

Research@ MARYLAND

CONNECTING *the* UNIVERSITY of MARYLAND RESEARCH COMMUNITY

→ The Changing Face of Research

AS THE ISSUES FACING SOCIETY become ever more complex and pressing—climate change, national security and public health, as key examples—the role of the research university becomes increasingly important. “The top tier of these universities see as one of their missions contributing solutions to these problems, and importantly, they have the expertise and commitment to deliver,” says **Mel Bernstein**, vice president for research at the University of Maryland.

Universities provide an environment where productive dialogue and exploration take place. “Providing the environment and the resources to foster a healthy multidisciplinary research enterprise at the University of Maryland ensures that we will be identified as an important contributor for discussions on how best to confront these threats,” says Bernstein. “We are committed to conducting successful research that directly impacts society at all levels—local, state and international.”

As an institution of higher learning, the university is working toward achieving a common good that benefits all, adds Bernstein. And through creative research and teaching, “we will attract and prepare the next generation of leaders to successfully identify and address new challenges and opportunities,” he says.

However, this all must be done in the midst of a changing research environment that produces its own unique challenges. Today, there is a much greater emphasis on large, multidisciplinary approaches to research in high-impact areas. It is also understood that research funding

has become ever more competitive, with R&D budgets of many federal agencies shrinking or remaining flat.

The Division of Research is helping prepare the university to meet those challenges. In fact, it has identified strategic objectives that will position the university to compete more effectively in the current research environment. These objectives include:

- providing a supportive infrastructure to faculty
- reaching out to funding agencies in a more proactive and aggressive way
- establishing new partnerships and building stronger relationships with federal labs, corporations, medical centers and other universities
- more effectively transferring the university’s technology into the marketplace
- better promoting the university’s research capabilities and accomplishments by way of a high-visibility communications effort

“This is a time of not only great challenges but great opportunities in our role as a research institution,” says Bernstein.



→ CONDUCTING THE BUSINESS OF RESEARCH

The Office of Technology Commercialization facilitates the development of novel technologies developed at the university, from new biofuels to new breeds of strawberries. The division is also working to add a ventures component, by helping coordinate a range of high-impact initiatives in technology creation and entrepreneurship education. And, the university is working to improve basic research to commercialization. The University of Maryland Network of Entrepreneurs, or UM-NET, is a collaboration among university departments providing services to entrepreneurs; while M Square, the University of Maryland Research Park, offers two-and-a-half million square feet of labs and office space for the federal government, private R&D companies and university researchers to collaborate.



→ STRATEGIC COMMUNICATIONS

In addition to conducting successful research, the university needs to better promote its research strengths and capabilities to key funding agencies and potential partners. The Division of Research is developing an integrated, comprehensive strategic plan that features an array of communications and marketing tools, including annual reports, newsletters, abstracts, brochures and targeted media relations strategies.



→ FACULTY SUPPORT

In an effort to better assist faculty, the Division of Research is focusing on proposal development activities and encouraging interdisciplinary teams across campus. These include:

- hiring technical writers and graphic artists to assist in preparing large, multidisciplinary proposals
- developing a library of successful proposals for faculty to use as a reference
- supporting conferences and workshops centered around research themes
- catalyzing and facilitating large research themes and initiatives
- providing mentoring to early-stage faculty
- developing a research expertise database on campus

→ PROACTIVE OUTREACH

The Division of Research is working to build stronger ties between university investigators and federal research funding agencies. This includes:

- arranging regular briefings for faculty with key agency personnel
- providing regular on-campus workshops and strategy lunches featuring key agency program managers and officials
- capitalizing on current and former IPAs’ knowledge of federal agencies

- developing a network of alumni in federal funding agencies
- cultivating key relationships with agencies like NSF, NIH, DHS, NASA, DOE and DoD
- helping place faculty on key advisory committees
- working to increase the university’s visibility on Capitol Hill

→ BUILDING PARTNERSHIPS

The university recently joined in a collaborative agreement with the medical, pharmacy and dental schools at the University of Maryland, Baltimore, to establish a competitive seed grant program. Innovative partnerships like this are an example that will grow to include corporations, federal labs, foundations and other universities. Other strategic objectives in this area include:

- conducting numerous strategy briefings with key industrial partners and federal labs
- identifying existing industrial partnerships on campus
- developing ties to alumni in key corporations and federal labs
- developing regional and state alliances involving industry
- establishing preferred partnership agreements with strategic corporate partners

Proactive outreach includes inviting Rear Adm. William Landay III, director of the Office of Naval Research, to interact with Maryland faculty researchers. Scientific partnerships will increase with the opening of the NOAA weather prediction center at M Square in 2009.



NEW FACULTY

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



Michael Hanmer is an assistant professor of government and politics. He conducts research on American politics and methodology and specializes in voting behavior, electoral reform and public opinion.



Valentine Hacquard is an assistant professor with the linguistics department. Her research focuses on semantics, including modality, aspect, propositional attitudes and degree constructions, as well as neurolinguistics and the acquisition of semantics.



Mahesh Kumar is an assistant professor in the Department of Decision and Information Technologies at the Robert H. Smith School of Business. Kumar's research interests are in the areas of data mining and statistical modeling, and he has successfully applied data modeling concepts to the retailing industry.



Damion Thomas is an assistant professor with the Department of Kinesiology. His primary research interests are sport and United States race relations, sport and international politics, and sport and black masculinity.



Yunfeng Zhang is an associate professor with the Department of Civil and Environmental Engineering. His research interests are sensor technology and structural health monitoring, shape memory alloy-based damping devices for vibration control, large-scale structural testing and earthquake engineering.

GRID Offers Students Opportunity to Present Research

For graduate students conducting research at the university, Graduate Research Interaction Day, or GRID, takes the experience one step further, offering students the additional opportunity of presenting their research before the campus community.

"We're offering a great chance to better prepare graduate students as future researchers," says **Jaganath Sankaran** (right), the Graduate Student Government's (GSG) vice president for academic affairs and a master's candidate in engineering and public policy. GSG is one of the sponsors of the annual one-day event.

Both poster and oral presentations are judged by panels of faculty members specializing in each category. Last year graduate students participating in the conference presented a range of research from CEO turnover to the antioxidant properties in pizza crust.

According to Sankaran, this is an important part of GRID. "GRID isn't just about the participation of certain students in particular

areas of research, but all graduate students in all areas of research," he says.

Themes for the 2008 event just held included topics such as a broad view of the microscopic cell; smart computers and computer science; environmental issues, climate change and sustainable development; exploring identities; and human behavior and the cognitive mind; among others.

Those chosen as grand prize recipients in each theme are presented with up to a \$1,000 award. This money, says Sankaran, can be used by graduate students to step outside the boundaries of the university, taking their research to external conferences and symposiums.



FACULTY AWARDS & HONORS



MOHAMMAD MODARRES, a professor with the reliability engineering program and director of the nuclear engineering graduate program in the A. James Clark School of Engineering, was granted the 2008 International Research Leadership Award, conferred by the Society for Reliability Engineering, Quality and Operations Management. Modarres was recognized for his exceptional and pioneering research leadership in probabilistic risk assessment.



ARPITA UPADHYAYA, an assistant professor with the Department of Physics and the Institute for Physics Science and Technology, was the recipient of a 2008 Sloan Research Fellowship Award in physics. The award is intended to enhance the careers of the very best young family members in science. Upadhyaya's research is in biological physics and specifically the rules governing the movement and deformation of living matter.



RITA COLWELL, Distinguished University Professor, was elected as one of four new members of the governing council of the National Academy of Sciences. Colwell is an internationally recognized scientist and served as director of the National Science Foundation from 1998-2004. She has studied cholera and the agent causing cholera, *Vibrio cholerae*, for more than 30 years, combining high-tech instruments, including satellite sensors, with molecular biology to develop a predictive model for cholera globally.

UPCOMING EVENTS & CONFERENCES

DIVISION OF RESEARCH SEMINAR SERIES

The newly created Intelligence Advanced Research Projects Activity (IARPA)

Featured Speaker is Lisa Porter, director of IARPA

Friday, May 2, 10 a.m. to 11 a.m.

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

Successful Foundation Funding: Making the Connection—Writing the Winning Proposal

Featured speaker is Anita Plotinsky, consultant and former director of the Foundation Center for Washington, D.C.

Monday, May 5, 8:30 a.m. to noon

2101 Lee Building
For more information: geronimo@umd.edu

NIH Grant Funding Workshop

Thursday, May 8, 8:30 a.m. to 4:30 p.m.

2101 Lee Building
Limited availability
Break and light lunch provided
For more information: geronimo@umd.edu



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The Division of Research publishes RESEARCH@MARYLAND several times per semester. Its goal is to better inform and connect the research community at the University of Maryland. Your comments and suggestions are welcome. Please email them to Anne Geronimo, Division of Research, at geronimo@umd.edu.

Produced by the Office of University Publications for the Division of Research, Mel Bernstein, Vice President for Research