

Welcome to the first edition of the Office of Foundation, Corporate and Government Relations' newsletter.

The newsletter will report on funding and research trends of public and private funding sources, funding opportunities, as well as recent submissions and awards made to your colleagues. Please also refer to our website for additional information. The website can be accessed through the academics section of Hamilton's homepage under the links for faculty.

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*Professor George Gescheider with student research assistant Mark Bolender '01.*

## Grants support many levels of Gescheider's research

Psychology Professor George Gescheider is one of Hamilton's most grant-active scholars. Since 1966, he has been either a principle investigator or co-principle investigator on 11 research grants from the National Institutes of Health (NIH) and the National Science Foundation (NSF) resulting in some \$17 million.

Although eight of the 11 grants were administered through the Institute for Sensory Research of Syracuse University where Gescheider is an adjunct professor, all the grants provided Hamilton students with opportunities to participate in important research.

Gescheider, whose work focuses on the psychophysics of sensory function, recently obtained a three-year \$641,766 award from the NIH, administered through Hamilton, titled "A Psychophysical Study of Vibrotactile Temporal Summation."

Gescheider's interest in the human sense of touch began at the University of Virginia where he completed his

doctoral studies. It was there that, in 1961, Professor Jack Hahn demonstrated the abilities of one's sense of touch to serve as a substitute for other sense modalities (such as vision and hearing), and Gescheider decided to do research on the tactile sensory system.

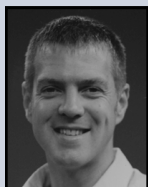
Since 1973, he has maintained a collaborative relationship with Professor Ronald Verrillo of the Institute for Sensory Research at Syracuse University. This collaboration, along with collaborations with Professor Stanley Bolanowski and postdoctoral student Christine Checkosky (both of the Institute for Sensory Research), were central to the 1988 development of their four-channel model of mechanoreception — a theoretical model that has been central to Gescheider's research and funding.

The model proposes that tactile sensation is based on the functioning of four neural channels, each with an individual type of sensory receptor and associated type of peripheral

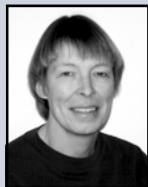
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## Selected Awards

The Office of Foundation, Corporate and Government Relations extends congratulations to the following faculty members who have recently been awarded grants.



**Mitchell Stevens**, assistant professor of sociology, was selected to be a Spencer Postdoctoral Fellow for the 2000–2001 academic year.



**Jinnie Garrett**, professor and chair of biology, has received a \$151,450 extension from the National Science Foundation for her project, "Yeast amino acid permeases."



**Karen Brewer**, associate professor of chemistry, and **Ann Silversmith**, associate professor of physics, were awarded \$19,000 from the Research Corporations Cottrell Science Award program for their project titled

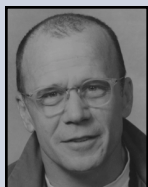
"Synthesis and characterization of rare-earth-doped sol-gel glasses."



**Robin Kinnel**, Silas D. Childs Professor of Chemistry, was awarded \$35,164 from the Research Corporations Cottrell Science Award program for his project "Investigation of the stereochemistry of the formation of Bromoallenic Acetogenins in red algae."



**Gordon Jones**, assistant professor of physics, was awarded \$5,201 for his project "SURFing the Physics Lab."



**Richard Seager**, associate professor of religion, was awarded approximately \$70,000 to enable him to work on a book on Buddhism.

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nerve fiber that connects with specific neurons in the brain. Unique tactile perceptions arise from unique combinations of neural activity from the four channels. Temporal summation, which is the increased sensitivity of the skin as the duration of a stimulus increases, is a characteristic of the Pacinian channel — one of the four neural channels described in the model.

Gescheider and his colleagues have found that the great sensitivity of this channel, as indicated by the ability of a person to detect vibration with frequencies between 200 and 400 Hz that are less than a tenth of a micrometer in amplitude, is partially due to temporal summation. His research focuses on identifying the neural mechanisms underlying this phenomenon.

Gescheider believes that his research may have two possible broader implications. First, as the psychophysics of tactile sensation are better understood, improved devices for individuals with hearing or sight impairments may be developed. Second, increased knowledge of neural channels may potentially benefit patients with diseases of either the central or peripheral nervous system.

What motivates Gescheider to continually seek external funding? First, the NIH and NSF grants have given him the freedom to pursue research he otherwise may not have been able to do. Grants have provided for costly equipment and allowed him to construct a second laboratory, potentially enabling him to double his research productivity. Additionally, the supplements to his salary provided by the grants for summer research are an attractive feature. For example, his current grant from the Institute for Neurological Disease and Stroke of NIH pays three months of summer salary and covers part of his academic salary, allowing him more time to focus on his research.

As for his students, Gescheider said that grants have supported many of the student-faculty projects that he has directed during the last 36 years. Hamilton students have been funded on a regular basis by his grants to

conduct summer research at both Hamilton and the Institute for Sensory Research in Syracuse. More than 70 Hamilton students have been co-authors with him on journal articles — opportunities that may not have otherwise been available without grant funds.

According to Gescheider, having grant-funded research can greatly enhance a person's academic performance in many ways, including one's effectiveness as a teacher. It is Gescheider's view that there is nothing better than involving students in your research to interactively demonstrate the scientific enterprise. Being

intensely involved with scientific research has had its scholarly rewards as well. His four books on psychophysics, his co-edited book on sensory processes, and his numerous research papers are recognized as important contributions to his field.

In the past academic year alone, Gescheider has presented an invited paper at an international conference in Sweden, co-authored six research papers, gave invited talks at the University of Stockholm and Denison University, had one of his books translated into Japanese and Portuguese, and was invited to contribute a chapter on psychophysical scaling to

the third edition of the *Handbook of Experimental Psychology*. Most recently, he accepted an invitation to write a book on the tactile information-processing channels.

While some faculty members who are his age dream of retirement, Gescheider, instead, thinks about how he can get a five-year renewal on his current grant when it ends in two years. For Gescheider, it is doing research and sharing this exciting experience with his students that sustains him as a contributing member of his profession and gives him the "fire in the belly" that drives him on.

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## Grant news

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The **National Endowment for the Humanities** is consolidating its application guidelines, deadlines and forms into a single volume titled *NEH GRANT PROGRAMS 2000-2001*. The volume will soon be available on-line at <http://www.neh.gov/grants/onebook.html>. Be sure to sign up for NEH's monthly electronic newsletter, *NEH Outlook*, while visiting the site.

The **National Science Foundation** has distributed Notice No. 126 notifying all NSF grantee organizations that, effective Oct. 1, 2000, all specified transactions with NSF, including proposal submission, *must* be accomplished electronically via the NSF Fastlane system. NSF also recently released its newly revised Grant Proposal Guide (GPG, NSF 01-2), which includes instructions on how to obtain an exception to the Fastlane requirement for those experiencing difficulties and who are unable to submit electronically to NSF. The new Grant Proposal guide replaces NSF's 00-2 guide.

The **State Department** is setting up a **Fulbright Scholar Electronic Gallery** (E-Gallery) to highlight the work of artists who have held Fulbright grants. Former Fulbright grantees who would like to be included in the E-Gallery are encouraged to visit <http://www.cies.org> for submission instructions and forms.

The **Department of Health and Human Services, Office of Research Integrity** released its final draft of its new policy on **Responsible Conduct of Research** (RCR) on Dec. 1, 2000. While less stringent than the draft released early last year, the new requirements call for dramatic changes that have left many institutions scrambling to prepare. The new policy calls for comprehensive training in nine core instructional areas, including data acquisition, management, sharing and ownership, mentor/trainee responsibilities, publication practices and responsible authorship, peer review, collaborative science, human subjects, research involving animals, research misconduct, and conflict of interest and commitment. RCR training will be required of all research staff, and it has been strongly recommended by OIR that the term "research staff" include all principle and co-principle investigators, institutional officers, technicians, research associates, students, postdoctoral fellows and anyone else involved in the research. There is a three-year phase-in period giving all institutions an Oct. 1, 2003, deadline to develop their individual policies.

The **National Science Foundation** has issued new guidelines for the Research in Undergraduate Institutions (RUI) program. Please refer to: <http://www.nsf.gov/cgi-bin/getpub?nsf00144>. Additionally, with the help of grants officer from primarily undergraduate institutions, NSF also developed a FAQ's page for the program, which will be posted soon on the RUI website.

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When asked what he enjoys most in life, he replied “being on a sailboat with my wife, walking with my wife and dogs in the meadows and woods at my home in Cazenovia, and working in my laboratory with my colleagues and students.” He refused to say which of these activities he enjoys the most. And when asked whether he has been happy at Hamilton, he replied, “I am content with the rhythm of my life. Hamilton has been a good place for me to work, and being funded sure helps!”

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*“Research is not a luxury for science professors at Hamilton or other liberal arts colleges. We require it because it makes our professors better teachers and our students better learners.”*

— President Eugene M. Tobin  
in an article published in the  
Nov. 20, 2000, issue of the  
American Council on Education’s  
*Higher Education and National Affairs*

## Submissions

Please join the Office of Foundation, Corporate and Government Relations as we extend our congratulations and best wishes to the following faculty members who have recently submitted proposals.

**Barbara Tewksbury**, Stephen Harper Kirner Professor of Geology, **Eugene Domack**, professor of geology, and **David Bailey**, associate professor of geology, have submitted a proposal to the National Science Foundation for \$150,000 to support a networked microscopy classroom in the Department of Geology.

**Herman Lehman**, assistant professor of biology, has submitted a proposal to the National Science Foundation for \$260,000 to support his research in neuroscience.

**Vivyan Adair**, assistant professor of women’s studies, has submitted a proposal to the U.S. Department of Education for \$750,000 to support the ACCESS Project — a program designed to assist welfare women move from cycles of poverty to meaningful employment through education.

**Jonathan Vaughan**, professor of psychology, has submitted a proposal to the National Institutes of Health for \$100,000 to support his research on a three-dimensional model of movement planning.

**Cheng Li**, professor of government, has submitted a proposal to the Smith Richardson Foundation to support his research project on Chinese technocrats.

**Debra Boutin**, assistant professor of mathematics, has submitted a proposal to the National Security Agency requesting \$13,000 for her research titled “Group automorphisms from group actions and embedding graphs in Euclidean Space.”

**Seth Major**, assistant professor of physics, submitted a proposal to the Research Corporation’s Cottrell Science Award program for \$24,882 for his research in the quantum description of gravity.