



SPRING / SUMMER 2009

# AEROCONTACT

AEROSPACE ENGINEERING  
A. JAMES CLARK SCHOOL of ENGINEERING

[www.aero.umd.edu](http://www.aero.umd.edu)

A NEWSLETTER FOR ALUMNI AND FRIENDS OF THE DEPARTMENT OF AEROSPACE ENGINEERING AT THE A. JAMES CLARK SCHOOL OF ENGINEERING, UNIVERSITY OF MARYLAND, COLLEGE PARK.

## Darryll Pines Named Dean of the Clark School

In December 2008, the University of Maryland announced the appointment of Dr. Darryll J. Pines as Dean of the A. James Clark School of Engineering and the Nariman Farvardin Professor of Engineering, effective January 5, 2009.

“President Mote and I are excited that Darryll has taken on this new challenge at the University of Maryland,” said Nariman Farvardin, Senior Vice President for Academic Affairs and Provost. “We are very confident that under his leadership, the Clark School of Engineering will continue its rapid ascent to be among the very best in the United States.”

Professor Pines earned a Ph.D. in 1992 and an M.S. in 1988 in Mechanical Engineering from the Massachusetts Institute of Technology. In 1986, he received a B.S. in Mechanical Engineering from the University of California, Berkeley. He came to the University of Maryland in 1995 as an assistant professor in the Clark School and had served as Chair of the Department of Aerospace Engineering since 2006.

Under his leadership, the department was ranked 8th overall among U.S. universities (up from 11th last year), and 5th among public schools in the U.S. News and World Report graduate

school rankings. The undergraduate program also went from 10th to 9th during that time. During his tenure as chair, the department was ranked in the top five in Aviation Week and Space Technology’s workforce undergraduate and graduate student placement study.

*Continued p. 3*



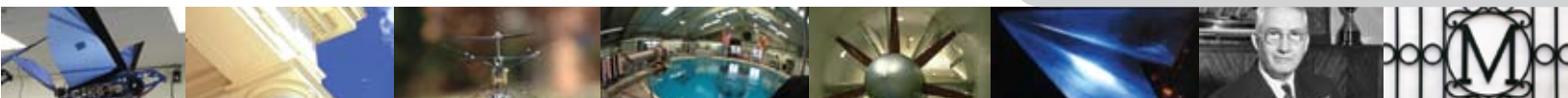
DR. DARRYLL J. PINES  
© MIKE MORGAN 2009

### IN THIS ISSUE:

- 2 CHAIR’S MESSAGE
- 4 DEPARTMENT NEWS
- 6 FACULTY NEWS
- 8 ALUMNI NEWS
- 11 STUDENT NEWS
- 15 COMMENCEMENT

### INTERIM AERO CHAIR NAMED

Newly appointed Dean Darryll Pines has announced that Professor Inderjit Chopra has agreed to serve as interim chair of the department. A national search is underway to find a permanent chair. Dr. Chopra is the Alfred Gessow Professor and director of the Alfred Gessow Rotorcraft Center. “I am grateful to Inder for being able to serve the department in this time of great promise and transition,” Pines said. Chopra began his term as interim chair in January.





INDERJIT CHOPRA

## Dear Alumni and Friends,

When I was asked to take over as the Interim Chair of the Department of Aerospace Engineering I reflected on a similar time, twenty years ago, when I served as the Interim Chair of the Department for four-and-a-half years. During the last two decades, I have seen enormous changes in the Department. The quality and national standing of the Department has increased dramatically. Twenty years ago, like now, we faced an economic downturn and the challenges that come with such developments. At present, like then, we continue to exhibit exemplary scholarship and innovation—qualities that withstand the test of time.

The competitiveness of the undergraduate program has increased enormously, both in terms of high school GPA and SAT scores. Today, projects such as “Design, Build and Fly” have become an integral part of the education we offer in the Aerospace Department, and a large number of our undergraduates (over 100) work on research projects in various laboratories along with graduate students. The undergraduate program is now ranked among the top ten schools in the country, and half of our graduating seniors opt for graduate education, a decision that speaks to the level of commitment and passion our students have for their chosen discipline.

Today, more so than twenty years ago, a greater number of students are full-time and are able to participate in more in-depth research projects. Two decades ago our graduate program was solid, but today it is ranked among the top ten graduate aerospace programs in the nation. Our graduate program, recognized internationally, attracts both high caliber domestic and international students. Our graduates are opting for positions in leading institutions and some of our PhDs are gaining faculty appointments at peer institutions.

Our faculty, more so than in the past twenty years, is extremely balanced in terms of teaching, researching, and service. There are many research leaders in the Department who are professionally connected to their colleagues nationally and internationally. Six faculty members are fellows of leading societies and eight hold associate-editorships of leading journals. Research productivity is at an all time high. Now, more than ever before, the culture of the department is one of collegiality with a focus on student success and research.

Twenty years ago, we had one, major national program, the Rotorcraft Center of Excellence, and today we have eight major national multidisciplinary programs (multi-year, multi-million dollars) led by our faculty. There is no doubt in my mind that our department is striving to be a powerhouse in cutting-edge aerospace research. Now, we have a truly broad-base in aerospace research that includes rotor aeromechanics, hypersonics, space telerobotics, smart structures, micro-systems, and space vehicles and propulsion.

When it comes to our facilities, the Department has been always proud of the Glenn L. Martin Wind Tunnel which, although built 60 years ago, is still utilized by University faculty, students, and private clients for the latest research in low-speed wind tunnel testing. In 1982, with the inception of the rotorcraft center, there was a spur of rotorcraft-related structures and facilities developed during the following ten years that included two model rotor rigs, a 10 foot vacuum spin chamber, hover tower and composite research lab. With Dave Akin joining the faculty in 1986 a unique facility, the Neutral Buoyancy Tank, took shape. Our Neutral Buoyancy Tank, which simulates the microgravity environment of space, is the only such facility on any university campus in the nation. Such resources are truly unparalleled at many other educational institutions—and with such a wide range of fully functional experimental facilities being used by students for their dissertations, as well as other original research, our Department is truly poised to move to greater levels of achievement.

The economic downturn of two decades ago did not deter us from our goal of achieving excellence and, in a similar spirit, we should not be discouraged by the current economic climate. Instead, we should use the lessons of the past and the progress of the present to create opportunity for further growth into the future and fully utilize our resourcefulness and innovative abilities. We should never lose sight that our academic peers are very competitive and we cannot relent in our pursuit of excellence. There is no doubt in my mind that we have evolved and continue to advance through the years as a very forward-moving opportunity-driven, state-of-the-art Aerospace Department. As we search for a permanent chair, let us continue the work that will propel the Department to new heights in the next two decades and beyond.

Inderjit Chopra,  
Interim Chair, Gessow Professor, and Director of Gessow Rotorcraft Center (AGRC)

Pines has been Director of the Sloan Scholars Program since 1996 and Director of the GEM Program since 1999, and he also served as Chair of the Engineering Council, Director of the NASA CUIP Program, and Director of the SAMPEX flight experiment. Last year, he served on the university's Strategic Planning Steering Committee.

During a leave of absence from the University (2003-2006), Pines served as Program Manager for the Tactical Technology Office and Defense Sciences Office of DARPA (Defense Advanced Research Projects Agency). While at DARPA, Pines initiated five new programs primarily related to the development of aerospace technologies for which he received a Distinguished Service Medal. He also held positions at the Lawrence Livermore National Laboratory (LLNL), Chevron Corporation, and Space Tethers Inc. At LLNL, Pines worked on the Clementine Spacecraft program, which discovered water near the south pole of the moon. A replica of the spacecraft now sits in the National Air and Space Museum.

Pines' current research focuses on structural dynamics, including structural health monitoring and prognosis, smart sensors, and adaptive, morphing and biologically-inspired structures as well as the guidance, navigation, and control of aerospace vehicles. He is a Fellow of the Institute of Physics and an Associate Fellow of

AIAA, and he has received an NSF Career Award.

"The Department of Aerospace Engineering has excellent faculty, exceptional staff and innovative students, and I have been humbled and honored to serve as its chair for these past couple of years. It has truly been an exciting and rewarding time period for me. But it is they who have made the department great," said Pines. "And now, building on the great work of my predecessors, I will continue to move the Clark School in the bold new direction toward engineering excellence, solidly grounded in the foundations of discovery, invention and innovation."

#### SOUTHERN MARYLAND PARTNERSHIP ANNOUNCED

A partnership of higher education and naval organizations -- the University of Maryland's A. James Clark School of Engineering, the College of Southern Maryland, the Southern Maryland Higher Education Center and the Naval Air Warfare Center Aircraft Division -- will undertake a program to explore joint education and research efforts and establish four-year aerospace and mechanical engineering bachelor of science degree programs in southern Maryland, in close proximity to the Patuxent River Naval Air Station.

Presently, no comparable degree options are available in the region. The partnership seeks to increase the number of people in southern

Maryland prepared to provide advanced engineering skills to the Patuxent River Naval Air Station and companies that work with it. Efforts are planned to publicize the educational opportunity to area high school students as well, in what is termed a "STEM project" (promoting science, technology, engineering and mathematics as career options for young people).

"Increasing the number of highly qualified engineering graduates is important for national security, and our economic and international competitiveness," said University of Maryland President C. D. Mote, Jr. "The University is excited to be collaborating with our partners in Southern Maryland and the Patuxent River Naval Air Station towards this end. This is the right partnership at the right time."

The new program will entail a multi-year initiative encompassing education and research activities, starting in the fall of 2009. The educational component of the program will enable qualified College of Southern Maryland students to take University of Maryland engineering classes in three ways: by attending classes televised by the university's Clark School and presented at the Southern Maryland Higher Education Center, by attending classes offered by Clark School adjunct faculty at the center and



## CONSTELLATION PROGRAM SELECTS UM AND SSL

The Clark School was the only university program in the country to be selected for NASA's Constellation Program to develop ideas for how astronauts will live and work on the moon. The Clark School's Space Systems Lab (SSL) and 11 companies will work independently to develop concepts for the program.

The SSL will be working on a "minimum habitat" - the functions that a lunar habitat absolutely has to provide, said Dave Akin, professor of aerospace engineering and head of the SSL. "All of the similar work we've done down through the years with class projects in the senior Spacecraft Design course is directly applicable to this effort," Akin said. Each organization will conduct a 180-day study focused on a topic relevant to lunar surface systems.

"These studies provide new ideas to help the Constellation Program develop innovative, reliable requirements for the systems that will be used when outposts are established on the moon," said Jeff Hanley, the Constellation Program manager at NASA's Johnson Space Center in Houston. The recommendations from the studies will help determine packaging options, identify basic functions for lunar habitats, and conceptualize innovative avionics, computer software, energy storage ideas and equipment and techniques that could help preparation for the lunar outpost site.

The Constellation Program is building NASA's next generation fleet of spacecraft -- including the Ares I and Ares V rockets, the Orion crew capsule, the Altair lunar lander and lunar surface systems -- to send humans beyond low Earth orbit and back to the moon. NASA plans to establish a human outpost on the moon through a successive series of lunar missions beginning in 2020. Lunar surface systems may include habitats, pressurized and un-pressurized rovers, communication and navigation elements, electrical power control, and natural resource use.

For more information about NASA's Constellation Program, visit: <http://www.nasa.gov/constellation>

by attending Clark School classes in College Park on the campus of the University of Maryland.

The research component of the program will address the technical needs of the Naval Air Warfare Center Aircraft Division (NAWCAD), including avionics, rotorcraft, air vehicles and unmanned systems, propulsion and power, manufacturing, and human systems. The research will advance the state of knowledge in particular areas of direct interest to the Navy.

"NAWCAD has world-class engineering facilities. In partnership with these educational institutions, who offer world-class learning experiences, we'll lay the foundation for the future of Naval aviation," said Rear Adm. Donald Gaddis, NAWCAD commander.

Darryll Pines, aerospace engineering professor and dean of the Clark School said, "The Clark School is excited about initiating this unique education and research partnership with the Naval Air Warfare Center, Aircraft Division and the College of Southern Maryland and the Southern Maryland Higher Education Center."

The Naval Air Warfare Center Aircraft Division (NAWCAD) is the Navy's full spectrum research, development, test and evaluation, engineering, and fleet support center for Naval Aviation. Product areas include aircraft systems technology, propulsion, flight test

and engineering, avionics design and production, and aircraft-platform interface. NAWCAD is the preeminent technical resource for Naval Aviation forces, and supports the interests of national security around the globe.

Visit NAWCAD on the Web at <http://www.navair.navy.mil/nawcad>.

### UNIVERSITY RANKED IN AEROSPACE & DEFENSE WORKFORCE STUDY

Aviation Week and Space Technology magazine has ranked the University of Maryland third among 64 schools in its 2008 Aerospace and Defense Workforce Study. The University was ranked 5th in 2007.

The Workforce Study asks companies to list the top five institutions from which they recruit. According to the AWST article in the August 18-25 issue, the list of preferred schools meet established criteria from which companies recruit the best and brightest. Decisive factors include:

**Capacity:** the courses and innovative methodologies offered, the research and development projects underway, and diversity.

**Success:** the measure of how well past graduates within the specific company performed, retention of past graduates, acceptance of offers from the company by graduates of that school.

**Diversity:** demographic diversity and diversity in how a person thinks, approaches problems or reacts to challenges.

Also considered are the relationships between employees and the university (advisory boards, for instance) and the location or ability of the university to “feed” the organization. Upon the rankings’ release, aerospace engineering department chair, Dr. Darryll Pines thanked Heidi Sauber, director of the engineering co-op and career services center, and her staff for their tireless efforts in finding job opportunities for Clark School students.

### The 2008 Rankings were as follows:

1. Purdue University
2. Penn State University;
3. (tie) University of Maryland, University of Illinois, and Virginia Tech
4. Georgia Tech
5. (tie) Arizona State, Ohio State, UCLA, UC Davis, and University of Washington

### NASA LECTURE RECAP

Dr. Woodrow Whitlow, Jr., Director, NASA Glenn Research Center presented a special seminar on February 6, 2008 in Martin Hall. Dr. Whitlow’s presentation focused on technology

developments that will enable the aviation industry to enhance aircraft safety, reduce its impact on the environment, increase the capacity of the airspace, and allow the movement of people and goods farther and faster. In addition, the goals of NASA’s space exploration efforts were presented and technologies that will allow human and robotic exploration of the solar system were discussed.



WOODROW WHITLOW

## SEDWICK AWARDED 2009 NSF CAREER AWARD



DR. RAYMOND SEDWICK

The National Science Foundation (NSF) has awarded a Faculty Early Career Development (CAREER) Award to assistant professor Raymond J. Sedwick. The grant, in the amount of \$400,000 over five years, is in support of his research project entitled, "CAREER: Development and Application of

Compact Helicon Sources." Dr. Sedwick's research interests include space power and propulsion, and specifically the application of nuclear fission and fusion to space transportation.

"It's always rewarding, more than just monetarily, when an agency-appointed group of recognized experts in your field can agree that your research idea is good enough to be funded," stated Sedwick. "To have that agency be the National Science Foundation, and that funding be a CAREER grant, is really quite an honor for me."

The Clark School currently has four NSF Career Award winners and one PECASE Award winner. The CAREER Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education, and the integration of education and research within the context of the mission of their organizations.

## SCHMITZ AWARDED 2009 NIKOLSKY HONORARY LECTURESHIP

Fredric H. Schmitz, visiting research professor, has been selected to receive the Alexander A. Nikolsky Honorary Lectureship. The Lecture will be delivered at the 65th AHS Annual Forum and Technology Display at the Gaylord Grapevine Resort and Conference Center in Grapevine, Texas on May 27, 2009.



The Lectureship is awarded to, "an individual who has a highly distinguished career in

vertical flight aircraft research and development and is skilled at communicating their technical knowledge and experience." In winning the award, Schmitz joins the ranks of previous distinguished Nikolsky recipients including Alfred Gessow, a past chair and professor in aerospace engineering at the University of Maryland, and Barnes McCormick, Jr., a member of the department's advisory board and professor emeritus at Penn State.

## OTHER NOTABLE FACULTY ACHIEVEMENTS

- **Dave Akin** and research scientist Craig Carigan secured a \$500K National Science Foundation research grant entitled, "An AUV manipulator/Vision System for Autonomous Interventions."

- **Norman Wereley** was named Technical Program Chair for AIAA 2009 Adaptive Structures Forum which will be held in conjunction with the 50th Structures, Structural Dynamics, and Materials Conference in May and taking place in Palm Springs, CA.

- **James Hubbard** gave a keynote at the Smart Materials and Intelligent Structures Conference in Ellicott City, MD in October 2008. More information about his presentation on the Firefly Project can be found at:

<http://www.asmeconferences.org/SMASIS08/InvitedSpeakers.cfm>

- **Alison Flatau** received a CONNECT Award from the Alexander von Humboldt Stiftung/Foundation for collaboration with German scientist/engineer Uwe Marshner of the University of Dresden, who is a visiting lecturer at the Clark School this spring semester.

- **Chris Cadou** is now a Clark School Keystone Professor. Keystone professors make a commitment to improving the quality of education provided in the school's most fundamental engineering courses, such as "Introduction to Engineering Design."



DR. CHRIS CADOU

## DEPARTMENT WELCOMES...

Erika Aparakakankanage has joined the staff of the Department of Aerospace Engineering as the Program Management Specialist. Erika is new to the University of Maryland and previously taught fifth grade in the Montgomery County Public School District. She is currently pursuing her doctorate in Education Policy Studies on campus at the UMCP School of Education. Erika serves as the first point of contact for department visitors and also assists faculty and students in both the graduate and undergraduate programs.

## ROOP RECEIVES MCPA AWARD

Dr. Nicole Roop, associate director for undergraduate programs in aerospace engineering, was given the Maryland College Personnel Association's "Dedication to Professional Service" award at their annual conference in November at the University of Maryland Baltimore County (UMBC).



DR. NICOLE ROOP

Roop served as president of the Maryland College Personnel Association (MCPA) from 2005-06, and is currently on the governing board for ACPA: College Student Educators International as a member-at-large. This award recognized Roop for her 10 plus years of professional service to both associations. She has also served these associations on conference and convention committees, and is a member of the Directorate for ACPA's Commission on Academic Support.



## MX-2 SUIT RESEARCH IS FEATURED IN POPULAR SCIENCE

At the University of Maryland's Space System Laboratory (SSL), a research team has developed the MX-2 Suit. The project advisor is Dr. David Akin and the lead graduate student is Shane Jacobs. Jacobs' photograph is featured in Popular Science Magazine. The Maryland Advanced Research/Simulation (MARS) Suit is a low-cost test bed for extravehicular activity (EVA) research, providing an environment for the development and application of biomedical sensors and advanced EVA technologies. It is used in the Neutral Buoyancy Research Facility, allowing students and researchers to gain more experience with human-telerobotic interactions in an integrated EVA worksite. MARS Suit is currently in its second generation (MX-2) design.

Initial tests and applications of MX-2 include correlation of MX-2 performance in EVA tasks to both neutral buoyancy and space flight performance in Shuttle suits, tests of various approaches to EVA/robotic cooperation, and development of a virtual reality visual environment integrated into neutral buoyancy simulations.

To view the Popular Science magazine article online, please visit the following link:

<http://www.popsci.com/military-aviation-amp-space/article/2009-02/building-spacesuits>



## RUFFA RELEASES BOOK AND GIVES WHITING-TURNER LECTURE

The originator of the concept of lean dynamics, Stephen A. Ruffa, BS '82, has released his latest book on the topic, *Going Lean: How the Best Companies Apply Lean Manufacturing Principles to Shatter Uncertainty, Drive Innovation, and Maximize Profits* (Kindle Edition). As an aerospace engineer, Ruffa worked for the United States' Department of Defense and researched lean manufacturing across seventeen large aerospace producers. His distinctive observations are framed by a quarter-century of his experiences supporting many of the Defense Department's dynamic needs, which include the design, manufacture, test, and repair of cutting-edge aircraft, as well as projects ensuring the availability of critical supplies for wartime demand surges.

Ruffa's works have been widely cited and recognized. His previous book, *Breaking the Cost Barrier: A Proven Approach to Managing and Implementing Lean Manufacturing* (John Wiley & Sons, 2000), was awarded the 2001 Shingo Prize for Excellence in Manufacturing Research. On November 6, 2008, Ruffa spoke on Maryland's campus as part of the Clark School of Engineering's Whiting-Turner Lecture Series. He provided examples of companies such as Toyota, Wal-Mart, and Southwest Airlines, who have managed to survive and even thrive in

tough economic times and the strategies they use to succeed.

## KORATKAR PROMOTED TO PROFESSOR AT RPI

The department of aerospace engineering proudly announces the promotion of alumnus, Nikhil Koratkar to full professor at Rensselaer Polytechnic Institute (RPI). Professor Koratkar received his Ph.D. in aerospace engineering from the University of Maryland at College Park in November 2000. He joined the faculty of the Mechanical, Aerospace and Nuclear Engineering Department at the Rensselaer Polytechnic Institute (RPI) in the spring semester of 2001. Koratkar's research interests are focused on the synthesis of carbon nanotubes and their integration into multi-scale structural systems, such as polymer composites used in aerospace and rotorcraft applications. Koratkar's other research interests include the fabrication and patterning of metal and silicon based nanostructures by oblique angle deposition and their application in energy conversion devices such as lithium-ion batteries, fuel cells and solar cells.

## ALUMNUS GRIFFIN HONORED WITH AWARDS

The Rotary National Award for Space Achievement (RNASA) Foundation's National Board of Advisors has selected the immediate past NASA Administrator, Michael D. Griffin (Ph.D. '77, aerospace engineering), to receive its highest

honor, the National Space Trophy. The award has been presented annually for the past 23 years to an individual who has excelled in furthering national goals in the field of space. Griffin, a Bush appointee, ended his tenure as administrator of NASA on January 20, 2009.

The RNASA Foundation said it selected Griffin for his part in developing the plan for completion of the International Space Station following the loss of the space shuttle, Columbia, personally directing the shuttle return-to-flight activities; initiating the first procurement of commercial cargo and crew service in the agency's history; successfully establishing the architecture for a sustainable, achievable, and technically viable human exploration program; and awarding the initial spacecraft and launch vehicle contracts that will ensure the program meets its demanding schedule.

According to RNASA, Griffin is also being recognized for the impressive series of senior government and industry executive positions he held prior to being named NASA administrator. Former Apollo astronaut and 2008 Trophy winner Capt. Eugene Cernan said, "Mike Griffin has made an enormous



MIKE GRIFFIN





contribution to the American Space Program throughout his career as a scientist, engineer, and manager. Few people understand the challenges and rewards of spaceflight like he does. Mike has been a visionary, but with a realistic and pragmatic approach to the challenges he has faced. Above all, Mike Griffin recognizes the positive educational impact of our nation's space program on the youth of America."

RNASA Advisor and former Space Shuttle astronaut Capt. Ken Reightler added, "Mike Griffin is one of those rare individuals who is not afraid to tackle even the most difficult engineering and management issues, such as those NASA has faced while implementing the U.S. Space Exploration Policy and during the return-to-flight activities after the Columbia accident."

Griffin will receive his trophy at the RNASA annual black-tie banquet to be held on Friday, May 8, 2009, in Houston.

Griffin was also honored this past fall, along with James French, his co-author on *Space Vehicle Design*, 2nd Edition. The American Institute of Aeronautics and Astronautics (AIAA) presented Griffin and French with its Summerfield Book Award, which goes to the best book published by the AIAA each year.

**MILKE HONORED AS "TOP TERP"**

James Milke, professor and associate chair in fire protection engineering (FPE), was selected as a TIAA-CREF "Top Terp" earlier this year and has also been named this year's grand prize winner, netting \$1000 for the FPE department.

In 1991, he received his PhD from the University of Maryland in Aerospace Engineering. He received a Master of Science degree from the University of Maryland in Mechanical Engineering and is a 1976 graduate of the Fire Protection Engineering program. Milke also has a Bachelor of Science degree in Physics from Ursinus College.

Milke was nominated for the honor by recent FPE graduate Andrew Neviackas ('06) and he subsequently was honored at a men's home basketball game earlier in 2008. The TIAA-CREF "Top Terp" Award recognizes someone who demonstrates excellence in education.

**OUILLET APPOINTED VICE PRESIDENT AT UNIVERSITY OF BRITISH COLUMBIA**

The University of British Columbia announced the appointment of Mr. Pierre Ouillet to the position of Vice President, Finance, Resources and Operations, effective January 2009. Prior to joining UBC, Mr. Ouillet held a variety of senior roles in the private sector with organizations such as McKinsey, Rogers Wireless,

and Best Buy. While with Rogers Wireless, Ouillet served as a senior advisor to the Executive team on corporate strategy and then moved to Best Buy Canada in senior operations, merchandising, and finance positions. Most recently, he served as the Vice President of Finance for Best Buy International, a \$16 billion entity with operations across three continents. Ouillet brings to UBC a wealth of experience in strategic consulting, business operations, and financial leadership in growing, complex international organizations. Born in France, Ouillet graduated from Ecole Polytechnique, received his Masters of Science in Aerospace Engineering from the University of Maryland and his MBA from INSEAD.

As the Vice President of Finance, Resources and Operations, Ouillet will have leadership responsibility for maintaining a portfolio that includes finance, treasury, campus planning, land and building services, human resources, and a range of business and ancillary services. One of the world's leading universities, the University of British Columbia conducts outstanding research and teaching over two main campuses. With a \$1.7 billion budget, 12,000 employees and 48,000 students, UBC is one of the largest employers in British Columbia.

## DISTINGUISHED ALUMNUS WILLIAM BISSELL PASSES AWAY



“The wing designer has been given his own wings!”

William S. Bissell (BSAN, '52) passed away on January 11, 2009, in Kalispell, Montana. Bissell graduated from the University of Maryland in 1952 with a Bachelor of Science Degree in Aeronautical Engineering. Mr. Bissell turned his love of building model airplanes into a career when he joined Lockheed Aircraft Company upon graduation. Bissell was assigned to work in the Lockheed Advanced Development Project, known as the “Skunkworks,” as a designer in 1954. His first project was the U-2. Later, Bissell and his group reengineered the U-2 and this new plane, known as the U-2R, was able to carry more fuel and reach a higher altitude than the original. Bissell also designed and built the JetStar, a ten passenger personnel transporter for the Air Force, which was later used as a presidential plane.

Bissell was a wing designer on the A-12, a Mach 3.2 photographic aircraft. He was a designer in the Wing Group for the SR-71 from 1962 to 1964 and they built this plane entirely out of titanium. He assisted in designing the forward fuselage of the L-1011 cockpit area, and helped design the wings for the XST (Have Blue) prototype. He was also the Wing Group Engineer for the exterior configuration design of the F-117A. After 40 years with Lockheed, Mr. Bissell retired and he and his wife moved to Bigfork, Montana.

In 2003, Mr. Bissell was inducted in the Department of Aerospace Engineering's Academy of Distinguished Alumni at the College Park Aviation Museum. That year, the event celebrated not only this class of Academy inductees, but also the 100th Anniversary of Flight and the 55th Anniversary of the Department. In his speech, Mr. Bissell gave thanks to his family and friends, sharing fascinating stories and anecdotes about his time at Maryland and at Lockheed.

Bill is survived by his wife of 57 years, Mary Bissell of Bigfork; three sons: Steve and wife Bonny of Oregon, Eric and wife Karen of Oregon; and Don and wife Cindy of Bigfork; and a daughter: Debbie Fulford and husband Kirk of Bigfork; a brother: Bob; one sister: Sally; seven grandchildren: Michael, Daniel, Sheila, Ben, Israel, Shaunna and Hannah; three great grandchildren: Alena,

Kylie and Elliot as well as many other relatives and friends.

Memorial gifts can be given to the Edgewood Vista Senior Living, C/O Bill Bissell Memorial Bus Fund: 141 Interstate Lane, Kalispell, Montana 59901. These funds will be used for much needed transportation to enrich the lives of Bill's fellow residents.

## ALUMNUS JEROME PERSH, MATERIALS SPECIALIST, PASSES AWAY

Jerome Persh (MS '58), a retired Defense Department materials and structures specialist, died November 6, 2008 at Inova Fairfax Hospital from chronic obstructive pulmonary disease and lung cancer. He was a resident of Annandale, VA.

Mr. Persh was a staff specialist in the Pentagon's Office of the Director of Defense Research and Engineering (Advanced Technology) from 1967 to his retirement in 1996. He was involved with innovations in Defense Department materials technologies, including composites and laser protective materials. He served as the Pentagon's representative on government and industry committees, including the National Academy of Sciences, the National Materials Advisory Board and the Technical Cooperation Program. He also testified before Congress.

The Persh Conference, created in his honor, is an annual forum at the Pentagon dedicated to the discussion of ideas, challenges and

opportunities related to materials and processing innovation.

Mr. Persh was born in the Bronx, N.Y., and served as a Navy electrician's mate during World War II. He received an undergraduate degree from New York University and a Master's Degree in Aerospace Engineering from the University of Maryland. He worked for six years with General Electric in Philadelphia before joining the Defense Department. In retirement, he was a consultant for Zimmerman Associates and the Institute for Defense Analyses.

Survivors include his wife of 61 years, Doris A. Persh of Annandale; two children, Michael G. Persh of McLean, VA and Richard B. Persh of Nokesville, VA; and four grandchildren.

**GRID 2009 | April 13**  
**8:30 a.m. - 6:30 p.m.**

GRID is a campus-wide, conference style event where research done by graduate students at the University is presented and discussed by faculty and students from many departments and schools. GRID is a venue for students to get feedback on their research and hone their conference skills in the comparative intimacy of their own campus.

GRID is conducted with an interdisciplinary focus through a symposium consisting of both poster and oral presentations, judged by panels specializing in each category. Judges consist of faculty, postdoctoral fellows, administrators, library subject specialists, and advanced graduate students. GRID fosters a healthy competition among graduate students awarding the best presentations amongst the participants.

## DUST MITIGATION PROJECT RECEIVES RESEARCH AWARD

Brandon Hall, an aerospace engineering senior and Clark School ambassador, has received the 2008 NASA Academy Research Award at Goddard Space Flight Center, an award which goes to a project that made a significant contribution to GSFC research.



BRANDON HALL

The project, "A Dust Mitigation Vehicle," is a prototype paving system for the Moon that utilizes only resources available in-situ. Hall has been working with Goddard engineer Dr. Eric Cardiff for over a year developing and testing the prototype vehicle.

Lunar dust contamination is one of the paramount problems that must be addressed before NASA returns to the surface of the Moon. One way to reduce the problem is to remove the source of the dust by paving the surface. Cardiff and Hall's dust mitigation vehicle uses only the native solar flux present in-situ in order to create a hard, dust-free surface for lunar operations. This project was in conjunction with Hall's participation in the NASA Academy, a program that represents an immersive and integrated multidisciplinary exposure and training for students with career aspirations of critical importance to the national aerospace program.

Hall and Cardiff presented their research in Cape Canaveral, Florida in October for the annual meetings of the Lunar Exploration Analysis Group, the International Lunar Conference 2008, the Conference on Exploration and Utilization of the Moon, and the Space Resources Roundtable.



DAVID MAYO

## MAYO RECEIVES AEROSPACE CORPORATION GRADUATE FELLOWSHIP AWARD

Doctoral student David B. Mayo is the second recipient of the Aerospace Corporation Graduate Fellowship

Award. Aerospace Corporation donated funds to the college of engineering and the department to recognize graduate students who either were sons/daughters of veterans or actual veterans themselves. The award includes a check of \$2,500.

Mayo has served in the United States Marine Corps and completed two combat tours of duty in Iraq as a member of 4th Combat Engineer Battalion. He has participated in internships with the Navy Research Lab researching ship fire safety and survivability, and the Army Research Lab (Redstone Arsenal) researching missile propellant sensitivity and projectile aerodynamics. Currently, he is a first year Ph.D. student in the department working as a research assistant under J. Gordon Leishman.

## ROBOTICS@MARYLAND PLACES 2ND IN INAUGURAL COMPETITION

The Robotics@Maryland undergraduate student team placed second in a new regional robotics event hosted by the University of Maryland on October 4, 2008.

The competition, which attracted seven registered teams for its inaugural event, required each team's autonomous robot to race around an array of traffic cones organized in an elliptical shape. The Robotics@Maryland team, which took home a \$250 second place prize, was sponsored by the ECE Department, the Department of Aerospace Engineering, the Institute for Systems Research, the Clark School of Engineering, and the Office of the Vice President for Research, and also received corporate support from Clark School Corporate Partner BAE Systems, Apple, Robotic Research, LLC, and E.K. Fox.

The event was conceived and organized by the Washington, DC Chapter of the Institute of Electrical and Electronic Engineers Robotics and Automation Society (IEEE-RAS) in conjunction with members of the student organization Robotics@Maryland, and Maryland's Department of Electrical and Computer Engineering (ECE). The event is co-sponsored by IEEE-RAS, the ECE Department, and Robotic Research, LLC, based in Gaithersburg, Maryland.

## AIAA FOUNDATION AWARDS GIVEN TO MARYLAND STUDENTS



JOSHUA JOHNSON

Joshua Johnson, an aerospace engineering doctoral candidate, was a recipient of the AIAA Foundation Open Topic Graduate Award.

Each of the four Open Topic Graduate Awards provides \$5,000, bestowed annually to four graduate-level students for outstanding scholarship in research endeavors throughout their graduate studies. Johnson is currently working in the area of planetary entry heat shield design and optimization under the guidance of Mark Lewis.

In addition, the AIAA Foundation presented one of its undergraduate scholarships to Matthew Bishop. Bishop is a junior in the aerospace program.

## DAVIS IS AWARDED NSF FELLOWSHIP

Congratulations to Nikesha Davis, Aerospace Engineering doctoral student, for receiving the National Science Foundation's Louis Stokes Alliance for Minority Participation (LSAMP) Bridge to the Doctorate Fellowship for the 2008-2009 and 2009-2010 academic year.



NIKESHA DAVIS

Nikesha Davis is originally from Upper Marlboro, MD. She received her B.S. from Spelman College in General Science and Mathematics, along with a B.S.E. in Mechanical and Aerospace Engineering from the University of Alabama in Huntsville in 2006. After obtaining her Bachelors degrees, she also received her Masters in Systems

Engineering with a minor in Aerospace Engineering from the University of Alabama in Huntsville in 2008. Nikesha is currently a first year PhD student working with Dr. Inderjit Chopra. Her research interests include Dynamics and Control, Aerodynamics, and Rotorcraft systems.

### HASAN RECEIVES MULTIPLE NASA AWARDS

Syed Hasan (BS '04), a graduate student in the Department of Aerospace Engineering, was recently honored twice by NASA. In November, Hasan received the Space Flight Awareness Honoree Award, which is one of the highest presented to NASA and industry and is for first-level management. This award is presented to employees for their dedication to quality work and flight safety (NASA.gov). In December, Hasan received the Space Flight Awareness Team Award. This award is used to recognize small groups of employees that have demonstrated exemplary teamwork while accomplishing a particular task or goal in support of the human space program.

Hasan is currently working at the Flight Dynamics Facility at NASA Goddard Space Flight Center as a Systems Engineer involved with shuttle and rocket launch support.



The University of Maryland's increasingly popular open house, Maryland Day, starts its second decade April 25 by bringing back one of its most beloved features. A Global Village will once again take shape on Hornbake Plaza – featuring not only international student entertainment throughout the day, but delectable cooking demonstrations with free samples, and a wide range of events that promise a great day full of fun, learning and excitement.

Maryland Day's opening ceremony starts at 10 a.m. on Hornbake Plaza with comments from University President Dr. C.D. "Dan" Mote, Jr. and other dignitaries. The day will be given a grand send-off as faculty, staff and student volunteers march with a display of 204 flags of the United Nations.

Mote says, "The single most important thing about Maryland Day is that the campus has gotten so excited about it, committed to it and creative with it. That has led to more than 400 projects and programs – and the enthusiasm 8,000 volunteers bring to welcoming more than 70,000 visitors." It was Dr. Mote who proposed the creation of a campus wide Maryland Day open house when he first took over as Maryland's president in 1998. Its success has become a model for many other colleges and universities around the U.S. "Maryland Day has gone beyond my wildest dreams," says Mote.

All over Maryland's 1250 acre campus, visitors can "Explore Our World" with tours, exhibits and demonstrations. The university is broken up in to seven specific areas of exploration. There are lots of new events this year – including "Mission Madness" that explores the partnership between the university and NASA's Goddard Space Flight Center; Robot Alley explores robots past, present and future; and visitors will be able to take a fresh look at the Maryland campus – which is now an Arboretum and Botanical Garden. Many visitors look forward to the annual Red & White spring football game – which will be held at 3:30 p.m. in Byrd Stadium.

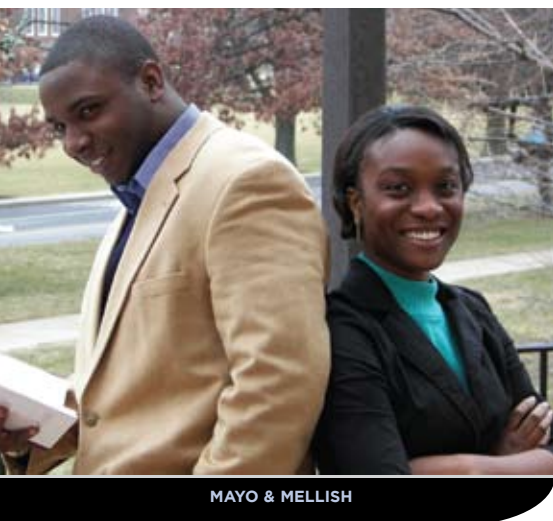
All events run from 10 a.m. until 4 p.m. Everything is family friendly. Don't miss a scoop of Maryland ice cream at the Dairy! Admission and parking are free, and there will be free shuttle buses to and from the College Park Metro and on campus. Navigation is easy with the help of complementary activity maps that include descriptions of all events. Plan your day online starting March 1 at [www.marylandday.umd.edu](http://www.marylandday.umd.edu), or email questions to: [mddayhelp@umd.edu](mailto:mddayhelp@umd.edu).

# studentNEWS

## SLOANE SCHOLARSHIP AWARDED TO MAYO AND MELLISH

David Mayo and Rochelle Mellish were selected to receive a Sloan Scholarship to facilitate and complement their doctoral studies with the Department of Aerospace Engineering. The amount of the Scholarship is \$26,950, which is available to cover actual costs of tuition, stipend, books, professional travel and/or summer support while each student is working toward their degree.

Mayo is originally from Tuskegee, Alabama and completed his B.S. in Mechanical Engineering with an aerospace concentration from Virginia Military Institute in May 2006. He earned his aerospace M.S.E. from the University of Alabama in Huntsville in May 2008. His research focuses on the aerodynamics, flight dynamics, and controls of flapping wing micro aerial vehicles.



MAYO & MELLISH

Mellish is originally from Houston, Texas and completed her B.S. in Aerospace Engineering at Princeton University in June, 2008. Mellish has participated in summer internships with the Alliances for Graduate Education and the Professoriate (AGEP) program. Currently, she is a first year graduate student in the Department of Aerospace Engineering at the University of Maryland working as a teaching assistant. Her research interests are in space systems.

## INTERNATIONAL STUDENT CONFERENCE 'BEST PAPER' WINNER IS LEGGETT

The American Institute of Aeronautics and Astronautics (AIAA) announced the 2008 AIAA Foundation International Student Conference "best paper" winners. Jason Leggett (BS '08) won first place in the undergraduate division for his paper "Optimal Stochastic Nonlinear Control of Spacecraft Angular Velocity." Leggett wrote his paper as a senior in the aerospace engineering honors program under the advisement of Dr. Rob Sanner. Leggett is now a graduate student and department fellow at Johns Hopkins University studying Mechanical Engineering with a concentration in fluids.

Awardees were honored in January 2009 at the awards luncheon of the 47th AIAA Aerospace Sciences Meeting, held in Orlando, Florida.



JASON LEGGETT (R)

Each of the three winners received a commemorative certificate and a cash award of \$1,000. The AIAA Foundation International Student Conference, which invites undergraduate and graduate AIAA student members who won their regional student conferences to present and discuss their research in a formal setting, provides a forum for the recognition of outstanding student research, and for the strengthening of inter-regional bonds between school engineering departments. Leggett placed first last April at the Mid-Atlantic Student Regional Conference held at College Park.

## August & December 2008 GRADUATES

### AUGUST

#### B.S.

Emin Azariah  
David Berg  
Alexander Brown  
Jason Leggett  
Brian McCall  
Robert Nisson  
Jacob Zwilling

#### M.S.

Massimiliano Di Capua,  
Vanessa Gentzen  
Dory Lummer

#### Ph.D.

Carlos Malpica

### DECEMBER

#### B.S.

Dustin Alinger  
Ajay Baharani  
Michel Bernabo  
Kanwarpal Chandhok  
Michael Knott  
Chhabindra Koirala  
Michael Krasel  
Joseph Lisee  
David McLaren  
Roberto Semidey

#### M.S.

Peter Gardner  
Brendan Geraghty  
Eric Greenwood  
Robyn Harmon  
Ian Higgins  
Criag Lewandowski  
Elizabeth Matzinger  
Benjamin Nickless  
Fernando Raffan  
Daniel Sargent  
Richard Sickenberger  
Monica Syal

#### Ph.D.

Anirban Chaudhuri  
Patrick Downey  
Amardip Ghosh  
Yik-Loon Lee  
Pramod Mathai  
Jason Pereira



graduation 2008



## A. JAMES CLARK SCHOOL OF ENGINEERING

The Department of Aerospace Engineering  
3181 Glenn L. Martin Hall  
University of Maryland  
College Park, MD 20742-2111

*Nonprofit Org.  
U.S. Postage  
PAID  
Permit No. 10  
College Park, MD*

## greatEXPECTATIONS

Contribute to the department through the University of Maryland's *Great Expectations* campaign and support our mission to transform lives through exceptional educational and research opportunities. Your contributions can support aerospace engineering initiatives such as graduate fellowships, undergraduate scholarships, and named professorships. Please visit [www.greatexpectations.umd.edu](http://www.greatexpectations.umd.edu) to learn more.

Gifts may be made by check to "University of Maryland College Park Foundation (UMCPF)." Please designate "The Department of Aerospace Engineering" in the memo line, and mail to:

Inderjit Chopra, Interim Chair  
Department of Aerospace Engineering  
3181 Martin Hall  
University of Maryland  
College Park, MD 20742

You can help make a difference with a gift of any amount!

**AEROCONTACT** is published for alumni and friends of Department of Aerospace Engineering at the A. James Clark School of Engineering, University of Maryland.

Your alumni news and comments are welcome. Please send them to: Becky Sarni, Department of Aerospace Engineering, 3181 Martin Hall, College Park, MD, 20742. Visit our web site at: <http://www.aero.umd.edu>

Interim Chair: Dr. Inderjit Chopra  
Graphic Designer: Allison R. Ernst