

MARYLAND MOMENTS

Maryland Moments, January, 2005

University Initiatives

(New Programs, Milestones, Rankings)

• Big Bang: UM's A'Hearn Leads Deep Impact Mission

This July 4th will bring more than your average fireworks. At around 2 a.m. EST, NASA's Deep Impact spacecraft will impact comet Temple 1 on its 5.5 year voyage around the sun.

- The rocket launched the second week of January and will take a six-month voyage of 50 million miles before finally reaching the comet where the "impactor" will detach from the mothership and crash into the comet.
- Temple 1 travels at 23,000 miles per hour, which scientists expect will cause the impactor to hit the comet with the energy equivalent to about 10 times that of an equal sized mass of TNT.
- The speed of the impact is expected to be six miles per second or about ten times the speed of a rifle bullet.
- Scientists believe that the crater will be the size of a small house to the size of a football stadium.
- The explosion will help scientists further understand what materials comprise the universe, many of which are still a mystery. The images returned of Temple 1 are expected to be 10 times clearer than those taken of other comets.

The primary investigator of Deep Impact, Michael A'Hearn, professor of astronomy: "We expect that we cannot change the orbit of the comet any more than moving the city of Washington's center from the Capitol to the end of the Mall."

• NASA Research Balloon Makes Record-Breaking Flight

UM, which seeks a prominent place in space history with its direction of NASA's Deep Impact mission, heads a record-breaking effort below outer space. NASA: "Flying near the edge of space, a NASA scientific balloon broke the flight record for duration and distance. It soared for nearly 42 days, making three orbits around the South Pole. The record-breaking balloon, almost as large as one and one half football fields, carried the Cosmic Ray Energetics And Mass (CREAM) experiment. CREAM is designed to explore the supernova acceleration limit of cosmic rays, the relativistic gas of protons, electrons and heavy nuclei arriving at Earth from outside the solar system." Eun Suk Seo is the Principle Investigator for CREAM. She is associate professor of physics and group leader at the Cosmic Rays Physics Group (Institute of Physical Science & Technology).

• UM Chosen as Department of Homeland Security Center of Excellence

The Department of Homeland Security chooses Maryland as the site for a new research center on the behavioral and social underpinnings of terrorism. Secretary Tom Ridge visited campus to announce the formation of the \$12 million Center of Excellence for Behavioral and Social Research on Terrorism and Counter-Terrorism. Its director, Gary LaFree, professor of criminology and criminal justice, leads UM scholars from criminology, political science and psychology as well as faculty from 10 other colleges and universities. Major academic partners are the University of California at Los Angeles, the University of Colorado at Boulder, the University of Pennsylvania, and the University of South Carolina at Columbia. Maryland is the fourth Center of Excellence to be established by DHS; the others are located at the University of Southern California, Texas A&M University and the University of Minnesota.

• 'The Missing Schools of Highest Ed'

A *Washington Post* columnist bemoans the region's lack of focus on higher education. But he had good things to say about UM. "And as a veteran of the University of California system, Maryland President Dan Mote knows how to foster the kind of close relationships between university researchers and entrepreneurs that sustains Silicon Valley and the Research Triangle. But to date, Mote has been unable to get that kind of commitment from the Washington tech community, which can't seem to get over silly geographic hang-ups and get behind College Park." The column concludes: "Up to now, local business leaders have thought of local university support under the category of philanthropy. But if Washington is to be something more than a government town, they need

UNIVERSITY NEWS

Maryland Remains a Top School for Entrepreneurially-Minded Students

New NIH Grant to Advance Joint UMD & UMB Brain Surgery Robot Development

TerpVision7 Offers Compelling Stories About the University of Maryland

New UMD Poll Shows Israelis Doubt Benefit from Gaza Conflict

MARYLAND IN THE NEWS

**In This Week's News
November 2012**

**Maryland moving to Big Ten
(Washington Post)**

**Move to Big Ten a defining one for President Wallace Loh
(Baltimore Sun)**

**UMD, UMB venture to focus on patient data research
(Baltimore Business Journal)**

to start thinking of it in terms of investment in regional economic development -- an investment with proven long-term payoffs."

- **UM Leads Avian Flu Research**

The university receives the largest grant ever given by the U.S. Department of Agriculture to study a single animal disease or health threat. The \$5 million grant allows for the creation of a new national research and education project called Prevention and Control of Avian Influenza in the United States. UM leads 16 participating institutions across the country. "On the research side, I hope that we can better understand how the virus gets ... into poultry," said veterinary professor Daniel Perez of the Virginia-Maryland College of Veterinary Medicine, director of the project. "'For the general public, I think that we could call it 'mission accomplished' if we could really improve the sense of awareness of avian influenza, not only for poultry but also for public health."

- **University Libraries Ascend to a Record Number of Volumes: 3 Million**

The three-millionth library volume is a copy of *Tennessee*, a 1500-copy limited edition containing the Tennessee Williams plays *The Glass Menagerie*, *Cat on a Hot Tin Roof* and the never-before-published *These Are the Stairs You've Got to Watch*. Dean Charles Lowry hosts a reception January 26 to mark the milestone. "It took us 100 years to reach the one-millionth volume level, another 20 years to reach our two-millionth volume, and a little more than 10 years to grow to three million volumes."

- **American, Russians Receive Wolf Prizes for 2005**

Sergei Novikov, distinguished university professor of mathematics affiliated with the Institute for Physical Science and Technology, is co-winner of the Wolf Prize for Mathematics. He shares the prize with Yael Gregory Margulis. The *Jerusalem Post*: "Prof. Sergei Novikov of the University of Maryland and the L.D. Landau Institute for Theoretical Physics in Moscow (was given the award) 'for his fundamental and pioneering contributions to algebraic and differential topology, and to mathematical physics, notably the introduction of algebraic-geometric methods.' "

- **For Expatriate Iraqi Voter, a Reason to Rejoice**

On the day when the world watched Iraqi voters exercise their right to vote for the first time in decades, UM Professor Shihab Shamma became one of the more visible Iraqis to vote in the U.S. Near-by New Carrollton hosted one of only five spots in the country for Iraqis to cast their vote. Shamma, an electrical engineer affiliated with the Institute for Systems Research, is quoted by several news services. "I'm really doing it (voting) partly for myself and partly I feel that I'm doing it for somebody who cannot do it over there."

- **Number of U.S. Doctorates Edges Up**

In a *Chronicle of Higher Education* article on the increase in the number of new doctorates awarded from American universities, Maryland makes the list of the top 25 schools "Where Doctoral Recipients Got Their Undergraduate Degrees." UM is No. 24 (789 graduates earning doctorates) and No. 16 among public research universities.

- **The Persisting Racial Gap in College Graduation Rates**

The *Journal of Blacks in Higher Education* publishes graduation rates for black students from several vantage points, among them a ranking for black students at flagship universities. UM is ranked No. 16 among 52 schools listed; its 54 percent rate high above the national average of 40 percent.

Society & Culture

- **BBC Poll, Done in Conjunction with UM, GlobeScan, Earns World Notice**

The *British Broadcasting Company* releases results of the poll in two separate stories.

Bush Seen as Dangerous by Much of the World "A new BBC poll says a majority of people surveyed think the re-election of George Bush has made the world more dangerous.

BBC Poll Indicates Economic Gloom "Citizens in a majority of nations surveyed in a *BBC World Service* poll believe the world economy is worsening. Most respondents also said their national economy was getting worse. But when asked about their own family's financial outlook, a majority in 14 countries said they were positive about the future.... The poll of 22,953 people was conducted by the international polling firm GlobeScan, together with the Program on International Policy Attitudes at the University of Maryland.

- **Faculty Members Author Influential Study on Military**

David Segal, director of the Center for Research on Military Organization, and assistant director Mady Wechsler Segal author a *Population Bulletin* report on the military, *America's Military Population*. Newspaper features relate study findings. *Media General Newspapers*: "A new study by demographic researchers found that the geographic disparity might prove troubling as military recruiters try to fill the ranks." *Hispanic Business*: "Since 1973, when the draft ended and the U.S. military became an all-volunteer force, the military has increasingly reflected the country's diversity. But it still struggles with aspects of that diversity as well as the needs of military families..."

- **Endangered by Sprawl Co-Authored by Smart Growth Expert**

Reid Ewing, research professor at the National Center for Smart Growth Research and Education and the School of Architecture, Planning and Preservation, co-authors *Endangered by Sprawl*, a 68-page report compiled by the National Wildlife Federation, Smart Growth America, and Nature Serve. San Diego County has 99 imperiled species, Clark County (Las Vegas) has 97. Ewing: "The bottom line is we live where the wild things are. We need to do a better job of accommodating the natural environment along with the human environment."

- **Soul Food**

Families eating together are likely to "spawn teens who get better grades and are far less likely to smoke, abuse drugs and alcohol, have eating disorders, and think about or commit suicide," the *Philadelphia Inquirer* reports. The newspaper uses research done at UM, Columbia, Michigan and Minnesota to make the point. Sandra Hofferth, professor of family studies affiliated with the Maryland Population Research Center, reports a substantial decline in hours available to children to eat, given their more than ever jammed schedules.

Science & Technology

- **Seeing While Hearing Speeds Brain's Processing of Speed**

A UM study finds seeing and hearing together speed up the brain's ability to process what someone is saying -- whether or not they're speaking the truth. The study, published in the *Proceedings of the National Academy of Sciences*, combines neuroscience and linguistics to confirm for the first time that seeing the speaker talk -- called visual speech -- helps the brain process the words they are saying -- the auditory speech -- faster than if the words are heard only. David Poeppel, associate professor of linguistics senior author of the study, says the study indicates that when a listener can see the speaker's mouth, the listener's brain predicts what sound is about to be heard, a process called predictive coding."

- **'Corpus Colossal'**

Philip Resnik, associate professor of linguistics affiliated with the Institute for Advanced Computer Studies and the department of computer science, develops an Internet "Linguist's Search Engine," earning a featured role in an *Economist* article about the arcane world of matching the "corpus" of a language with the seemingly unlimited world of words on the Web.

- **Seeking Better Web Searches**

Scientific American writes about advances in Internet search engines: "Deluged with superfluous responses to online queries, users will soon benefit from improved search engines that deliver customized results." Among the advances featured is Rover from the MIND Program (Maryland Information and Network Dynamics) at UM. "Another class of context-aware search systems would take into account a person's location. If a vacationer, for example, is carrying a PDA that can receive and interpret signals from the Global Positioning System (GPS) or using a radio-frequency technique to establish and continuously update position, systems could take advantage of that capability. One example of such a technology is being developed by researchers at the University of Maryland."

- **Report Bucks NASA's Plan to End Mission**

Eugene Rasmusson, research professor emeritus in meteorology, chairs a National Academies' panel that recommends retaining the U.S.-Japanese Tropical Rainfall Monitoring Mission (TRMM) through to the end of this year. NASA requested the study after scientists and members of Congress criticized agency plans to halt operations last summer.

- **Tin Whiskers: The Next Y2K Problem?**

NASA's Galaxy 4 satellite mysteriously shutdown in 1998, making it a "doorstop in space" because of then-unknown phenomena of "tin whiskers." *Fortune* magazine: "The loss of Galaxy 4 was just one of the more visible consequences of a little-understood problem with catastrophic potential for electronic and electrical systems: metal that

grows whiskers. An F-15's radar system, pacemakers, fuse switches in air-to-air missiles, electronic relays in a nuclear power plant, and global positioning system receivers—not to mention many other satellites—all have fallen victim to the problem. One group of University of Maryland theorists (The Computer Aided Life Cycle Engineering [CALCE] Electronic Products and Systems Center in the Clark School of Engineering) has estimated that tin whiskers have caused losses of billions of dollars to date."

• **UM Incubator Firm Offers System to Detect E. Coli**

Innovative Biosensors Inc., one of eight companies taking part in the University of Maryland's Technology Advancement Program, announces the launch of its first product: a detection system that can find the disease-producing strain of E. coli in five minutes--a process that typically takes 48 hours.

Fall '04 : [August](#) | [September](#) | [October](#) | [November](#) | [December](#)

Winter & Spring '05 : [January](#) | [February](#) | [March](#) | [April](#) | [May](#) | [June](#) | [July](#)

 Information provided by the Office of University Communications
Email University Communications at emailum@umd.edu