

University Establishes New Center for Applied Electromagnetics

THE UNIVERSITY HAS ESTABLISHED a new multimillion-dollar Center for Applied Electromagnetics, known as AppEI, with significant funding from the Office of Naval Research (ONR). According to **Patrick O'Shea**, chair of the Department of Electrical and Computer Engineering (ECE) and executive director of the center, AppEI will be the "focal point for basic research on topics that promise to lead to significant improvement and valuable new concepts in Navy and Department of Defense (DoD) future systems."



The emphasis of this research, says O'Shea, "will be based on electromagnetic phenomena in the spectral range from microwaves to visible light." More specifically, the engineering and physics research will form a basis for all-electric ships, speed-of-light weapons and advanced communication technologies that the Navy anticipates deploying.

Victor Granatstein, a professor with ECE, will be the research director of the center, which will include approximately 19 faculty researchers from seven academic departments and research institutes across campus. These include the Department of Electrical and Computer Engineering, the Department of Physics, the Department of Materials Science and Engineering, the Department of Aerospace Engineering, the Institute for Research in Electronics and Applied Physics, the Institute for Physical Science and Technology, the Institute for Systems Research and the Institute for Advanced Computer Studies.

The center will also be working with other institutions, such as the Naval Postgraduate School and Boise State University.

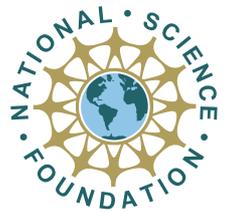
The opportunity for the center came when **Rear Adm. William E. Landay III**, chief of naval research, was the featured speaker at a Division of Research-sponsored research seminar last February. During Landay's remarks, he "talked about the Navy's interest in dominating the electromagnetic spectrum and fighting at the speed of light," recalls O'Shea. "The admiral's vision intersected with the concept I had in mind for the center."

Adds **Ken Gertz**, associate vice president for research development, "The combination of good ideas, entrepreneurial faculty and the opportunity the campus research briefings provided for a dialogue with ONR resulted in this successful new initiative."



National Science Foundation Funds Physics Frontier Center

The National Science Foundation has awarded the university's Joint Quantum Institute (JQI) \$12.5 million over five years to create and operate the **Physics Frontier Center (PFC)**. It will pursue research in quantum science, the behavior of matter and energy on the smallest scales. The award will fund 17 graduate students, seven postdoctoral scientists and seven undergraduates as well as an extensive research program with an emphasis on quantum information and computing.



JQI, a collaboration between the university and the National Institute of Standards and Technology (NIST), supports the work of 26 Fellows, nearly all of whom are full-time or adjunct university faculty. JQI Fellow, Nobel laureate and University Distinguished Professor **William D. Phillips** of NIST is the principal investigator for the PFC. Three Fellows from the university's Department of Physics—Luis Orozco, Sankar Das Sarma and Christopher Monroe—and Fellow Glenn Solomon from NIST make up the PFC Research Council.

University President Dan Mote (second from right) celebrates the opening of the Physics Frontier Center with other officials and researchers.



THE FEDERAL CORNER SEPTEMBER UPDATE AND ANALYSIS FROM THE OFFICE OF FEDERAL RELATIONS

Candidates Committed to Ensuring America's Research and Development Edge

Both presidential rivals—U.S. Sens. John McCain and Barack Obama—have reiterated their commitment to ensuring America's research and development edge in the face of competition from emerging economies.

Lending a strong impetus to innovation, McCain has offered to support risk capital for investment in research. He has suggested that he is opposed to taxing innovation on grounds that it dampens incentives to create something new. Further, he has lent his support for the use of private capital for research and development purposes.

Obama, on the other hand, has come out in support of doubling federal funding in basic research. Knowing that federally supported research has led to the creation of markets and driven economic growth, Obama intends his promise to have a far-reaching impact on the research and development climate. Obama also wants to make the research and development tax credit permanent so that firms face a favorable climate while making investment decisions regarding research and development.

Look to the Federal Corner for more information regarding higher education and the federal government. If you have a specific matter you would like to see discussed in this column, please contact Rae Grad, director of federal relations, at rgrad@umd.edu.

NEWS You Can Use

FROM THE OFFICE OF RESEARCH ADMINISTRATION AND ADVANCEMENT

Cost of H-1B Visa is an Allowable Expense on NIH Award

Did you know that the cost of an H-1B visa is an allowable expense on an NIH award? In fact, both the processing cost of the visa (\$320) and the government fraud protection and detection fee (\$500) can be directly charged to an NIH award if the award is supporting the prospective employee. However, these costs are only permissible if the individual actually works on the award for a full 12 months. If not, both the processing fee and the government fraud protection and detection fee must be removed from the award. In addition, the expedited or premium processing fee of \$1,000 is not allowable as a direct charge to an NIH award.

FROM THE OFFICE OF TECHNOLOGY COMMERCIALIZATION

Licensing Associate Joins Office of Technology Commercialization

George Letscher has joined the Division of Research's Office of Technology Commercialization (OTC) as a licensing associate. Letscher is responsible for the marketing, licensing and patenting of the university's physical and information science technology cases.



Letscher's previous professional experience included work as a primary patent examiner at the U.S. Patent and Trademark Office and as a registered patent agent at law firms in Washington, D.C. As a primary patent examiner, he worked in the area of dynamic magnetic and optical information storage and retrieval. As a registered patent agent, he prosecuted patent applications for various electrical and optical devices.

In the coming months, we will continue to introduce you to new faculty and research scientists who have joined the Maryland research community.



Alex Piquero is a professor of criminology. He is also a member of the MacArthur Foundation's Research Network on Adolescent Development and the National Consortium on Violence Research. His research interests include criminal careers, criminological theory and quantitative research methods.



Silvia Muro is an assistant professor of bioengineering with a joint appointment in the Center for Biosystems Research at the University of Maryland Biotechnology Institute. Her research interests focus on site-specific delivery of therapeutics.



Kwaku Dayie is an associate professor of chemistry and biochemistry. His research interests include structure, interactions, dynamics and function of RNA complexes involved in catalysis and gene regulation; chemical biological methods of labeling RNAs; and RNA-drug interactions and NMR methods development for large macromolecules.



Julie Greene is an associate professor of history. Greene specializes in U.S. labor and working-class history. Her research interests span across immigration and political history to the history of empire and transnational approaches to the history of the Americas.

FACULTY AWARDS & HONORS



ASHWANI K. GUPTA, Distinguished University Professor of mechanical engineering, has been elevated to Fellow status by the Society of Automotive Engineers (SAE International). This is the highest grade of membership bestowed by SAE International and recognizes outstanding engineering and scientific accomplishments by an individual resulting in meaningful advances in automotive, aerospace and commercial-vehicle technology. Gupta is internationally known for the development of a new technology called high temperature air combustion or HiTAC.



SARAH BERGBREITER, an assistant professor of mechanical engineering with a joint appointment in the Institute for Systems Research, has received a 2008 Young Faculty Award from the Defense Advanced Research Projects Agency (DARPA). The \$150,000 annual award is designed to seek out ideas from non-tenured faculty to identify the next generation of researchers working in microsystems technology. Bergbreiter is pursuing research on microbots, networked robot systems and sensor networks.



MICHEL WEDEL, PepsiCo professor of consumer science, recently received the American Marketing Association's Gilbert A. Churchill Award for lifetime achievement in the academic study of marketing research. This is the second time that a university professor has received the award, one of only two such schools to claim that honor. Wedel's research interest is focused on the application of statistical and econometric methods to further the understanding of consumer behavior and to improve marketing decision making.

Center Focuses on Better Use of Information Technology in Health-Care System

The Center for Health Information and Decisions Systems (CHIDS) is committed to improving the practice and delivery of health care through the application of information and decision technologies.

"Health care is an issue that affects the lives of people born tomorrow and people who are approaching retirement today," says **Ritu Agarwal**, professor and the Dean's Chair of Information Systems at the Robert H. Smith School of Business. "It touches everyone."

Established in 2005, CHIDS has been conducting research to develop more cost-effective and efficient ways in which technology may be used by the health-care system in addressing such issues as promoting better patient safety and avoiding medical errors.

The idea of the center first came to Agarwal as she saw the development of information and decision technologies and how they were used in commercial business. Yet, she says, "Health care was never really addressed seriously

enough within the business school concept," she says.

CHIDS is collaborating with numerous academic units across the campus, including not only the business school's Department of Decision, Operations and Information Technologies, but also the School of Public Health and University of Maryland Institute for Advanced Computer Studies, among others.

Center participants, besides the academic community on and off campus, include health-care providers and insurance companies as well as the Agency for Healthcare Research and Quality and the business community. "We bring them together in a nonthreatening academic environment to talk about issues that are important to all of them," says Agarwal.

And, to provide solutions to those issues. "It's very rewarding," says Agarwal.



UPCOMING EVENTS & CONFERENCES

DIVISION OF RESEARCH SEMINAR SERIES Environmental Research: Funding Trends and Future Opportunities

Featured speaker is David Blockstein, director of education and senior scientist with the National Council for Science and the Environment.

Wednesday, Oct., 22, 11 a.m. to noon

The Jeong H. Kim Engineering Building, Pepco Room (1105)
For more information: geronimo@umd.edu

DIVISION OF RESEARCH SEMINAR SERIES NIH Grant Funding Workshop

Thursday, Nov. 20, 8:30 a.m. to 4:30 p.m.

2101 Lee Building
Limited availability
Break and light lunch provided
RSVP to dvr@umd.edu by Nov. 17
For more information: geronimo@umd.edu



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