

## UM-Lockheed Martin Agreement Spurs New Multidisciplinary Research



C. D. Mote, Jr. (far left), who recently retired as university president, and Ray O. Johnson, senior vice president and chief technology officer of Lockheed Martin, at the signing ceremony in June.

partnerships between a university and a corporation anywhere," says **Darryll Pines**, dean of the A. James Clark School of Engineering. "They are one of the largest recruiters of our graduates, and I expect that to only increase as this new agreement expands faculty and student involvement from across campus."

O'Shea says he is already meeting with deans from other colleges to determine how their faculty can contribute. With Lockheed Martin involved in so many projects worldwide, O'Shea sees research opportunities for almost every college and school on campus. "It isn't all defense related, or tied only to engineering," he says.

**A longstanding research and educational partnership** between the university and the nation's largest defense contractor just got stronger.

The University of Maryland and the Lockheed Martin Corp. signed an agreement in June that supports three joint research centers on campus, encourages collaboration on large, external funding opportunities and eases the administrative process to stimulate new research in areas like climate change, cybersecurity and counterterrorism.

"They can access our expertise, and we get first crack at some really interesting scientific problems," says **Patrick O'Shea**, a UM professor and chair of electrical and computer engineering who is tasked with implementing the new agreement.

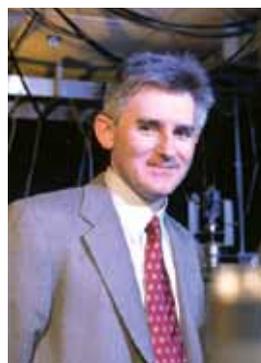
Lockheed Martin has committed a minimum of \$1 million per year for three years to this strategic relationship. This investment will include supporting three centers of collaboration—in logistics, climate change and cybersecurity, with the logistics center already in place.

The agreement builds on a relationship with Lockheed Martin that goes back more than 60 years. Aviation pioneer Glenn L. Martin first approached the university in the 1940s, making two large gifts to Maryland that helped build an engineering classroom building and wind tunnel.

Subsequent mergers transformed the Martin Aircraft Co. into Lockheed Martin, with the corporation supporting numerous laboratories, endowed professorships and other research and academic endeavors over the years.

Recent projects that joined Maryland faculty with scientists from the Bethesda, Md.-based corporation are work on laser plasma filaments that can enhance multiple applications of high-power laser beams, and research in cultural modeling that can help troops perform better in unfamiliar environments.

"The powerful relationship we have with Lockheed Martin represents one of the most historically significant



Patrick O'Shea

**Lockheed Martin has committed a minimum of \$1 million per year for three years to support:**

- **three centers of collaboration—in logistics, cybersecurity, and climate change;**
- **joint pursuit of research opportunities geared toward federal agency and commercial needs;**
- **robust research programs that make more efficient use of facilities, processes and people.**

For example, Lockheed's interest in better managing health records for both the military and civilians could involve faculty from Maryland's iSchool, public policy, business, computer science and public health. Other research in counterterrorism would join engineers and computer specialists with faculty experts in psychology, linguistics and criminology.

"Over the past two years, we've encouraged senior scientists from Lockheed to visit campus and brainstorm on how we can match our strengths with some of their most forward-looking projects," says **Ken Gertz**, associate vice president for research development.

Gertz, who spearheaded the effort to bring about the new agreement, says the university hopes to use it as a model to forge partnerships with other large corporations. "We already do a good job of interacting with many labs and agencies in the federal government," he says, "and we're hoping this partnership model can open the door to other unique, corporate strategic relationships."

## Allewell Leads UM Research Enterprise

**A noted researcher** who led the College of Chemical and Life Sciences for 10 years is now in charge of the Division of Research.



Norma Allewell

**Norma Allewell** became interim vice president for research on July 1, overseeing a research enterprise that brought in a record \$518 million in external grants and funding in FY09. She replaces Mel Bernstein, who left the university to become vice provost for research at Northeastern University.

Allewell, an expert in biochemistry and biophysics, expects to continue to work effectively with the university's research community to advance its agenda and create cutting-edge programs that serve the state of Maryland and beyond.

"I look forward to forging new partnerships, strengthening ties we already have and helping our experts take on the most pressing scientific and societal challenges," she says.

As dean of the College of Chemical and Life Sciences, Allewell oversaw the recruitment of new faculty in key areas like genomics, host-pathogen interactions and nanoscience. She also led the college through major improvements in its facilities, including construction of the Bioscience Research Building.

In addition to her role as interim vice president for research, Allewell serves as a member of the governor's Life Sciences Board and the Board of Scientific Counselors of the National Center for Biotechnology Information, part of the National Library of Medicine. She received her Ph.D. in molecular biophysics from Yale University.

## OTC Announces New Startups

**The Office of Technology Commercialization**, or OTC, licensed three university-based startups in FY 2010. "These new ventures are part of our mission to stimulate the local economy, provide valuable products to the public and help fuel new research partnerships," says **Gayatri Varma**, OTC's executive director. The startups are:

- **MedSense Technologies**, led by **Miao Yu** in mechanical engineering, has developed cost-effective sensors that have the potential to significantly improve patient monitoring during surgical procedures. The sensors can also be used for diagnostic purposes.
- **VisiSonics Corp.**, led by **Ramani Duraiswami** in computer science, has developed an audio camera that can "see" noise by creating audio images from sound arriving from all directions. The technology has varied applications, from pinpointing the direction of gunfire to helping architects better design concert halls.
- **Precision Polyolefins**, led by **Lawrence Sita** in chemistry and biochemistry, has developed a proprietary manufacturing process that converts plentiful and domestically available propylene gas to pure white oils and waxes. These products are free of impurities and harmful chemical additives, and can help fulfill a global environmental responsibility while reducing U.S. dependence on foreign imports.

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



**Meredith Kleykamp** is an assistant professor of sociology. Her research examines the determinants and consequences of military service in the United States, focusing on differences by race/ethnicity and gender.



**Kanisha Bond** is an assistant professor of government and politics. Her research involves terrorism and insurgency, international organization, conflict studies, statistical analysis and formal modeling.



**Craig Fryer** is an assistant professor of community and public health. His research focuses on minority and health disparities, the health of young adult populations and substance abuse issues.



**Jordan Boyd-Graber** is an assistant professor in the College of Information Studies. His research involves applying statistical models, particularly latent variable approaches, to natural language applications.



**Edlie L. Wong** is an associate professor of English specializing in 19th century African American literature. Books she has authored include "Neither Fugitive nor Free: Atlantic Slavery" and the "Legal Culture of Travel."

## FACULTY AWARDS & HONORS



The U.S. Senate recently confirmed **JOHN LAUB**, distinguished university professor of criminology, as director of the National Institute of Justice, or NIJ. He is the first criminologist in four decades to lead the NIJ, which is the research, development and evaluation arm of the U.S. Department of Justice. Laub's research includes crime and deviance over the life course, juvenile delinquency, juvenile justice and the history of criminology.



The National Capital Section of the American Institute of Aeronautics and Astronautics has named **JAMES BAEDER**, professor of aerospace engineering, as its 2010 Engineer of the Year. Baeder was recognized for his research leading to improvements in the prediction of aeromechanics in helicopters and other rotary wing vehicles, especially as it relates to diminishing rotorcraft noise.



The American Academy of Arts & Sciences selected **STANLEY PLUMLY**, professor of English and director of the creative writing program, as a fellow. He joins 228 other representatives this year from the fields of arts and humanities, science, social science, public affairs, business, higher education and the nonprofit sector. Plumly has published 10 volumes of poetry, is the author of a much-lauded biography of John Keats and serves as the state's poet laureate.

## Collaboratory Supports Ambitious Research

A new interactive laboratory in the College of Arts & Humanities offers a trove of research and educational possibilities for faculty, students and visiting scholars.

The Michelle Smith Collaboratory for Visual Culture, launched in March and run by the Department of Art History and Archaeology, allows users to "visually immerse" themselves in whatever subject matter is displayed—whether it's the study of 12th century Japanese art scrolls or a detailed three-dimensional distance-point perspective of European architecture.

The workspace features a 22- by 7-foot IMAX-like screen that is connected to powerful software, letting researchers display, change and move about multidimensional images as needed.

"Any discipline that has a visual component to it should find this technology useful," says **Quint Gregory**, associate director of the collaboratory.

Gregory is working with other computer visualization specialists at Maryland to increase the collaboratory's capabilities, hoping to at-



The Michelle Smith Collaboratory for Visual Culture will encourage new research from across campus, says Quint Gregory (above, right).

tract faculty and students from across campus. "This is a perfect opportunity for researchers and scholars in architectural landscape to study urban design," he says.

Located in the Art/Sociology Building, the collaboratory was made possible as part of an \$800,000 gift from the Robert H. Smith Family Foundation.

## UPCOMING EVENTS & CONFERENCES

### UM-U.S. Army Research Signing Event

Please join us for the signing of a formal agreement between the university and the Army's Research, Development and Engineering Command (RDECOM).

**Tuesday, Sept. 28, 10 a.m. to noon**

Rotunda, Kim Engineering Building

RSVP to [rebeccac@umd.edu](mailto:rebeccac@umd.edu) by Sept. 24, or contact Jeff Coriale, [coriale@umd.edu](mailto:coriale@umd.edu), for more information

### DIVISION OF RESEARCH SEMINAR SERIES

#### A Bold Experiment: The Research Vision for HHMI's Janelia Farm

Featured speaker is Gerald Rubin, vice president of the Howard Hughes Medical Institute and director of the Janelia Research Farm.

**Monday, Oct. 11, 11 a.m. to noon**

Pepco Room, Kim Engineering Building

Please RSVP to [vpr@umd.edu](mailto:vpr@umd.edu) by Oct. 6

### New Faculty Research Orientation

**Wednesday, Oct. 20, 2 to 4 p.m.**

Maryland Room, Marie Mount Hall

RSVP to [vpr@umd.edu](mailto:vpr@umd.edu) by Oct. 15

For more information contact [geronimo@umd.edu](mailto:geronimo@umd.edu)



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