

Research@MARYLAND

CONNECTING *the* UNIVERSITY of MARYLAND RESEARCH COMMUNITY

UM Awards Exceed \$500 Million Thirty percent jump in research funding is largest ever

THE UNIVERSITY OF MARYLAND brought in more than \$518 million in research funding in fiscal year 2009, a record amount that firmly places Maryland in the top 10 of all universities nationwide without a medical school.

Research funding for FY 2009, which ended June 30, was up 30 percent, or \$118 million, from the previous year. Only a small part of this substantial increase involved American Recovery and Reinvestment Act funds.

"This milestone is a reflection of the university's accomplishments and reputation in critical areas such as climate change, national security and food safety," says President **C. D. Mote, Jr.** "The faculty's unwavering commitment to achievement in research and to the engagement of students in research is critical to the mission of the university. Even in these difficult economic times, our extraordinary research programs serve the state of Maryland and the nation remarkably well indeed."

Success in attracting more research dollars strongly benefits from the underlying support faculty receive to



"We are increasingly aligning the university's research capabilities to national needs and goals and making sure we're an active participant as the nation's research agenda is laid out."

—MEL BERNSTEIN, VICE PRESIDENT FOR RESEARCH

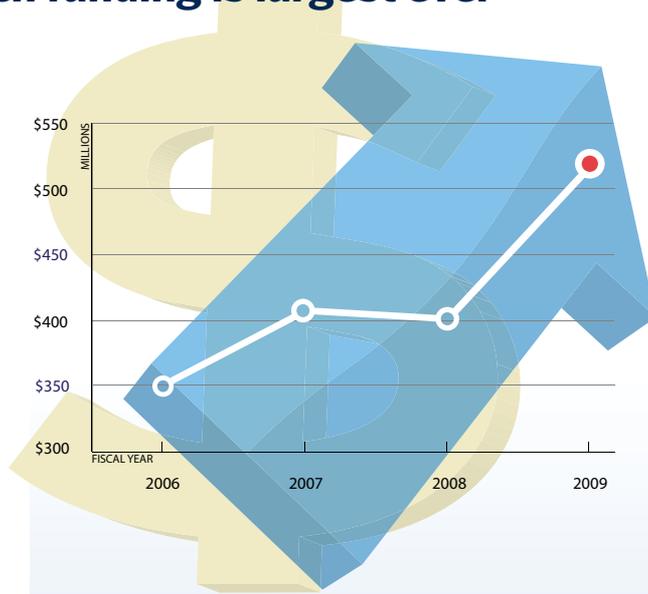
more effectively compete for funding opportunities, says **Mel Bernstein**, vice president for research at Maryland.

"We are increasingly aligning the university's research capabilities to national needs and goals and making sure we're an active participant as the nation's research agenda is laid out," Bernstein says.

The Division of Research has initiated a series of programs to assist faculty and help coordinate large, multi-institutional research proposals. The division facilitates the teaming of faculty to compete for grant awards, identifies key funding opportunities and provides technical writers and graphic artists to help researchers present effective proposals.

Other assistance includes a faculty incentive program to fund pilot work and cover other proposal costs; a research seminar series that brings corporate leaders and senior federal officials from nearby Washington, D.C., to campus to discuss priorities; and seed grant programs to stimulate collaborative research with other universities and institutions.

The division has also forged alliances between faculty from various colleges on campus and within the University System of Maryland to work together on national goals that advance science and innovation and benefit society,



Recent major research awards

- ⇒ The Department of Energy recently awarded the university \$14 million to establish an **Energy Frontier Research Center**. Faculty from the chemistry, biochemistry, engineering and computer science departments will develop more effective "super batteries" for electric cars that will reduce dependence on foreign oil.
- ⇒ The National Oceanic and Atmospheric Administration will provide up to \$93 million—one of the largest awards in university history—for the **Cooperative Institute for Climate and Satellites**, or CICS, a partnership led by the University of Maryland and based at the M Square research park. CICS researchers will collect satellite data to provide long-range global forecasts and warnings about climate change.
- ⇒ The **National Foreign Language Center**, based in the College of Arts and Humanities, was awarded a \$22.7 million contract extension for STARTALK. Part of the National Security Language Initiative, STARTALK is a multi-agency effort to expand foreign language education in seven languages deemed critical by the federal government: Arabic, Chinese, Hindi, Persian, Urdu and newly added Swahili and Turkish.

says **Ken Gertz**, associate vice president for research development.

"These strategies have really helped create a climate to grow our [research] volume," Gertz says. "The government is looking for interdisciplinary approaches in solving problems of critical national importance."

Maryland leads in MURI grants

Maryland leads all universities nationally in winning four primary awards from the highly competitive federal Multi-disciplinary University Research Initiative program, or MURI, overseen by the Department of Defense. The MURI program supports research that has defense and commercial applications.

This is the third consecutive year that Maryland has led or tied in the number of project grants for which it is the lead university. Two universities, Stanford and the University of California San Diego, were just behind Maryland, each winning three 2009 MURI awards as primaries. The University of California Berkeley, MIT and Duke University each received two awards as a primary university.

For the 2009 awards, four Maryland physics professors will lead research on:

— Tailoring the electronic properties of graphene at the nanoscale. **Michael Fuhrer**, lead researcher.



— Investigating new phases of matter for quantum information/computing. **Paul Julienne**, lead researcher.



— Studying quantum-optical circuits of hybrid quantum memories. **Christopher Monroe**, lead researcher.

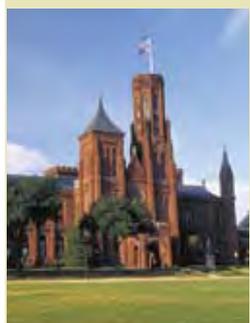


— Searching for new, practical superconductors. **Richard Greene**, lead researcher.



Formal research partnerships benefit faculty, students

The University of Maryland has signed formal research partnerships with key government agencies and institutions, a move that enhances opportunities to interact federal experts on important scientific and societal issues.



including making a digital record of the Smithsonian's 137 million artifacts in its collection.

In April, the university and the **Smithsonian Institution** strengthened and expanded their longstanding ties with a memorandum of understanding. Scientists and curators at the Smithsonian's 19 museums and research centers will collaborate with Maryland researchers on a number of new projects,

In July, the university and the U.S. Department of Agriculture's **Henry A. Wallace Beltsville Agricultural Research Center**, or BARC, formalized their 52-year partnership by signing a five-year cooperative agreement. The two organizations will work to create a leading center on agricultural, environmental and natural resources research. Both are already involved in critical research areas such as food quality and environmental protection.



MARK THE DATE:

Attend the New Faculty Research Orientation to learn about services and assistance provided by the Division of Research.

Come meet fellow researchers and research administrators, learn about submitting proposals, discuss federal and university compliance regulations, hear about university research initiatives and discover resources available to you.

DATE: **Monday, Oct. 26**

TIME: **2 to 4 p.m.**

LOCATION: **Maryland Room, Marie Mount Hall**

RSVP TO: **vpr@umd.edu by Oct. 19**

For more information: **geronimo@umd.edu**

We introduce you to new faculty and research scientists in the Maryland research community.



Antoine Banks is an assistant professor in the Department of Government and Politics. He received his doctorate in political science from the University of Michigan in March. His research interests include racial and ethnic politics, political psychology and public opinion.



Kayo Ide is an assistant professor in the Department of Atmospheric and Oceanic Science. Her main research interest is the low-frequency variability in geophysical flows. She works on observation, modeling and theory.



Donald Milton is the director of the Maryland Institute for Applied Environmental Health. His work focuses on respiratory health and aerobiology, including endotoxin, asthma and airborne infectious diseases.



Izumi Ashizawa is an assistant professor of performance in the Department of Theatre. Her original plays have been performed in the U.S., Iran, Romania and Japan. At the University of South Florida, she adapted the Japanese epic "Gilgamesh" that toured the U.S. in 2008.



Meredith Rowe is an assistant professor in the Department of Human Development. Her work centers on early language development and parental beliefs and practices concerning children's language. She is especially interested in the language development of underprivileged children.

Anti-anxiety tools could calm drug use

Psychology Professor **Carl W. Lejuez** and a team of Maryland students are helping recovering inner-city heroin users control their anxiety and panic attacks so they don't relapse into drug use.

Funded by a \$750,000 grant from the National Institute on Drug Abuse, the research is focused on developing psychological tools that help recovering addicts recognize and talk their way through anxiety attacks.

A lot of heroin users may have first turned to the drug because they were trying to find relief from debilitating anxiety, Lejuez explains. When they go into recovery, the panic attacks often return, and these individuals need to find positive ways to cope with them instead of reverting back to drug use.

Poor access to good mental health treatment can make the process of recovery even



Carl W. Lejuez

more difficult for inner-city drug users, he adds.

"This grant support allows us to have a fully functioning lab, collaborate with several other universities and conduct the research study," says Lejuez, director of the university's Center for Addictions, Personality and Emotion Research. "This allows us to get them treatment for anxiety that they otherwise

might not get."

The Maryland research team includes several researchers as well as undergraduates and doctoral psychology students who work with patients at the Salvation Army Harbor Light Center, an inpatient drug and alcohol treatment facility in Washington, D.C.

If successful, the two-year study at Harbor Light could help reduce HIV infection associated with intravenous drug use.

FACULTY AWARDS & HONORS



The World Meteorological Organization has recognized **EUGENIA KALNAY**, distinguished university professor in the Department of Atmospheric and Oceanic Science, with its most prestigious honor: the International Meteorological Organization Prize. Kalnay is a leader in the field of global numerical weather prediction and analysis, including data assimilation and ensemble forecasting.



JOHN WEEKS, distinguished university professor in the Department of Chemistry and Biochemistry and the Institute for Physical Science and Technology, was elected to the National Academy of Sciences. Weeks is widely known as co-author of the standard theory for uniform simple liquids, and he helped develop a powerful and general theory for non-uniform dipolar liquids, including ionic fluids and water.



NORMAN WERELEY, professor of aerospace engineering and director of the Smart Structures and Composites Research laboratories, has received the Engineer of the Year Award from the National Capital Section of the American Institute of Aeronautics and Astronautics. Wereley was honored for his contributions to the development of passenger protection systems, such as air bag systems and crashworthy helicopter crew seats.

UPCOMING EVENTS & CONFERENCES

DIVISION OF RESEARCH SEMINAR SERIES

Writing Successful Grants

Featured speaker is Robert Porter, nationally recognized expert on successful research proposals

Tuesday, Oct. 13, 8:30 to 11:30 a.m.

Benjamin Banneker Room, Stamp Student Union
RSVP to vpr@umd.edu by Oct. 7

Building the NSF Grant Proposal

Featured speaker is Robert Porter

Tuesday, Oct. 13, 1:30 to 4:30 p.m.

Benjamin Banneker Room, Stamp Student Union
RSVP to vpr@umd.edu by Oct. 7

Future Direction and Research Priorities for the AFOSR

Featured speaker is Brendan Godfrey, director, Air Force Office of Scientific Research (AFOSR)

Friday, Oct. 30, 11 a.m. to noon

Kim Building, Pepco Room (Room 1110)
RSVP to vpr@umd.edu by Oct. 22

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 e-mail them to Anne Geronimo, Division of Research, at geronimo@umd.edu.

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