanswered questions about how our proxies work in the tropics. This project was enabled through collaboration with ecologists from Oxford University and Peru who are testing wider questions about biodiversity, productivity and change in these key ecosystems on a massive scale. A big thanks to the teams of Peruvian students who climbed the trees to gather the leaves. Continuing this endeavor in my lab at USC are undergraduates Lindsay Arvin, Krista McPherson, Ali Figueroa, Haley Royer (all Earth Sci), Evan Rosca (Engineering), Clara Hua (Health Sciences) and most recently graduate student Christine Mong Sin Wu. Special thanks to Camilo Ponton for his frequent help in assisting with mentoring this big team. Lindsay Arvin is writing her senior thesis on an aspect of this project and is applying for grad school, she will graduate in December.

In related research on the rivers draining these ecosystems, postdoc Camilo Ponton has published the results of his work in *Geophysical Research Letters*, a collaborative endeavor with another faculty member, Josh West. This study finds answers to questions about how leaf wax biomarkers are integrated across the catchment and provides insights into the carbon cycle as well as to the interpretation of leaf wax paleoclimate reconstructions.

Sarah Feakins (cont’d): Postdoc Bernhard Aichner finished up at USC and returned to Germany with his first DFG funding (Germany’s NSF equivalent) to continue his Tibetan paleoclimate research, his publication on his work at USC will be shortly available online at *Climates of the Past*. Christine Mong Sin Wu earned a Master’s degree this semester and submitted a manuscript to *Quaternary Science Reviews* on her work on Lake Elsinore, not too far away from here, with a reconstruction of glacial climate variability, in collaboration with Matt Kirby, Cal State Fullerton and USC alumni. Her study finds the hydroclimate of this region was remarkably variable during the last glacial with large swings in precipitation regime about 2/3 the amplitude of the transition out of the last glacial.

Hannah Liddy was awarded an International Ocean Drilling Program Schlanger Ocean Drilling Fellowship for 2013/2014 and has completed a remarkable dataset on the Pliocene conditions in Northeast Africa and presented her results at IODP in Washington DC and at Goldschmidt in Sacramento.

Next semester Hannah Liddy and Camilo Ponton will each be sailing on IODP cruises to the Indian Ocean to sample the Indus Fan and Bengal Fan respectively. These two parallel drilling efforts on either side of India will be the research focus in my lab engaging as well new graduate student Elias Karkabi and as many undergrads as we can.

It was great to welcome some alumni for a lab tour in October!
Meghan S. Miller: In May 2013 I led a group of undergraduate students on a Maymester to Morocco as part of my CAREER grant. The content of the class revolved around ongoing research in Morocco where Thorsten Becker, John Platt, and myself have collected seismic data as part of the NSF funded PICASSO project. The field trip was treated as a teaching laboratory for upperclassmen to learn about seismology and tectonophysics. The group removed 15 of the USC broadband seismometers while learning about the spectacular geology there. Chris Norwood (BA 2013) wrote a USC Dornsife news article about his experiences.

In late 2012 Thorsten Becker, Josh West, and I were funded by NSF to work a field based project in Indonesia and East Timor which aims to understand the collision of Australia with the Banda volcanic arc. My postdoc Dr. Leland O’Driscoll (U Oregon) went to East Timor in early 2014 and deployed 8 of the USC seismometers. PhD student Cooper Harris and I went to Indonesia with Leland in September this year to deploy another 22 seismometers (bandaarc.blogspot.com). They will be returning from East Timor in November with the first ever broadband seismic data from the country!

Former postdoc, Dr. Daoyuan Sun, started a faculty position at USTC in Beijing in August 2014! Undergraduate Michael Hodges (BS 2014) is starting graduate school at Cal Poly Pomona in January 2015 and has written his first journal article on shear-wave splitting in the NE Caribbean. Postdoc Dr. Rob Porritt joined my group in summer 2013 as a NSF Postdoctoral Fellow working on the cratonic structure of the Hudson Bay region of Canada and tomographic imaging of the Caribbean with Cooper Harris and myself.

Yehuda Ben-Zion: During the last year, Amir Allam and Shiqing Xu received PhD degrees and moved on to postdoctoral positions (Amir at University of Alaska, Fairbanks and Shiqing at National Research Institute for Earth Science, Japan). Two new members, Niloufar Abolfathian and Haoran Meng, joined the group <http://earth.usc.edu/~yz/group/> which currently consists of seven PhD students and one postdoctoral fellow.

Papers published over the last year covered a range of topics including (i) a theory for analyzing earthquakes in terms of a phase transition between damaged solid and granular material (in the slip zone formed by the earthquake), (ii) earthquake- and noise-based tomographic imaging of the plate-boundary region in southern California, (iii) monitoring temporal changes of subsurface seismic velocities with earthquake and noise data, (iv) improved automatic detection of earthquakes and automatic phase picking of P and S direct waves along with fault zone phases, (v) a generalized methodology for waveforms inversion to obtain full earthquake source tensor properties, (vi) robust non-parametric methodology for identification and classification of different types of seismicity clusters, (vii) theoretical results on probing fault susceptibility for large earthquake with small-quake tidal-correlations, and (viii) estimating large earthquake hazard from long record of simulated seismicity assimilating available instrumental and paleoseismic data. For more details on these and additional topics, see <http://earth.usc.edu/~yz/pubs_recent/>.

In May-June 2014 we deployed, together with the group of Frank Vernon (UCSD) and SeismicNodal, a highly-dense rectangular array with 1108 vertical-component nodes (instrument spacing 10-30 m) centered on the damage zone of the San Jacinto fault zone (see Science, vol. 345, p. 720-721, 2014). The array complements observational studies of the group at larger scales and provides unique data for high-resolution imaging and monitoring of the subsurface material.
Lowell Stott: Stott is the lead PI on the large interdisciplinary, inter-institutional research project funded by the National Science Foundation to study the predictability of decadal drought in the southwestern United States. Stott is also conducting independent research to test a new hypothesis that he published in 2011.

There continue to be uncertainties about how the climate system will respond to the rising greenhouse gas concentrations and increased temperatures, but one of the most robust findings of climate model projections is a poleward shift in middle latitude storm tracks. These poleward shifts will likely cause decreased precipitation in lower latitudes near the subtropics and increased precipitation at higher latitudes. Determining if such a shift is already taking place continues to be a topic of Stott’s research.

Stott, together with post doc Nikolaus Buenning, are conducting modeling experiments designed to elucidate the factors that regulate the oxygen isotope composition of water vapor and precipitation along the west coast of North America. To do this we utilize the stable isotope enabled computer model: the Isotope-incorporated Global Spectral Model (IsoGSM). The first portion of this work was published in the Journal of Geophysical Research (Buenning et al., 2012). We have also examined the atmospheric influences on interannual variations of δ¹⁸O_p and δ¹⁸O_v. This work was recently published in the journal Water (Buenning et al., 2013).

Our research group has also conducted studies designed to evaluate and quantify how the oxygen isotope composition of tree cellulose is influenced by hydrologic variability, including drought and pluvial conditions along the west coast of North America. This analysis and interpretation has been recently published in Geochemistry, Geophysics, and Geosystems (Kanner et al., 2013).

Lowell Stott (cont’d): Another aspect of our work has sought to understand how hydroclimate variability is expressed in the isotopic composition of moisture at the local scale. An isotope-enabled land surface model (IsoLSM) forced by an isotope enabled atmospheric model (IsoGSM) was used to diagnose the influences and mechanisms that affect temporal variations in the δ¹⁸O values over seasonal and interannual timescales. This land modeling work was published in Global Biogeochemical Cycles (Kanner et al., 2014).

I published a new provocative hypothesis to explain the anomalies and the deglacial rise in atmospheric pCO₂ (Stott and Timmermann, 2011) that calls for the storage of CO₂ in sediments associated with hydrothermal systems in the Oceans during glacial and the release of this CO₂ to the ocean and atmosphere during deglaciations. We continue to test this hypothesis via laboratory, field and modeling work. In partial support for this research NSF funded our participation in a research cruise to Indonesia in the summer of 2013. Miguel Rincon and my student Mark Nishibyashi participated in this cruise. Some of the results of this work are currently in review (Stott, in Review).

I continue to collaborate with former students. Dr. Deborah Khider is now a postdoc at UC Santa Barbara. Our ongoing collaboration involves an effort to improve the resolution and fidelity of Mg/Ca and δ¹⁸O-based SST reconstructions in the global ocean, with particular emphasis on the tropics (Khider and Stott in review, Khider et al., in review and Khider et al., 2014).

(cont’d on next page)
**Jan Amend:** 2014 was a big year in the Amend Lab. The team included 1 research professor, 4 post-doctoral fellows, 5 graduate students, 7 undergraduates, and a lab manager. Together, we published 6 papers in the primary literature, with 2 more in press, 3 accepted pending minor revisions, and 4 in review. I continue to be the Director of a $25 million 5-year NSF Science and Technology Center (C-DEBI) that investigates the marine subseafloor biosphere and the Principal Investigator of a $6.8 million 5-year NASA Astrobiology Institute team that studies 'life underground' on Earth with an eye towards searching for evidence of life on Mars. In addition to Doug LaRowe starting as Research Assistant Professor at USC, two of my post-docs landed excellent tenure track faculty jobs—Maggie Osburn at Northwestern University and Brandi Reese at Texas A&M.

**Doug LaRowe:** I became an Assistant Professor of Research on January 1, 2014, after arriving at USC in August of 2011 as a postdoc/research scientist. My research is focused on establishing a quantitative link between the evolution of Earth’s surface and the activity of microorganisms. Towards this end, I develop and apply computational models that are largely dedicated to describing the role of organic carbon in driving and responding to environmental perturbations. This work is geared towards establishing how climate change will affect biogeochemical cycles through its influence on microbial processes and how microbe-water-rock interactions have evolved throughout Earth history. The most prominent result of this effort in 2014 has been the development and publication (American Journal of Science) of a model that constrains the rates of biogeochemical processes in low-energy settings by establishing a quantitative relationship between rates of microbial catalysis, energy supply and demand and population size.

**Josh West:** Following a year of exotic fieldwork in 2012-2013, from Peru to Indonesia, much of my group’s time and attention over the past year has been going into hard work in the lab, and on interpreting our results and writing a number of great papers (well, we think they are great!). The group’s papers from the past year range fairly widely in subject matter but constellate around understanding how plate tectonics and the carbon cycle work together to shape Earth’s environment, establishing the critical background that allows us to evaluate present-day environmental change. It’s been particularly fun over the past year to kick off our involvement in the new Earth-Life Transitions project that is bringing together no fewer than six faculty in our department to understand the Triassic-Jurassic interval. For that project, I am helping to advise PhD student Joyce Yager, who arrived in Fall 2013 primarily under Dave Bottjer’s wing, and Jessica Stellman, who arrived in Fall 2014 to work with Thorsten Becker and me on modeling the long-term carbon cycle. These two students join a thriving group of other geochemistry and geomorphology students and postdocs, enough that we are starting to run out of chairs for weekly group meetings up on the third floor of Zumberge Hall! We are looking forward to another exciting year ahead with this group. Don’t hesitate to stop by our geochemistry labs if you ever want a tour, or, if you want to learn more remotely, check out the recently refurbished website: [http://earth.usc.edu/~joshwest](http://earth.usc.edu/~joshwest)
**Will Berelson:** While busy with various chair and University service activities (Sustainability Task Force; new GE committee) I have been having a blast with research that, for the first time ever, involves serious funding that does NOT involve a research cruise! In fact, I’m involved in 2 such projects. One is a study of carbonate dissolution kinetics conducted with heavy 13C labeled carbonate and using a Picarro CRDS to make thousands of d13C analyses! What’s it all for? How ocean acidification will impact biogenic carbonates AND to understand the formation and significance of the sedimentary lysocline! All work, thus far, on the lab bench! The second hugely fun project is a group effort lead by Frank Corsetti (USC) and joining me, Josh West, Dave Bottjer, Thorsten Becker and Naomi Levine in a study of various aspects of the Triassic-Jurassic mass extinction/CAMP volcanism. We are measuring 13C and 15N on sections through this interesting interval and working across disciplines to track what happened, when and where. This project took me to Peru, the high peaks of E and W Andes mountains and down into a mine shaft to look at T-J rocks. In spite of the most intense headaches ever, I loved this trip.

Students: Laurie Chong graduated in the summer 2013 and went to sea, teaching on a Sea-mester sailing ship in and around the western Pacific. John Fleming is finishing his dissertation in which he studied oxygen consumption in waters of the OMZ off Los Angeles. Caty Tems is in her last year working on paleo-proxies in laminated sediments from the Mexican OMZ. I’m working with Adam Subhas, a graduate student at Caltech, on the carbonate dissolution experiment described above, and Joyce Yager has been working on the T-J geochemistry story. So much lab work is accomplished because of Nick Rollins, the surfer-dude/lab tech extraordinaire. I’m also proud that various undergrads work in my lab, most recently Laura Moline has been studying grey layer chemistry from Santa Barbara Basin sediments.
In the Spirit of Giving:

Any donation is deeply appreciated and accepted with the intent that it be used to help support and strengthen our great department. If you wish, specify categories you’d like to support and we’ll be certain to follow your wishes:

To the General Fund: Any and all Earth Sciences activities, but in particular, support for both graduate and undergraduate student field studies.

Richard O. Stone Fund: Supports undergraduate students to work in department research laboratories and summer field camp.

To the Graduate Students: Provides fellowship support to graduate students, especially those from underrepresented groups in the sciences, also supports travel to meetings and field work, and helps us recruit and support the best students possible. [As mentioned earlier, the University is cutting our graduate student support, hence your dollars really help].

In Honor of our great Faculty: Give in the name of Greg Davis and we’ll create a Davis-Fellow or a Davis-Award to honor a grad student working on structural geologic topics. Give in the name of any/all retired faculty and we’d have an Emeriti Award or Fellowship, also designated for a student.

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