

ORSP Omnibus

A Monthly Newsletter for the Cal State L.A. Research Community

Office of Research and Sponsored Programs

January-February 2008

New Award Highlight:

Dionne Espinoza - "Las Grandes de East Los Angeles and Boyle Heights: Women as Community Builders"



Dionne Espinoza (Chicano Studies and Liberal Studies/Women's and Gender Studies) recently received a \$9,603 grant from the California Council for the Humanities, for a project entitled "Las Grandes de East Los Angeles and Boyle Heights: Women as Community Builders.

This project, which has a women's and gender studies focus, involves the documentation of the lives of 10 women from East Los Angeles and Boyle Heights who have contributed in significant ways to community building through cultural preservation, social activism, and/or community service and improvement. A group of young women and men in the Social Awareness, Leadership and Education Academy, a learning community at Roosevelt High School, will study the history of the East Los Angeles and Boyle Heights region from the 1950s to the present, and will conduct oral histories with 10 women to learn more about their roles as community builders in this region, and their visions of community and leadership. In addition to Espinoza's leadership on the project, Claudia Rodriguez, a performance artist/creative writer and health educator, will serve as the community-based humanities

expert and work with the youth at the high school site.

The project will culminate in at least three public events during March 2009: Women's History Month, which will include presentation of excerpts from several of the oral histories; a panel with participants (students, staff, and interviewees); and a dialogue with audience members in a discussion that will reflect upon the role of women in community building in East Los Angeles and Boyle Heights.

The project will also serve two additional functions. Espinoza and her group see the project as the beginning of a longer-term effort to gather oral histories of residents in the greater eastside community in which Cal State L.A. and Roosevelt High School are located. In addition, they see it as a pilot program that will provide curriculum materials for high school teachers who wish to incorporate methods of oral history or utilize the edited interviews in their Women's History Month lesson plans in the future.

The links between and among the University, Roosevelt High School, and community residents will provide opportunities to foster college aspirations and a sense of community pride among participants, as well as an appreciation for the ways that humanities-based methods of storytelling enable an understanding of social justice.

ORSP News

Schedule in Progress for NIH SCORE May Submission

ORSP is coordinating the **May** individual submissions to the National Institutes of Health MBRS SCORE program. This overall process will involve individual faculty research grant proposals in response to three different solicitations: Support of Competitive Research Advancement Award (SC1), Support of Competitive Research Pilot Project Award (SC2), and Support of Competitive Research Continuance Award (SC3). For

anyone who wishes to submit at another time, there are three submission deadlines each year: September 25, January 25, and May 25. The following timeline has been established for this submission:

| | |
|--|-----------------------------|
| ORSP Individual PI Meetings to plan proposal | Weeks of February 18 and 25 |
| Identify External Reviewers | March 3, 2008 |
| Submit Draft Proposal and Budget to ORSP | March 6, 2008 |
| Draft Proposals forwarded to External Reviewers | March 10, 2008 |
| Reviewer Comments forwarded to PI/ORSP for Editing | April 4, 2008 |
| Final Budget and Intake Form due to ORSP | April 11, 2008 |
| Approval Form to PI for Chair and Dean Approvals | April 21, 2008 |
| PI Returns Signed Approval Form to ORSP | April 28, 2008 |
| Submit grants.gov file to ORSP | May 7, 2008 |

SC1 announcement: <http://grants.nih.gov/grants/guide/pa-files/PAR-08-026.html>

SC2 announcement: <http://grants.nih.gov/grants/guide/pa-files/PAR-08-027.html>

SC3 announcement: <http://grants.nih.gov/grants/guide/pa-files/PAR-08-028.html>

Research, Scholarship, and Creative Activity Awards Made for 2007-08

ORSP congratulates the following faculty who received creative leaves and minigrants through the 2007-08 Research, Scholarship, and Creative Activity award program:

Creative Leave

Gabriela Fried-Amilivia (Sociology)
Alicia Izquierdo-Edler (Psychology)
Lia Kamhi-Stein (Applied & Advanced Studies in Education)
Karen Kalmbach (Criminal Justice & Criminalistics)
Crist Khachikian (Civil Engineering)
Andrew Knighton (English)
Simona Montanari (Child & Family Studies)
Sunggho Park (Special Education & Counseling)

Minigrant

Jessica Dennis (Psychology)
Gabriela Fried-Amilivia (Sociology)
Alicia Izquierdo-Edler
Crist Khachikian (Civil Engineering)
Andrew Knighton (English)
Leah Melber (Curriculum & Instruction)
Trinh Pham (Mechanical Engineering)

Simeon Slovacek and Helen Boussalis Present Winter Quarter ORSP Café Talks

Simeon Slovacek (Applied and Advanced Studies in Education) was the ORSP Café speaker on January 23, presenting "From Student to Senior Research Scientist: Interventions that Work with Underrepresented Minorities" in the University Club. The presentation featured a discussion of a multi-institutional effort to assess the effectiveness of multiple interventions intended to increase interest, motivation, and preparedness for careers in biomedical research among underrepresented students. The focus of the research has been on the efficacy of interventions in getting underrepresented students into Ph.D. and M.S. graduate programs.

The participating institutions were Cal State L.A., New Mexico State University, and San Francisco State University, all with successful MORE (Minority Opportunities in Research) programs funded by the National Institute of General Medical Sciences of the National Institutes of Health, and other similar educational intervention programs, including LSAMP (Louis Stokes Alliance for Minority Participation), Beckman Scholars, and Biomed PREP (Biomedical Postbaccalaureate Research Education Program).

Three research questions were posed: Can success be predicted based on academic and personal characteristics? Which MORE interventions are the most effective? How does participation in scientific research impact MORE students? The research team studied factors involved in encouraging Ph.D. study. MORE program participation, mentors, GRE written scores, and self-rating as a candidate for an advanced degree were found to be positive factors, while supporting a spouse and/or family was found to be negative. Race, gender, and native language were neutral factors.

The program model for researching the second question included areas of leadership/philosophy (e.g., experience, creativity, student focus, ability to marshal resources), recruitment/intake (e.g., funding available, attitudes, letters of recommendation), student characteristics (e.g., test scores, academic performance, motivation, interest in science, and demographic data), and talent development/infrastructure (e.g., paid research experiences, research labs, multiple sources of funding, scientific learning community, advocacy, supplemental instruction, advising/mentoring, conference and publication participation, seminars and workshops, and presence of minority teaching faculty). MORE students most frequently rated “doing research” as the most helpful in their success in science courses and choosing careers. Financial support through paid lab job placements, research mentors, advice from other students, supplemental instruction, and study groups also received high ratings. Of more than 100 MORE students who graduated from the three institutions in 2005-06, 87 percent had been admitted into graduate programs, with 72 percent having begun Ph.D. programs. Early data suggest similar outcomes for the 2006-07 cohort as well. Major factors encouraging doctoral study were paid research lab experience and faculty mentors.

In response to the third research question regarding the effects of research participation on MORE students, the 2005-06 cohort most frequently cited these aspects: basic lab support, conducting experiments, analyzing data, preparing data for presentations, working independently, working as part of a team, and preparing posters.

As Slovacek stated in his closing, “Strong leadership and multiple interventions result in strong results. . . The three institutions studied compare favorably with the most successful programs on other campuses and best the national performance numbers by a significant margin.”



Simeon Slovacek engaging in lively discussion with the ORSP Café audience.

Helen Boussalis (Electrical and Computer Engineering) was the ORSP Café speaker on February 13, presenting “Designing a SPACE Telescope” in the University Club. The presentation featured a discussion of Boussalis’ NASA-funded research that is part of NASA’s efforts to design the next generation of space telescopes. She leads a research group, along with co-PIs Charles Liu, Anastasios Chassiakos (CSU Long Beach), and Sami Masri (USC), that is designing a segmented reflector that will be part of the James Webb Space Telescope, to be built at Northrop Grumman and launched in 2013.

In 1994, Cal State L.A.'s SPACE laboratory was established, with \$5.3 million in funding from NASA, for the design, fabrication, assembly, of a testbed resembling the complex dynamic behavior of a space segmented reflector telescope. Beginning in 2003, the lab became part of a NASA University Research Center, one of only 10 in the country and the only one in California. Another \$6 million has been allocated by NASA to support the research activities at the Center through November of this year.

Collaborations have been established with numerous universities – CSU Long Beach, USC, UC Irvine, UC Davis, Johns Hopkins, North Dakota State, Carnegie Mellon, Tufts, Vanderbilt, Maryland, Virginia Tech, Brown, and Emory; and with industry – Boeing, Northrop Grumman, NASA Jet Propulsion Laboratory, Bechtel, Southern California Edison, Honeywell, and Nabih Youssef and Associates.

Part of the SPACE Lab's mission is to train students within a NASA research and development environment to prepare them for future employment and motivate them toward graduate studies. The SPACE Lab has involved 25 doctoral, 120 graduate, and 270 undergraduate students to date. Incoming students are given a student mentor, participate in a two-month training period, and are assigned to faculty related to the subject of their expertise or interest. Students have many responsibilities, including performing research, working closely with faculty, reporting weekly via email on the progress of their research, giving formal weekly presentations during project status meetings, participating in preparation of reports to NASA, presenting their research during NASA site visits, participating in technical paper preparation, presenting papers at conferences, participating in educational exhibitions and meetings, training high school/community college teachers and students, and mentoring new students. They participate in other educational activities, such as industry visits and field trips to Dryden Flight Research Center.

As for student outcomes, SPACE Lab graduates have been admitted to graduate programs at USC, UCLA, UC Irvine, Johns Hopkins University, the University of Idaho, and Claremont Graduate University. More than 100 articles have been published in technical journals, and 158 presentations have been made at national and international conferences. And SPACE graduates have been employed by Boeing, JPL, Northrop Grumman, Bechtel, Honeywell, and Raytheon. According to Boussalis, "Northrop Grumman once hired five student graduates in a day!"

The work done at the SPACE Lab has also led to a number of spin-off projects, including the NSF-sponsored MATIES Laboratory (animation), NASA-sponsored SERENADES (pipeline project with Pasadena City College and others), Air Force-funded MFDC Laboratory (flight dynamics and control), and NSF-funded STEER project (high school and community college training). Applications include spacecraft control; control of hypersonic vehicles; control and monitoring of civil structures; traffic control, intelligent highways and vehicles, and robotics; and homeland security.

SPACE Lab will continue to provide many exciting ventures for Cal State L.A. faculty and students.



(L to r.): Helen Boussalis with Jose Galvan, Dean of Graduate Studies and Research, during presentation of certificate and thank-you gift acknowledging her presentation, and posing afterward with her students.

What people are saying about ORSP Café . . .

"Very, very good and interesting topic. Thanks!"

"This was great. I like that students were invited as well."

"Excellent overview and explanation of what SPACE does and how students are involved. Thanks! Good sandwiches, too!"

*The next ORSP Café will be presented by **Kathy Roberts and Don Johnson, School of Criminal Justice and Criminalistics**, on **Thursday, April 17, 3:00 – 4:30 p.m.** in the **University Club**. They will talk about the exciting work taking place at the new Hertzberg-Davis Forensic Science Center. Don't miss it! Bring your students!*

ORSP SQ Event Calendar at-a-Glance

(See comprehensive FY 2007-08 calendar later in this issue)

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|---|--|
| ORSP Café Symposium Series - Kathy Roberts & Don Johnson (Criminal Justice & Criminalistics) | April 17, 2008 [contact Ellen Stein, x3798] |
| IRB Workshop | April 24, 2008 [contact Ellen Stein, x3798] |
| ORSP Café Symposium Series - Jamil Momand (Biological Sciences) | May 15, 2008 [contact Ellen Stein, x3798] |

PI News

Joseph Peterson (Criminal Justice and Criminalistics) has been asked to serve on the National Academies Committee on Assessing the Research Program of the National Institute of Justice. This assessment is a two-year effort that began this past December.

Richard Wearn (Art) had an exhibition at the Instituto Nacional de Bellas Artes in Mexico City in November 2007. He was invited to exhibit there following a DaimlerChrysler Corporation artists residency in 2004. The Instituto has a significant place in Mexican avant garde art history, as Freda Kahlo and Diego Rivera both exhibited there and taught at the school affiliated with the museum.

Please let us know of any honors and awards you receive, as well as your publications. We'd like to recognize your accomplishments and share with the University community.

Recent Grant & Contract Awards

| | | | |
|---------------|---|---------------------------|-----------|
| Patricia Chin | "On-Site Nursing Programs (RN-BSN Program) | Cedars-Sinai Med. Ctr. | \$220,740 |
| Patricia Chin | "On-Site Nursing Programs (Master's in Nursing) | Cedars-Sinai Med. Ctr. | \$68,250 |

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|---------------------|---|------------------------------------|-------------|
| Valentino Crespi | "Engineering Awareness" supplement | AFOSR | \$197,315 |
| Robert Desharnais | "Building Locally, Linking Globally: Networking Micro-Communities of Noyce Scholars for Advancing Innovations and Improvement in Mathematics and Science Education" | CSU Office of the Chancellor (NSF) | \$76,000 |
| Karin Elliott Brown | "Mental Health Educational Stipend Program" | UC Regents | \$181,438 |
| Karin Elliott Brown | "CalSWEC Full-Time and Part-Time (Title IV-E Social Work) Training Program" | UC Berkeley (CA DSS) | \$1,301,842 |
| Dionne Espinoza | "Las Grandes de East L.A. and Boyle Heights: Women as Community Builders" | CA Council for the Humanities | \$9,603 |
| Carolyn Frank | "California Subject Matter Projects – CSULA Writing Project" supplement | UC Regents | \$31,000 |
| Anne Hafner | "Alignment of High School and College Curriculum: Expository Reading and Writing - Evaluation (FIPSE)" supplement | CSU Trustees (USDoEd) | \$24,840 |
| Barry Hibbs | "Implementation Evaluation of the MEDN Water Quality Monitoring Protocol in the Santa Monica Mountains" | National Park Service | \$15,099 |
| Pamela Kisor | "State Preschool" supplement | CA DoED | \$1,722 |
| Pamela Kisor | "General Child Care" supplement | CA DoED | \$24,834 |
| Robert Land | "Cal State L.A. Writing Project – NCLB S" | UC Regents (CA DoEd) | \$20,000 |
| Robert Land | "The Pathway Project: A Cognitive Strategies Approach to Reading and Writing Instruction for Teachers of Secondary English Language Learners" supplement | UC Irvine (USDoEd) | \$20,000 |
| Paul Liu | "Mentor Protégé Program – Subcontract from SpecPro, Inc." | SpecPro, Inc. (DOD) | \$64,799 |
| Don Maurizio | "National Center for Engineering and Technology Education" supplement | Utah State Univ. (NSF) | \$49,375 |
| Holly Menzies | "California Reading Literature Project, California State University, Los Angeles Region – NCLB S" | UC Regents (CA DoEd) | \$20,000 |
| Holly Menzies | "California Subject Matter Projects – CSULA Reading Literature Project" supplement | UC Regents | \$49,694 |
| Robert Nissen | "Health Careers Opportunity Program (HCOP)" | Calif. Wellness Program | \$210,000 |
| Jaime Regalado | "Community Policing Training Program" | The Ahmanson Foundation | \$82,000 |
| Katherine Roberts | "Room Temperature Stabilization of Biological Samples" | NIJ | \$353,449 |

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|-----------------|--|---|-----------|
| Jose Rodriguez | "Pinning of the Vortex Lattice in Second-Generation Wires of High Temperature Superconductors" supplement | AFOSR | \$59,937 |
| Simeon Slovacek | "Science Education Partnership Award (SEPA) Program: Would you like to be a Scientist? Discover Biomedical Sciences! - Phase I/II" | Charles Drew Univ. of Medicine and Science (NIH/NCRR) | \$24,993 |
| Susan Terebey | "Taurus 2: Finishing the Spitzer Map of the Taurus Molecular Clouds" | NASA Jet Propulsion Laboratory | \$13,388 |
| Jeffrey Tipton | "Relationship Dynamics and Sexual Risk Behaviors" supplement | Oregon State Univ. (NIH) | \$25,664 |
| Mark Tufenkjian | "Alternative Penetrometers to Measure the Near-Surface Strength of Soft Seafloor Soils" | ONR | \$127,393 |
| Lois Weinberg | "Incorporating Education into Family to Family Strategies" | Mental Health Advocacy Svcs., Inc. | \$25,336 |
| David Weiss | "Addressing Terrorist Threats in a Globalized World" | USC | \$50,000 |
| Scott Wells | "Religion, Identity, and Civil Society in the Era of Globalization" | NEH | \$75,000 |
| Gay Yuen | "MUSD/CSULA Alternative Certification – Intern Project" | Montebello Unified SD (CA CTC) | \$175,000 |
| Walter Zelman | "Health Coverage Expansion Efforts in Critical States: Issue of Policy, Politics, and Governance" | The Commonwealth Fund | \$50,000 |
| Marlene Zepeda | "Preschool Curriculum Framework Project" | WestEd (CA DoEd) | \$25,000 |
| Marlene Zepeda | "Preschool Learning Standards and Benchmarks" | WestEd (CA DoEd) | \$5,000 |

IRB News

OHRP Revises Search Function on FAQs

The Office for Human Research Protections has made changes in the appearance and functionality of its FAQ section on its website. Previously, the FAQs were available for retrieval individually. The FAQs are now available instead by category, grouped as follows: assurance process, institutional review board registration process, 45 CFR 46, research with children, investigator responsibilities, prisoner research, and informed consent. The link is <http://www.hhs.gov/ohrp/faq.html>.

2007-08 IRB Meeting Calendar

SQ

April 4
April 18
May 16

XQ

June 27
July 11
August 8

Meetings take place from 10:00 a.m. to 12:30 p.m. in Golden Eagle 220.

IACUC News

****Note: Latest Version of Forms A and B Now Available on ORSP website,
<http://www.calstatela.edu/academic/orsp>.**

2007-08 IACUC Meeting Calendar

| WQ | SQ | XQ |
|---------|---------|-------------|
| March 6 | April 3 | July 3 |
| | May 1 | August 7 |
| | June 5 | September 4 |

Meetings take place from 2:30 to 4:00 p.m. in Golden Eagle 220.

Agency News

NIH Revamping its Review Process

The National Institutes of Health (NIH) has been undergoing an intensive review of its grantmaking process. Changes will be phased in over time, and could include shortening applications, emphasizing ideas and impact, recognizing two primary research project grant tracts, and reducing the number of mechanisms. For more information, see the article in Recommended Reading (below), reprinted from *The Chronicle of Higher Education*.

DHHS Recommends Changes in NIH Conflict of Interest Oversight

The Office of Inspector General at the U.S. Department of Health and Human Services recently reviewed more than 400 conflict of interest (COI) reports submitted by grantees to the National Institutes of Health (NIH). As a result, the Office has recommended that NIH increase its oversight of grantee institutions to ensure that they comply with federal financial COI regulations. It also recommended that grantee institutions be required to provide details about the nature of financial COIs and how they are managed, reduced, or eliminated, but NIH director Elias Zerhouni argued that the responsibilities for identifying and managing financial COIs should remain with the grantee institutions, lest routine data collection "effectively, if not legally, transfer the locus of responsibility . . . from the grantee institution to the federal government."

The current requirements are that each grantee institution must:

- Have a written policy for identifying financial COIs and ensuring that conflicts will be managed, reduced, or eliminated
- Maintain an appropriate written, enforced policy on COI
- Designate an institutional official to solicit and review financial disclosure statements from each PI who is planning to participate in PHS-funded research
- Collect a listing of "known significant financial interests" before proposals are submitted
- Provide guidelines for identifying conflicting interests, maintain records of financial disclosures and actions taken by the institution, and establish adequate enforcement.

<http://www.oig.hhs.gov/oei/reports/oei-03-06-00460.pdf>.

Recommended Reading

"NIH Casts Critical Eye on How It Gives Grants," Jeffrey Brainard, *The Chronicle of Higher Education*, Vol. 54, Issue 15, December 7, 2007 (reprinted below in its entirety).

NIH Casts Critical Eye on How It Gives Grants

Nearly \$15-billion for colleges is at stake in a review of the process for evaluating proposals

By JEFFREY BRAINARD

The National Institutes of Health's methods for reviewing and financing academic research proposals are often praised as the gold standard. Some American scientists, though, have recently offered less flattering descriptions, like "broken" and "arbitrary."

NIH officials have heard both arguments, and plenty in between, in recent months. They have begun their broadest-ever self-examination of how the agency chooses grant proposals for biomedical research. That is important for universities because the NIH is the country's single largest source of money for academic research. Just over half of its budget, \$29.2-billion this year, goes to institutions of higher education.

The NIH's director, Elias A. Zerhouni, says he is prepared to advocate shaking up the status quo to make improvements. "All possible ideas are on the table," he says. This week a special advisory committee, which has been sifting through reform proposals over the past six months, should suggest a few to try.

Many of the proposals focus on improving the peer-review process which, many scientists complain, evaluates grant applications too conservatively. The panels of volunteer reviewers from academe that make up the heart of the system, the scientists say, tend to favor research projects that only slightly advance existing knowledge instead of testing innovative ideas that could transform medicine and health care.

That tendency also makes winning grants particularly difficult for young researchers, who face unprecedented problems finding the money to start independent careers.

Those problems have been aggravated by the NIH's tight budget, which has fallen behind inflation since 2003. Mindful of the need to stretch dollars, peer reviewers are less willing to gamble on risky ideas and unproven scientists.

"It seems fairly clear that the system has become so ponderous and creaky that it's going to need major change one way or the other," said David Korn, a senior vice president of the Association of American Medical Colleges.

But he and others worry that the budget squeeze and stubborn attitudes will make such changes hard to pull off.

A Doubling of Applications

NIH leaders began the review of grant-making in June. A panel of outside academics held six meetings around the country and solicited written comments. More than 2,000 people and organizations responded with complaints and suggestions.

The last time the process came under such scrutiny was in 1997. Since then, peer review of grant applications has become more complicated because the cutting edge of biomedical research is becoming more interdisciplinary, requiring reviewers to know more about more fields. And because of the stagnant budget, more investigators have been chasing a declining number of new grants.

The annual number of grant applications to the NIH almost doubled, to nearly 80,000, after 1999, when Congress began a five-year effort to double the agency's budget. The budget doubling spurred universities to increase their laboratory space and expand their scientific work forces, which helped drive the increase in applications.

But Congress followed that buildup with a series of more-modest increases that fell below inflation. That has left the NIH's buying power for research about 8 percent lower today than in 2004, one year after the doubling ended. As a result, the percentage of applications financed by the NIH, known as the "success rate," has fallen from one in three in 2001 to the current one in five.

Worse for investigators, they are spending more time trying to win NIH grants. The success rate for applicants on their first attempt has fallen to about 12 percent, from 28 percent in 1998. The NIH allows applicants to revise and resubmit an application twice after an initial rejection. Although success rates are higher in those subsequent rounds, not everyone reapplies. Those who do find the process frustrating and time-consuming.

"An investigator might be better advised to gamble at a casino, where the rate of return is much better," wrote one scientist to the NIH. (The agency told scientists who submitted written comments that it would keep their names confidential, to encourage candor.)

For peer reviewers, the effect of the squeeze is to encourage nitpicking. Academics who volunteer for the NIH's review panels say the low approval rates force them to make fine distinctions among excellent applications that formerly would have made the cut in the first round.

"We need to reduce the amount of what I call wasted energy in the system," Dr. Zerhouni said. "It's not right for you to apply six times to get a grant from the NIH. You're good or you're not good, and let's just cut the rigmarole out."

With the nitpicking comes conservatism, Dr. Zerhouni and other observers say. They worry that the trend might throttle research ideas that seem like long shots but could lead to major advances in the treatment of health conditions like cancer, obesity, and other chronic conditions that afflict America's aging population.

Older, Not Bolder

"Increasingly, reviewers are taking an adversarial stance — they think their role is to try to figure out how the applicant was trying to trick the government into giving them money," said Keith R. Yamamoto, executive vice dean of the University of California at San Francisco School of Medicine.

"That's not exactly what we're looking for in a healthy review endeavor," said Mr. Yamamoto at an October meeting. He is a co-chairman of a working group overseeing the NIH's evaluation of its peer-review process and a long-term member of a peer review panel.

The NIH is already considering several ideas to streamline its application and review procedures, reduce the paperwork burden on applicants, and increase the ability of peer reviewers to conduct meaningful reviews. For example, the NIH's advisory committee recommended this year that the agency reduce the maximum length of its research-grant application from 25 pages to 15. The National Science Foundation's application is 15 pages, and the Howard Hughes Medical Institute's form is only five.

Some observers see that and other proposed procedural changes as desirable but incremental. Such minor alterations will not, they say, alleviate another serious problem that has been highlighted by the budget crunch: the graying of NIH grantees.

Scientists over 50 make up 44 percent of the recipients of the NIH's principal research grants, up from 31 percent in 1998. Meanwhile, the proportion of recipients 40 and younger has fallen.

Aggravated younger scientists charge that peer reviewers tend to be tenured faculty members who, the critics say, are merely protecting their colleagues. (The NIH enforces conflict-of-interest rules, but critics suggest that back scratching goes on nevertheless.)

Those complaints emerged from this year's public-comment process and from an NIH-financed survey in 2002 of attitudes among scientists who had recently received their first research grants from the agency. The survey also included postdoctoral researchers, who are typically not permitted by universities to apply for NIH grants because they are not faculty members. Seventy-two percent of the postdocs and 59 percent of the grant recipients agreed with this statement: "The 'peer review' system of evaluating proposals for research grants is, by and large, unfair; it greatly favors members of the 'old boy network.'"

And agreement with this statement was almost unanimous: "Eminent scientists and scholars are more likely to receive research grants than others who submit proposals of about the same quality."

Bias against younger scientists is also aggravated by reviewers' reluctance to take chances, complained many who wrote to the NIH about peer review. The glut of applications has heightened a tendency among reviewers to expect "preliminary data" related to the hypotheses in grant applications. That means applicants are required to have already conducted some of the experiments. But scientists just beginning their careers have not had the chance to do that.

Faced with such pressures, talented young scientists are simply giving up and leaving biomedical research, says Brian C. Martinson, a demographer with the HealthPartners Research Foundation, a nonprofit organization in Minneapolis. He was the lead author of the 2002 study of new grantees.

More Help for Young Scientists

To relieve pressure on both younger and more-established researchers, some experts are calling for the NIH to award more grants to scientists based on their brilliance and boldness, with less emphasis on the specifics of a particular experiment and whether it might achieve expected results.

The agency has already embraced that approach on a relatively small scale. One program, called the NIH Director's Pioneer Awards, provides \$500,000 annually for five years. But only about a dozen researchers win one each year, out of several hundred applicants.

Another new grant program, called Pathway to Independence, helps postdoctoral researchers land faculty jobs by giving them a "dowry," as Dr. Zerhouni calls it, of research money. Here again the program is modest: It handed out about 200 awards this year, while U.S. universities awarded 6,631 doctorates in the biological sciences in 2006.

And beginning in 2006, the NIH for the first time set an explicit goal for raising the number of investigators it supported who had never before won NIH grants. The number of those grantees had dipped to about 1,300 that year, which the agency's leaders pledged to raise to about 1,500, the average of the preceding five years. The NIH gave those applicants extra credit on the numerical scoring system that it

uses to award grants. As a result, the number rose to more than 1,600 for the 2007 fiscal year, which ended in September.

A more controversial idea to help younger investigators is to cap the number of NIH grants that any one researcher can hold at once. Approximately 200 principal investigators now hold four or more grants. In the written comments to the NIH, several scientists questioned whether those researchers could productively manage their "superlabs." Capping the number of grants, the writers said, would extend the dollars to a wider pool.

That proposal faces opposition from Dr. Zerhouni and others who fear it might stymie the best scientific proposals. The director favors an expansion of "positive inducements" for universities, like the Pathway grants for postdocs. But the idea of capping grants is not limited to a fringe element. In its written comment to the NIH, the Association of American Medical Colleges supported a step in that direction: limiting applicants to one grant application at a time for any particular type of grant.

A Zero-Sum Game?

Some scientists who are skeptical of the reform proposals argue that it's impossible to define innovation precisely or predict who will turn out to be an innovative scientist. In written comments, they voiced worries that steering more money to new programs for young and innovative researchers while the NIH's budget is flat might hurt applicants for the agency's traditional grants.

Several scientists who wrote the NIH said there was nothing broken in the agency's peer review. Researchers could avoid scrapping with each other for money, they said, if academics and patient advocates lobbied Congress for a larger budget.

The lawmakers' response is hardly a sure thing, though. Although the NIH budget for 2008 remains incomplete, the new Democratic-led Congress has so far shown only a little more generosity than its Republican predecessor. Many legislators see the NIH budget as having received its fair share when it was doubled. The budget is now among the largest of all nondefense federal agencies.

And a financial expansion alone is not a cure-all for the maladies afflicting NIH grant making. In the late 1990s, officials set a goal of doing more to finance innovative research and help scientists begin their careers. The agency's budget doubling provided an opportunity, but progress was limited, as evidenced by the current problems.

More money for the NIH could even add to the problems of younger scientists, considering that biomedical research in America depends heavily on their relatively cheap labor, Mr. Martinson says. Without other changes, more money would simply extend what he sees as a system that resembles a Ponzi scheme.

More cash, he said, would only encourage principal investigators to hire more postdocs and seek graduate students to carry out their projects — work that does not improve career prospects for the younger scientists.

"There's this unquestioned assumption that more is always better, that having more scientists out there will increase the number of 'eureka moments,'" he says. "It comes down to, What is a sustainable scale for this enterprise?"

Going forward, Dr. Zerhouni says he expects the NIH will only incrementally change how it reviews and makes grants, partly because of the tight budget. To get the most impact from that approach, he wants the agency to collect data on which changes work and which do not. Those experiments should begin by next spring.

That kind of methodical follow-up will require a long-term effort and leadership. As a nominee of President Bush, Dr. Zerhouni's remaining time in his job is short. So these issues may end up on the plate of his successor.

Selected Upcoming Funding Opportunities

NSF

Informal Science Education

Deadline: **March 20/September 18, 2008** (letters of intent); **June 19/December 18, 2008** (proposals)

For projects to develop and implement informal learning experiences to engage and instruct individuals of all ages, and do research on informal approaches.

<http://www.nsf.gov/pubs/2008/nsf08547/nsf08547.htm>

Innovations in Engineering Education

Deadline: **April 30, 2008**

For projects with potential for contributing to significant breakthroughs in understanding how students learn engineering and how to build the K-12 pipeline to ensure production of engineers with a global focus.

<http://www.nsf.gov/pubs/2008/nsf08542/nsf08542.htm>

Research Experiences for Undergraduates

Deadline: **Varies according to discipline**

Supports active research participation by undergraduate students in any research area funded by NSF. There are two types of grants: REU Sites – support independent projects to initiate and conduct research projects involving a number of undergraduates, and REU Supplements – support the addition of undergraduates to ongoing, new, or renewal NSF-funded projects.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&org=DUE

DHHS

SAMHSA

Deadline: **March 28, 2008**

For targeted capacity expansion grants to help communities increase mental health services for persons 60 and older with mental health problems.

http://www.samhsa.gov/Grants/2008/sm_08_008.aspx

NIAID

K-12 Science Education

Deadline: **May 25/September 25, 2008**

To develop science education programs for K-12 students.

<http://grants.nih.gov/grants/guide/pa-files/PAR-08-003>

USDoEd

Disability and Rehabilitation Research

Deadline: **April 1, 2008**

For research projects to develop methods, procedures, and rehabilitation technologies that advance a wide range of independent living and employment outcomes for individuals with disabilities, especially severe disabilities.

<http://www.ed.gov/news/fedregister>

USDA

Integrated Water Quality Grants

Deadline: **April 29, 2008**

For projects to improve surface and groundwater resources through research, education, and extension activities.

<http://www.csrees.usda.gov/fo/waterqualityicgp.cfm>

NEH

Digital Humanities Start-up Grants

Deadline: **April 2, 2008**

For activities that lay the groundwork for digital initiatives in all areas of the humanities.

<http://www.neh.gov/grants/digitalhumanities.html>

Selected Opportunities for Students

CSU Pre-doctoral Program

Deadline: **March 10, 2008** (CSULA)

For undergraduate and graduate CSU students, the program is designed to increase the pool of university faculty. Awardees have the opportunity to explore and prepare to succeed in doctoral programs. Students receive funding for activities that include participation in a summer research internship program at a doctoral-granting institution, visits to doctoral-granting institutions to explore opportunities for doctoral study, travel to a national symposium or professional meeting in their chosen field, membership in professional organizations, journal subscriptions, and graduate school application and test fees. For the internal deadline, applications should be submitted to the Office of Graduate Studies and Research, Administration 710.

<http://www.calstate.edu/PreDoc/application.shtml>

2007-08 ORSP Calendar of Events

October 2007

- October 4 – IACUC Meeting
- October 5 – IRB Meeting
- October 11 – IRB Student Workshop
- October 12 – New Faculty Training on External Funding Opportunities
- October 17 – PI reception
- October 19 – IRB Meeting
- October 24 – ORSP Café

November 2007

- November 1 – IACUC Meeting
- November 15 – ORSP Café
- November 16 – IRB Meeting

December 2007

- December 6 – IACUC Meeting [incl. semiannual facilities inspection]

January 2008

- January 3 – IACUC Meeting
- January 11 – IRB Meeting
- January 23 – ORSP Café
- January 25 – IRB Meeting
- January 25 – Application deadline for Student Research Symposium
- January 30 – IRB Student Workshop

February 2008

- February 7 – IACUC Meeting
- February 13 – ORSP Café
- February 22 – IRB Meeting
- February 29 – Student Research Symposium

March 2008

- March 6 – Student Research Reception
- March 13 - IACUC Meeting

April 2008

- April 3 – IACUC Meeting
- April 4 – IRB Meeting
- Week of April 14 (4/16 or 4/17) – ORSP Café
- April 18 – IRB Meeting
- April 24 – IRB Student Workshop

May 2008

- May 1 – IACUC Meeting
- May 9- PI Certification Training
- May 15 – ORSP Café
- May 16 – IRB Meeting

June 2008

- June 5 – IACUC Meeting

WebLinks

<http://www.calstatela.edu/academic/orsp/Funding.htm> (link to database for online searches)
<http://www.nsf.gov>
<http://www.fastlane.nsf.gov>
<http://www.ed.gov/fund/grant/apply/grantapps/index.html>
<http://grants1.nih.gov/grants/>
<http://www.nasa.gov/audience/forresearchers/features/index.html>
<http://www.csrees.usda.gov/>
<http://www.afosr.af.mil/oppts/afrfund.htm#Research>
<http://www.onr.navy.mil/02/baa/>
<http://www.onr.navy.mil/education/>
<http://dhhs.gov/ohrp/>
<http://www.hhs.gov/ohrp/related.html> (OHRP resource page)
<http://grants.nih.gov/grants/olaw/olaw.htm>
<http://grants.nih.gov/grants/olaw/olaw.htm#resources> (OLAW resource page)
<http://www.haynesfoundation.org>
http://ori.hhs.gov/education/rcr_resources.shtml (Office of Research Integrity Responsible Conduct of Research [RCR] Resource Development Program)

This newsletter is published monthly and is transmitted via email to all faculty, senior administrators, and ORSP staff. For further information on newsletter content, email Ellen Stein, Senior Proposal and Compliance Specialist, at estein@cslanet.calstatela.edu or Ben Figueroa, Director of Research Administration, at bfigueroa@cslanet.calstatela.edu. We welcome your comments and suggestions on how to improve this publication.