



# AEROCONTACT

A E R O S P A C E E N G I N E E R I N G

A newsletter for  
alumni and friends of  
the Department of  
Aerospace Engineering

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## Dr. Fourney to Step Down as Chair



In early 2006, Dr. William Fourney, Chair of Aerospace Engineering for 11 years, will step down from this position.

On March 7th, Dr. Bill Fourney announced to faculty, staff, and students: "I have now been in this position for 11 years and I have enjoyed it very much. I feel it is now time to get someone new to lead the department. It is a great department and has a terrific staff. I appreciate all the support you all have given me over these years. I feel that the department can accomplish so much more and that new fresh ideas brought by someone younger will be good for the department."

Dr. Fourney will continue to serve the departments of Aerospace and Mechanical as a professor, the School of Engineering as Associate Dean and Director of Facilities, and the campus as the Maryland Liaison Professor to NIA, and as faculty advisor to Omicron Delta Kappa and Tau Beta Pi.

Starting in 1966 as an Assistant Professor in the Mechanical Engineering department,

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## Alumni Named NASA Administrator

In March, 2005, Michael Griffin, Ph.D., '77, was nominated by President George W. Bush to be the 11th NASA



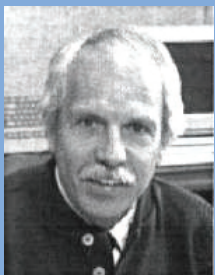
Administrator, and was confirmed by Congress in April. This post follows a distinguished career as an administrator, engineer, teacher, and scholar.

Dr. Griffin's aspirations began as a student at Aberdeen High School, in Aberdeen, Maryland, where he was honored as the Saluatorian of his class. He went on to pursue his bachelor's degree in Physics from Johns Hopkins University and received his first master's degree in Aerospace Science from Catholic University, and eventually his Ph.D. from the University of

M. Griffin speaks to the press on July 24th at NASA Kennedy Space Center. He was pleased to confirm the July 26th launch of Space Shuttle Discovery. Photo credit: NASA-KSC

Dr. Griffin's aspirations began as a student at Aberdeen High School, in Aberdeen, Maryland, where he was honored as the Saluatorian of his class. He went on to pursue his

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## Message From the Chair Dr. William Fournery

I hope that you will enjoy reading about what is going on in the department at the current time. The department continues to do well in all areas. Our research expenditures last year were at an all time high of 17 million dollars. The number of both undergraduate and graduate students are also at an all time high. The quality of our undergraduate and graduate students are the best it has ever been. Our average SAT of incoming freshmen last year was 1360 and the average unweighted high school GPA was 3.8. The faculty continue to do extremely well in conducting cutting edge research on topics of immense interest.

We have just hired a new Assistant Professor, Dr. Sean Humbert who is working in the area of Micro UAV navigation based upon insect methods of navigation. We also are looking for two new assistant professors to join the faculty. Hiring new faculty is a time-consuming process and one in which we must be sure that we are choosing individuals who will become life-time members of our faculty. Hopefully, we will be able to announce progress on these two new hires in our next newsletter.

You will see when you read further that we lost a dear friend and supporter of the department. Edna Hokenson died of complications of cancer late in the summer. Edna had endowed a graduate fellowship in honor of her son Gustave shortly after I became chairman of the department in 1994. She had lost both her husband, John, and her son in the same year to cancer. Her son had received all three of his degrees here at Maryland and she wanted to have future generations of aerospace engineers from Maryland realize how much she loved her son and how highly her son thought of the department. Those students who received support from this fund all became like sons to Edna. She was a wonderful person and we will remember her fondly for many years to come.

You will also see that I have decided to resign as chairman of the department effective January 31st or (at the time that the search committee finds my replacement). I served as chairman of the Mechanical Engineering Department here at College Park from 1982 until 1991. I resigned from that position in Fall of 1991 and returned to teaching and research. In fall of 1994, I was asked by then dean, William Destler, to become Interim Chairman of the Aerospace Department. My undergraduate degree was in aerospace engineering and I agreed to do so. It has now been 11 ½ years since I became chairman of the department and I feel that it is a good time for someone new to take over the department. I have been chairman of the two departments for a total of more than 20 years and felt that it was time to move on. I cannot say how much I have enjoyed being chairman of the aerospace engineering department. It has been a real pleasure to see the department develop to the current level. I feel it is a very, very good department. We are currently ranked around 9th in the country at both the undergraduate and graduate levels. With the faculty we have and the support we enjoy from the college and the campus, I am quite sure that within the next five to 10 years the department should be ranked among the top five departments in aerospace engineering.

I have enjoyed knowing and interacting with the many students who have graduated from the department over the past 11 years. I will miss working with an excellent faculty, a very professional staff, and the best students any department could hope to have. I will still be around and I would enjoy having you stop by and say hello if you are in the area.

## Fourney story from front page

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Professor Fourney quickly progressed through the faculty tenure process and in the engineering administrative ranks, becoming Chairman of Mechanical Engineering in 1982. His outstanding performance as their chair led administrators to



recommend and name Dr. Fourney as Interim Chair of Aerospace in 1994. When a permanent chair was being sought a little while later, he did not immediately 'throw his hat in the ring,' as he tells the story. Instead he waited some time in the search process and then after weighing the pros and cons, and following a large amount of encouragement from his colleagues and aerospace students, Prof. Fourney then

submitted his name to the search committee. Subsequently was named permanent chair of Aerospace in 1996.

By 1994, the enrollment numbers of aerospace students had reached all-time lows. The total number of enrollment within the department was 301 students, with 184 undergraduate and 117 graduate students. During this time, the number of new students entering the major was only around 40 and the number of Bachelors degrees awarded each year fell from approximately 80 in the late 1980's and very early 1990's, to around 30 each year in the mid- and late 1990's. Dr. Fourney and Dr. Mark Lewis, then director of the undergraduate program, began a reorganization of the program and an aggressive recruitment plan was put into place. By the early 2000's the undergraduate enrollment stood at 260, with 116 graduate students. This upward trend continued for years and still continues today as enrollment numbers have almost doubled from those early years in his chairmanship. The fall 2005 enrollment stands at 367 undergraduate students, with 102 being first-year students entering the program, and cur-

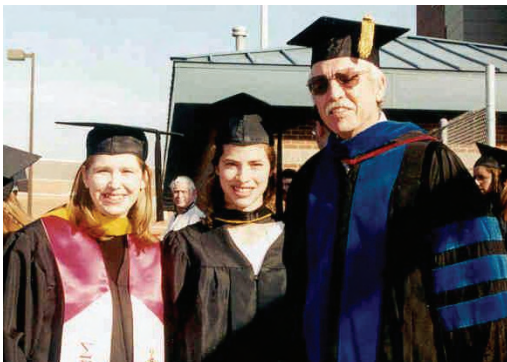


A member of the Department of Mechanical Engineering's Academy of Distinguished Alumni at West Virginia University, Dr. Fourney began an Academy for the Aerospace department at Maryland in 1999. At top in 1999 he is pictured with (l to r) accepting on behalf of Glenn L. Martin, and inductees Maj. Gen. (Ret.) Gary Curtin, Dr. Mike Griffin, and Dr. Kevin Bowcutt. At bottom, Dr. Fourney welcomes distinguished guests and faculty to the 50th anniversary of the aerospace department in 1999.

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rently there are a total of 167 graduate students. The department now has more freshmen directly from high school than any other major within the Clark School of Engineering.

The quality of Aerospace students has also improved during Dr. Fourney's tenure. In the fall of 1995, the average SAT score was 1230, and the average grade point average was just above a 3.4. For the fall 2005 entering freshmen class, the average SAT score is 1360 and the average GPA from high



(Left) Dr. Fourney is a constant at every university-wide and engineering commencement ceremony; (Right) In 2002, Dr. Fourney received the Favorite Professor Award from the undergraduate students





school is 3.8 out of 4.0, and 4.1 for those students from schools with weighted scales. For incoming graduate students, the average GRE score is 2067 out of total possible of 2400. During the late 1990's, there was an average of 25 Bachelors recipients, 20 Masters recipients, and six Doctoral graduates. In May of 2005, the department conferred a total of 50 Bachelors, 33 Masters, and 10 Doctorates. As chair, Prof. Fournery has seen over 450 students receive their Bachelors degree in aerospace, and almost 300 advanced degrees in aerospace handed out to graduate students.

Research expenditures and faculty numbers have also drastically increased while Dr. Fournery was interim chair and then chair. In his first year, expenditures in research and testing by the faculty in 1995 came to \$5.85 million, an increase of 18% over the previous year. Each year these numbers rose and for the 2004-05 fiscal year, technical and educational research expenditures totalled \$17.3 million. This places the department as the most research dollars per faculty member in the country. Faculty numbers have grown from 16 in 1994 to 19 for the 2005-06 academic year. In addition to these full time faculty, the department also benefits from one joint faculty member with Fire Protection, two visiting faculty, two emeritus, and numerous adjunct faculty and lecturers from the aerospace industry and across campus.

Dr. Lewis, a professor with the department since 1989 and currently serving as Chief Scientist for the U.S. Air Force, stated: "The objective factors - and there are many - tell only part of the story: number of faculty, quality of students, research contracts and grants, international leadership in new exciting research areas, publications across the board, etc. The growth in each of these metrics has been astounding under Bill's leadership. When I compare the Aerospace Engineering Department that Bill Fournery inherited over a decade ago to the incredibly strong and vibrant organization he is now leading, it is clear that he has left an indelible legacy of growth, quality, and most importantly, integrity. Bill Fournery has simply been an outstanding department chair. No one could possibly work harder than he has, and the result has been that the department has risen to a level of true academic greatness under his stewardship."

Gratitude and high esteem for Dr. Fournery is felt by all those associated with the department - students, staff, alumni, industrial colleagues, and faculty within the school of engineering and at campuses across the country. Maureen Meyer, Aerospace Engineering's Director of Administration for several years and now Assistant Dean for Business in the School of Engineering, had this to say about Dr. Fournery: "I have known Bill for over 21 years and he is truly one of a kind. He is one of the most hardworking, unselfish, dedicated administrators that I have ever known. He gives of himself to everyone - faculty, staff, students and parents alike. No job is too big or beneath Bill. I have observed him overseeing a multi-million dollar capital proj-

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The department has improved tremendously under Dr. Fournery's chairmanship, in particular in the quality of students. (Top Right) Dr. Fournery attends a reception at University President Dan Mote's house to honor scholarship students such as Banneker Key recipient, Jamie Meeroff.



(Bottom Right) Dr. Fournery stands in front of the Kim Building during its construction last year with members of the National Institute of Aerospace. Dr. Fournery was instrumental in the formation of the NIA and in Maryland's continued involvement with the association through educational, research, and monetary contributions.



Dr. Fournery received the Clark School's Outstanding Service Award in 2004. Above, he stands with aerospace faculty in the tunnel of Cole Field House before the commencement ceremony where (right) he was presented with this award by Dean Farvardin.





ect, and I have also seen him repair cars in the parking lot and install keyboard trays with his drill that he brought from home. Bill is an amazing individual and the Clark School has benefited from his multiple roles over the past years.”

Like many of his undergraduate colleagues, aerospace student, David Billingsley, credits Dr. Fourney for his own allegiance to the university and to the department. David explained that “Dr. Fourney is one of the reasons I love the University of Maryland. He’s a wild, West Virginian mountain man with a big, brown hat and a deep, authentic accent. His love for this school is only rivaled with his ability to make it a better place every day. As a student, I see that Dr. Fourney is kind, caring, and compassionate to his students; yet tenacious, merciless, and unceasing in taking care of the problems that get in our way. He has always been ready and available to lend a helping hand in the middle of his busy schedule.”

Through the years, Dr. Fourney has also received formal accolades and honors from a variety of sources. These were in recognition for his work as chair, professor, and academic advisor to aerospace students. The awards include:

*UMCP Outstanding Teaching Award - 1996*

*UMCP Outstanding Contributions to Seniors - 1995*

*Maryland Association for Higher Education Outstanding Educator Award Nominee - 1996*

*Clark School Outstanding Service Award - 1997; 2004*

*Aerospace Engineering Professor of the Year Award - 2001*

*Aerospace Engineering Mentor of the Year Award - 2004*



His sincere and caring attitude for the students is not only evidenced in awards such as these, but in his manner and in his financial giving. Last year, Dr. Fourney established the Fourney Scholarship to support transfer students to the University who will be majoring in mechanical or aerospace engineering. Dr. Fourney donated \$30,000 to endow this scholarship fund and several faculty members in the school of engineering have also contributed to the fund. The annual spendable income generated by the principal of this fund will be used to provide \$1,000

scholarships to at least two eligible transfer students each year (To contribute to this scholarship fund, please see giving information on page 19).

Dr. Lewis truly captured how many feel about Dr. Fourney with this statement: “His word has always been his bond; his motives always beyond reproach; and he always placed the requirements of his colleagues and students above his own personal needs. Bill has sacrificed considerably for this job, and we will be forever grateful to him for that. I appreciate everything

he has done to advance my own personal career and all that he has done for the Aerospace Engineering Department as a whole. Above all, I feel honored to have worked in the department under Bill Fourney’s leadership, and I am proud to be able to count him as a true friend and colleague.”

In his message to the department regarding Dr. Fourney’s announcement, Dean Nariman Farvardin described Professor Fourney’s 11 years of service as “of unparalleled quality.” The Dean went on to state “On behalf of the Clark School I am indebted to him for his extraordinary commitment and leadership which has led to moving the department into the rank of the very best in the nation.” As are we all!

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Rarely does a week go by that Dr. Fourney is not in attendance at an event on behalf of the department and the school of engineering. (Above left) In 2003, Dr. Fourney introduced ARCS fellowship recipients Suneel Sheikh (AE) and Sean Andersson (EE) at a ceremony held at the U.S. Supreme Court Building. Pictured with them is alumnus and Academy member Buz Hello. (Above right) Dr. Fourney presents the department undergraduate recognition awards each April. In 2002 he presented Brian Nestico, Joe Simons, Matt MacKusick, and Jesse Colville with their academic and student society awards.



## Flatau Promoted to Professor

Dr. Alison Flatau has been promoted to Full Professor. Dr. Flatau joined the aerospace department in 2002 from Iowa State University's aerospace and engineering mechanics department. She is a member of the Small Smart Structures

Center and faculty advisor of the AIAA student chapter at Maryland. In 2004, Prof. Flatau was appointed as director of the undergraduate aerospace program and director of the aerospace honors program. Please join the department in congratulating Dr. Flatau!

## Lewis Elected to Fellow of ASME

Dr. Mark Lewis was elected to Fellow grade in the American Society of Mechanical Engineers. The Fellow Grade is the highest elected grade of membership within ASME, the attainment of which recognizes exceptional engineering achievements and contributions to the engineering profession. A Fellow of ASME is one who 'has attained a membership grade of distinction, at the time of advancement shall be a corporate member of the Society, and shall have been responsible for significant engineering achievements.' Dr. Lewis is Chief Scientist of the Air Force, on leave from his position as a Professor at the University of Maryland. His research accomplishments have included a myriad of significant technical contributions in the hypersonic propulsion and aerodynamics arena, especially in the development of engine-integrated optimal hypersonic aerodynamic concepts, as well as numerous educational and professional contributions.

## Chopra Invited Lecturer in Bangalore



Dr. Inderjit Chopra was invited to give the Keynote Lecture at the 2005 International Conference on Smart Structures, Bangalore (India), July 28-30, 2005. The topic he spoke on was "Review of the Status of Smart Structures and Integrated Systems."



## Korkegi Honored as Speaker

Dr. Robert Korkegi, Visiting Professor, gave the Culpepper Memorial Lecture at the 13th International Space Planes and Hypersonic Systems and Technologies Conference held May 16-20 in Capua, Italy. His subject "Hypersonics—The Early

Years" dealt with the surge of activity in the 1940's and 1950's in a generation of high speed test facilities, experimental flight vehicles, and hypersonic aerodynamic theory stimulated by the development of long range missiles. This lecture is given in honor of the late Richard Culpepper, an active AIAA Fellow member, driving force in the development of the organizing committee, and U.S. General Chair of the International Spaceplanes and Hypersonic Systems and Technology Conferences.



## AGRC on Top in Texas

Faculty, research staff, graduate students, and alumni, of the Alfred Gessow Rotorcraft Center received best paper awards from three presented papers

at the AHS International - The Vertical Flight Society's 61st Annual Forum held at Fort Worth (TX) on June 1-3, 2005. These papers were then nominated by discipline for the Alfred Gessow Best Paper Award:

- **Dynamics:** *Anubhav Datta, MS '01, PhD '05, and Inderjit Chopra, Professor*, "Prediction of UH-60A Dynamic Stall Loads in High Altitude Level Flight Using CFD/CSD Coupling"
- **Aircraft Design:** *Paul Samuel, MS '99, PhD '03, Jayant Sirohi, MS '98, PhD '02, Felipe Bohorquez, doctoral student, and Ron Couch, MS '03, doctoral student*, "Design and Testing of a Rotary Wing MAV."
- **Acoustics:** *Marc Gervais, MS '02, PhD '04, and Frederic Schmitz, Professor*, "Neural Network Modeling of Measured Tiltrotor Acoustics for Designing Low Noise Approach Profiles."



Best paper recipients with their certificates: (l to r) Chopra, Datta, Samuel, Sirohi, Couch, and Schmitz



## New Faculty



**Dr. J. Sean Humbert** joined the Department in August, 2005 as an Assistant Professor. He received his B.S. degree in Mechanical Engineering at the University of California, Davis

in 1997, and his M.S. and Ph.D. degrees in Mechanical Engineering from Caltech in 1999 and 2005, respectively. Before receiving his Ph.D. and joining the faculty, he worked for Pratt & Whitney Space Propulsion in San Jose, CA as the project engineer (1999-2000) on the Delta IV RL10B-2 Nozzle Extension Deployment System (NEDS) and as a member of the program office (2000-2002) managing various upper-stage avionics programs.

Prof. Humbert's research interests are in control and modeling of mechanical and biological systems, combining the traditional disciplines of dynamics and control theory with the rapidly emerging area of bio-inspired sensing and locomotion. His past (Ph.D.) research examined the neurophysiological processing of wide-field motion sensitive neurons present in the visual systems of insects, and extended these principles to autonomous robotic guidance and navigation. This work resulted in a best student conference paper award and a best conference poster prize.

Dr. Humbert's current research emphasizes an interdisciplinary approach to robotics that uncovers and distills the biological principles that allow for efficient, robust, and autonomous operation, and utilizes bio-inspired strategies that overcome the barriers imposed by the physics and dynamics of small-scale flight. His lab's long-term goal is closing the considerably large gap in performance and robustness that exists between biological systems and their robotic counterparts.

## Shapiro and Research Team Awarded 'Invention of the Year'



Invention team members:  
SHAPIRO, SMELA, ABSHIRE, and WIRTZ

*Photo courtesy of T. KNIGHT*

Each year, the Office of Technology Commercialization (OTC) at the University of Maryland presents awards honoring outstanding inventions by University researchers. A panel of judges comprised of University of Maryland personnel and industry experts selects one winner from groups of finalists in each of three categories: information science, life science and physical science. This year, the Physical Science Invention of the Year went to **Benjamin Shapiro**, Assistant Professor of aerospace engineering and co-principal investigator;

Elisabeth Smela, Associate Professor of mechanical engineering and co-principal investigator; Pamela Ann Abshire, Assistant Professor of Electrical and computer engineering and principal investigator; and Dennis Wirtz, Professor of chemical engineering at Johns Hopkins University, for their work in 'Cell Sensor Based Pathogen Detection.'

A tremendous amount of research and development efforts are being dedicated to biochemical pathogen detection. Current commercially available pathogen detection systems have an unacceptably high rate of false positive results. This new technology will enable selective pathogen detection by exploiting the signaling machinery of living cells.

Cell level pathogen detection will function by monitoring the response of cells when exposed to a specific external pathogen. Developed by University of Maryland and Johns Hopkins University researchers, this technology combines bioengineering with micro-engineered hardware, creating an improved system for pathogen detection. This technology has applications in homeland security, pathogen detection and pharmaceutical screening. A U.S. patent application is pending.

The Office of Technology Commercialization (OTC) at the University of Maryland was established in 1986 to facilitate the transfer of information, life and physical science inventions developed at the university to business and industry. In the past 18 years, OTC has recorded more than 1,400 technologies, secured more than 225 patents and licensed nearly 750 technologies, generating more than \$22.6 million in technology transfer income. In addition, more than 40 high-tech start-up companies have been formed based on technologies developed at the university. The invention winners are chosen based on the creativity, novelty and potential benefit to society of each of the inventions.

*Information obtained from <http://www.newsdesk.umd.edu/index.cfm>*

## Griffin story from front page

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Maryland. His dissertation was titled "Numerical Solutions for Two- and Three-Dimensional Non-Reacting Flowfields in an Internal Combustion Engine," and his co-advisors were Dr. John Anderson, Dr. Jewel Barlow, and Dr. Everett Jones. He has since attained four additional masters level degrees: in Electrical Engineering from the University of Southern California; in Applied Physics from Johns Hopkins University; in Business Administration from Loyola College; and in Civil Engineering from The George Washington University.

### A Scientist, an Engineer, and a Manager

Dr. Griffin has worked as an engineer in both federal and non-governmental agencies. When nominated for NASA Administrator, Dr. Griffin was serving as the Space Department Head at Johns Hopkins University's Applied Physics Laboratory (APL) in Laurel, Maryland. The APL serves as one of the premier research and development institutions working on technical challenges facing the United States. Under Dr. Griffin's leadership, the APL designed and built the Mercury Surface, Space Environment, Geochemistry, and Ranging (MESSENGER) spacecraft. This mission was a collaboration between NASA and the APL, launching in 2004 and is scheduled to arrive at Mercury in 2011. As Head of the APL's Space Division, Dr. Griffin oversaw a staff of over 600 employees, with an annual budget of over \$200 million.



**"We will do it together."  
Administrator Griffin speaks with  
NASA employees at Headquarters on  
his first day on the job.**

Photo credit: NASA/Renee Bouchard.



**NASA Administrator Michael Griffin takes the oath of office Thursday, April 14, during a private ceremony at the Office of Science and Technology Policy (OSTP) in Washington, DC. John H. Marburger, Science Adviser to the President and OSTP Director, administered the oath.**

Photo credit: NASA/Renee Bouchard

also worked at NASA's Jet Propulsion Laboratory in California. Dr. Griffin also held leadership and management positions in the private industry as the President and Chief Operating Office of In-Q-Tel, Chief Executive Officer of Magellan Systems, Deputy for Technology at the Strategic Defense Initiative Organization, and as Orbital Science Corporation's Executive Vice President and Chief Technical Officer.

Dr. Griffin has authored over two-dozen technical papers as well as the textbook, "Space Vehicle Design." He has taught courses as an adjunct professor at the University

of Maryland, Johns Hopkins University, and the George Washington University in such subjects as spacecraft design, applied mathematics, guidance and navigation, compressible flow, computational fluid dynamics, spacecraft attitude control, astrodynamics and introductory aerospace engineering. Dr.

Griffin, a continuous learner and teacher, is also certified as a flight instructor with instrument and multi-engine ratings.

A registered professional engineer in Maryland and California, Dr. Griffin has been named a fellow of both the American Institute of Aeronautics and Astronautics (AIAA) and the American

Astronautical Society. He is also the recipient of the NASA Exceptional Achievement Medal, the AIAA Space Systems Medal, and the Department of Defense Distinguished Public Service Medal which is the highest award the department gives to non-

government employees. Dr. Griffin served on the advisory board for the Department of Aerospace Engineering for several years, providing guidance and support for the department's programs. In 1999, he was named to the Department's Academy of Distinguished Alumni, and was named the Clark School's Distinguished Engineering Alumnus in 2000. Dr. Griffin has truly demonstrated how Clark School alumni can contribute and bring great pride to their Alma mater.



**As Administrator, Dr. Griffin leads the NASA team and manages its resources as NASA seeks to advance The U.S. Vision for Space Exploration.**



## Griffin story from page 8

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### NASA's Exploration Architect

In his Senate confirmation hearings and in his first message to the NASA Family, Dr. Griffin outlined his priorities as Administrator:

- Flying the Shuttle as safely as possible until its retirement, no later than 2010;
- Bringing a new Crew Exploration Vehicle into service as soon as possible after Shuttle retirement;
- Developing a balanced, overall program of science, exploration, and aeronautics at NASA, consistent with the redirection of the human spaceflight program to focus on exploration;
- Completing the International Space Station in a manner consistent with our international partner commitments and the needs of human exploration;
- Encouraging the pursuit of appropriate partnerships with the emerging commercial space sector;
- Establishing a lunar return program having the maximum possible utility for later missions to Mars and other destinations.

Since taking the helm at NASA on April 13, Dr. Griffin has faced a number of situations in a short amount of time. He has led the first shuttle launch and flight since the Columbia accident in 2003. This flight was marked by pieces of foam insulation falling off the space shuttle external fuel tanks during launch, a subsequent space walk to inspect and repair the damage, and bad weather forcing the shuttle to land in California instead of its intended and preferred end-of-mission landing site at NASA's Kennedy Space Center in Florida.

Soon after Space Shuttle Discovery returned to Earth, Dr. Griffin and his staff were put into action in preparation for Hurricanes Katrina and Rita. These storms affected three NASA facilities: Michoud Assembly Facility near New Orleans, Stennis Space Center in Mississippi, and Johnson Space Center in Houston. An estimate of damages to these facilities and other costs associated with the hurricanes was \$1.1 billion, with an estimated \$600 million in costs at Stennis, and \$500 million at Michoud. However, the larger issues faced by Dr. Griffin and his administration were the number of employees who lost their homes, and the transportation challenges on those entry ways to these NASA facilities due to road and bridge conditions. Following the

storms and Gulf Coast recovery efforts, Dr. Griffin was forced to justify the federal dollars given to NASA and to rebuild its facilities. "The space program is a long-term investment in our future," Griffin said at a September press conference. "We must deal with our short-term problems while not sacrificing our long-term investments in our future. When we have a hurricane, we don't cancel the Air Force. We don't cancel the Navy. And we're not going to cancel NASA" (www.msnbc.com, Sept. 19, 2005).

Dr. Griffin has also faced changes in his administration including the resignation of Deputy Administrator, Frederick Gregory, who stepped down in mid-September. Ms. Shana Dale, former deputy director for homeland and national security at the White House Office of Science and Technology Policy, was confirmed by the Senate in November for the Deputy post. A lawyer, Ms. Dale is the first woman in this NASA leadership position.

Throughout it all, Dr. Griffin has maintained the same tenacity, commitment, and leadership he has demonstrated as a student, educator, engineer, administrator, and contributing alumnus. The Department of Aerospace Engineering proudly congratulates Dr. Mike Griffin on his nomination and confirmation.



(Left) On May 9, graduate students Suneel Sheikh, Patrick Downey, and Nicholas Rosenfeld were distinguished guests of Mary Snitch (far left), President of the Metro Washington ARCS chapter and Director of NASA Programs for Lockheed Martin Corporation, at the Maryland Space Business Roundtable luncheon. The students were able to talk with Senator Barbara Mikulski, luncheon speaker (front, center); UMCP President Dan Mote (second from right), and alumni and NASA Administrator, Michael Griffin (far right).

Information for this article obtained from nasa.gov, SpaceRef.com, and U.S. Senate transcripts

## Department Celebrates Women History Month With NASM Speaker

On March 2, Dr. Margaret Weitekamp, Curator at NASM and author of the book "Right Stuff, Wrong Sex: America's First Women in Space Program," spoke on how the Women in Space program challenged prevailing attitudes about women's suitability for male-dominated vocations. Dr. Weitekamp received her Ph.D. from Cornell University and spent a year in residence at the NASA Headquarters History Office as an American Historical Association/NASA Aerospace History Fellow.



In examining the experiences of the Fellow Lady Astronaut Trainees, Dr. Weitekamp's book documents the achievements and frustrated hopes of a remarkable group of women whose desire to serve their country fell victim to hostility toward such aspirations. Drawing from archival research and interviews with participants, she traces the rise and fall of the Woman in Space program within the context of the cold war and the thriving women's aviation culture of the 1950s. Dr. Weitekamp's study sheds light on a little-known but compelling chapter in the history of the

U.S. space program and the rise of the women's movement in America. This book was subsequently awarded the 2005 Eugene M. Emme Astronautical Literature Award given by the American Astronautical Society. Her lecture was attended by students, faculty, and staff alike. The evening began with a reception to welcome Dr. Weitekamp, and a book signing followed the conclusion of her lecture. This program was jointly hosted by the Women in Engineering Office and the Department of Aerospace Engineering.

## NIA Dedicates New Headquarters

~courtesy of NIA News Release, June 22, 2005



The National Institute of Aerospace (NIA) held a Dedication Ceremony for the institute's new headquarters building on Thursday, June 23, at their new location, 100 Exploration Way in the Hampton Roads Center North campus, Hampton, Virginia.

"Three years ago NASA sought a partner to participate in the research and education mission of Langley Research Center," says Dr. Robert Lindberg,

NIA President and Executive Director.

"Today we are ready to deliver on the confidence they have placed in us to make a positive difference to the Center."

The new facility (pictured above), was developed by Craig Davis Properties and provides office space for faculty, research staff, graduate students, and administration as well as state-of-the-art laboratories and web-enabled classrooms. NIA's new meeting, workshop, and symposia spaces are equipped with the latest advanced technologies.

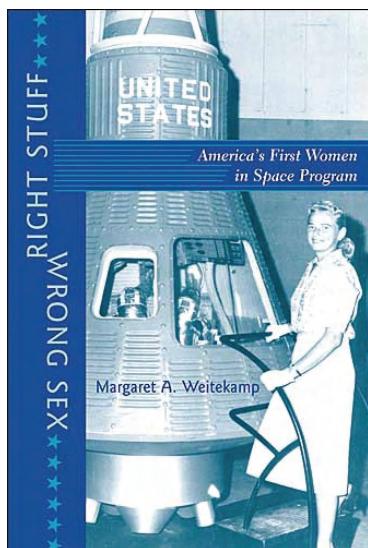
NIA was formed by a consortium of leading research universities and the American Institute of Aeronautics and Astronautics Foundation. The roster of universities now includes: Georgia Tech, Hampton University, North Carolina A&T State University, North Carolina State University, the University of Maryland, the University of Virginia, Virginia Tech, Old Dominion University and The College of William & Mary.

NIA conducts research in aviation, space exploration, advanced technology, and science in collaboration with NASA, universities, other government agencies, and industry. NIA's founding member universities provide local full-time and part-time graduate degrees in a variety of engineering disciplines as part of NASA's mission to train the next generation.

*More information about the*

*National Institute of Aerospace is available at:*

*<http://www.nianet.org>.*





## Eight is Great!

Atlas, a ship-based military helicopter designed to support logistics for an Army Future Combat System (FCS) light armored vehicle, was the winner of the 2005 AHS International Helicopter Design Competition. To no surprise by those members on the team, nor anyone in the Clark School of Engineering, this win marked Maryland's eighth consecutive victory in the competition.

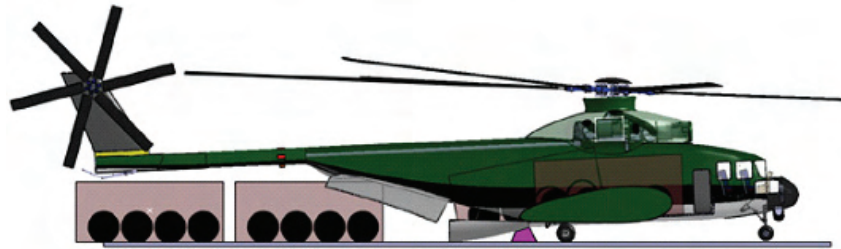
The team, made up of graduate students Benjamin Hein (Team Captain), Tim Beasman, Anne Brindejone, Anirban Chaudhuri, Eric Parsons, Nicolas Rosenfeld, Eric Schroeder, and Eric Silberg, were challenged to develop a conceptual design of a military aircraft that maintains a balance of shipboard compatibility, cruise speed and payload handling with Initial Operational Capability in 2018. The request for proposal (RFP) stated that the primary aircraft measure of merit is "the time line for one aircraft to deliver four flight control systems combat vehicles versus the predicted acquisition cost of the aircraft," given as mission hours per mission and hours per acquisition cost in the RFP clarifications. The team's proposal design philosophy was to focus on the design of a low-risk military aircraft that was an innovative, low cost, and highly reliable solution that pushes the vertical takeoff and landing cruise limitations.

The aircraft had to be capable of hover out of ground effect at full payload for take-off at mean-sea-level and 3,000 foot density altitude. The design also needed to consider hover efficiency, maximum cruise speed, cruise efficiency, shipboard operations, turn rate or maneuverability of the aircraft in forward flight, and development cost. This year's design team also took historical helicopter designs into consideration looking at such aircraft as the CH-53E, the CH-47SD and K-MAX, which has conventional, tandem, and synchropter configurations respectively.

Maryland faculty members, Dr. V.T. Nagaraj, Dr. Inder Chopra, Dr. J. Gordon Leishman, Dr. Fred Schmitz, as well as Dr. Marat Tishchenko, former chief designer at the Mil Design Bureau, and Lt. Rich Whitfield, Squadron Quality Assurance Officer, greatly assisted the group, and guided them to another outstanding win. The department held a celebratory luncheon in early September which was attended by Provost Bill Destler and engineering Dean Nariman Farvardin.



**Atlas is a low-cost, low-risk solution for a shipboard compatible heavy-lift VTOL transport. The final design is a Single Main Rotor/Tail Rotor helicopter which provides best performance at lowest cost.**



**2005 Graduate Student Team:** (kneeling l to r) Anirban Chaudhuri, Anne Brindejone, Ben Hein, Eric Parsons; (l to r standing) Nicolas Rosenfeld, Dr. Nagaraj, Dr. Tishchenko, Dr. Chopra, Eric Schroeder, Eric Silberg

# studentNOTES

**Nir Kalush** has received a scholarship from Trigen Cinergy Solutions of College Park, LLC as part of their Education Fund. This includes an opportunity to perform research using the Center for Environmental Energy Engineering (CEEE) and the Trigen Facilities. Nir is a junior in the aerospace honors program and received a citation from the College Park Scholars program last spring.

**Ashley Korzun** has received a scholarship from the Alpha Omega Epsilon National Foundation. The Foundation organization is focused on furthering the success of women in engineering and technical sciences. Selection is based upon character, conduct, and integrity; academic achievement and scholastic aptitude; and community involvement and extracurricular activities. Ashley is a senior in the aerospace honors program, a Clark School Ambassador, and is currently President of the University of Maryland's Tau Beta Pi Beta chapter.



T. WASSERMAN

**Timothy Wasserman**, BS '05 and **Ian Cohen**, senior aerospace honors students competed in the Mid-Atlantic Regional AIAA student paper competition in April. Tim won second place for his presentation and paper, "Gestural Control of an Assistant Rover by an Astronaut for Planetary Exploration." Ian took third place in the competition with his paper and presentation, "Applied Autonomous Gyro Calibration."



I. COHEN



**Ethan Eagle**, a senior aerospace honors student, has been elected President of the Clark School's Engineering Student Council (ESC). The ESC works to promote individual engineering society events and to coordinate multi-society events promoting engineering and seeks to obtain a united student voice with the administration on issues of policy and curriculum. Ethan is also a Clark School Ambassador and Vice Chair of the AIAA Maryland chapter.

EAGLE, KORZUN, TROUT, & TREPP (l to r)

**Sam Trepp and Julie Trout** were elected to be undergraduate student senators for 2005-06. They will be the key persons in bringing undergraduate student concerns and initiatives to the attention of the University Senate and its Executive Committee on behalf of the Clark School of Engineering. Sam is a senior aerospace student and Chair of the Maryland chapter of AIAA; Julie is a junior in the aerospace program and Treasurer of Engineers Without Borders at the University of Maryland.



Seniors **Andrew Churchill, Dan Zelman, and Ben Woods** presented with their respective Gemstone teams last April at the annual Gemstone

Thesis Conference. The Gemstone Program at the University of Maryland is a unique multidisciplinary four-year research program for selected undergraduate honors students of all majors. Under the guidance of faculty mentors and Gemstone staff, teams of students design, direct and conduct significant research exploring the interdependence of science and technology with society. Andrew and Dan were members of the SmartRoads team who researched transportation and traffic issues. The team's mission was to harness emerging technology to improve the safety and efficiency of the transportation infrastructure. Ben was a member of FAST: First Responders Alerting and Safety Team whose goal was to provide new technology for first responders which would help to ensure their safety in the field.



KALUSH, LEE, CHEOK (top), and MARX at the Scholars Showcase

Aerospace students **Timothy Lee, Erin Marx, Nir Kalush, Chris Cheok** participated in the College Park Scholars (CPS) annual academic Showcase this past May. Each Spring more than 250 second year College Park Scholars showcase their Capstone Citation projects at the Academic Showcase. Entering into its tenth anniversary year in 2006, the Showcase features individuals' and teams' poster displays, platform presentations, panel discussions

and performances by the Scholars sophomores highlighting their work in research, service-learning and internship projects during the course of the year. Tim, Erin, Nir, and Chris each received their CPS citation at a special culminating ceremony this October.

## undergraduate





Aerospace doctoral students **Patrick Downey** (1st row, third from left) and **Nicholas Rosenfeld, MS '04**, (1st row, far right) have received ARCS fellowships from the Metro Washington chapter of the organization. In April, the members of the ARCS chapter visited campus to meet with Patrick and Nicholas and their faculty advisors, as well as other 2005-06 recipients and past recipients from the Clark School.

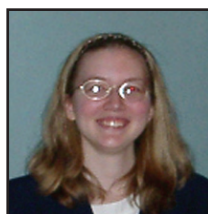
Nick is pursuing his doctorate and performing leading edge research on fundamental aerodynamic and structural issues associated with Unmanned Air Vehicles (UAVs). Patrick is also pursuing his doctorate and studying the characterization of ductile magnetostrictive iron-gallium (Galfenol) alloys in the novel operating regime of elastic bending for use in biologically inspired sensor applications.

After morning presentations from the scholars and tours of labs, the group was hosted by Mrs. Patsy Mote, wife of University President Dan Mote, at their campus residence for lunch.



YEAGER, ORJI, SENAI, AND LIN

SecureGo, a student-led start-up company consisting of **Daniel Senai**, BS '04, Aerospace Engineering Masters student; Kun Lin, B.S. in Computer Engineering and Finance, '05; Ogbonia Orji, B.S. in Electrical Engineering and Management Science/Stats, '05; and Josef Yeager, B.S. in Computer Engineering, '05, took second place and a \$5,000 prize in the New Venture Challenge graduate student category. SecureGo is developing a Universal Serial Bus (USB)-based device that provides secure online shopping and online banking capabilities. The Venture Challenge is managed by the university's Hinman Campus Entrepreneurship Opportunities (CEOs) Program, a living-learning, undergraduate entrepreneurship initiative in the Clark School of Engineering's Maryland Technology Enterprise Institute.



C. MCGHAN

**Catherine McGhan**, BS '04, Aerospace Engineering Masters student and Minta Martin Fellow, has received a National Science Foundation Graduate Fellowship. Her research is on "Cooperative Human-Robot In-Space Structural Assembly" and she is planning to continue her doctoral studies at Maryland.



AHS International awarded five out of 14 Vertical Flight Foundation Scholarships to our undergraduate and graduate students: Maryland students receiving these awards were undergraduate student **Eugene Cook**, and graduate students **Kevin Calabro**, (BS '05), **Jaye Falls**, **Ben Hein** (BS '03), and **Wei Hu**.

The Baltimore-Washington Chapter of the Society for the Advancement of Material and Process Engineering (SAMPE) held its 10th Annual Student Symposium at the University of Maryland College Park on February 9, 2005.

Students from the various universities associated with the local chapter (such as the US Naval Academy, University of Maryland Baltimore County and the University of Delaware) participated in this student conference at which oral and poster presentations were evaluated by a panel of judges composed of engineers and scientists from industry and government laboratories in the Baltimore-Washington Area.

Two of our graduate students performed extremely well in this judging, with Ashish Purekar being judged the first place winner in the oral presentation program, and Justin Kearns being judged the first place winner in the poster program. Mr. Purekar presented his work on damage detection in composites from a wave modeling perspective. Mr. Kearns presented his efforts in the development of a large scale cellular core composite wing for unmanned air vehicles.

Both Mr. Purekar and Mr. Kearns traveled to Long Beach California in early May to represent the department at the SAMPE National Student Symposium which was held in conjunction with the SAMPE '05 conference.

# Dr. Edna Hokenson Passes Away

~written by Dr. and Mrs. Suneel Sheikh & Dr. and Mrs. Andreas Bernhard

Our Department has lost a generous contributor and devoted friend recently when Dr. Edna Hokenson passed away in August 2005. She had been courageously fighting a reoccurrence of breast cancer that had returned in an aggressive form. Her quick wit and good humor will be missed by many in the Department and the University.



DR. EDNA HOKENSON  
1917-2005

Dr. Hokenson created the Gustave J. Hokenson Fellowship for graduate students within the Aerospace Department in honor of her son, "Gus", who was a 1970 Ph.D. Aerospace graduate. Gustave passed away of acute myelogenous leukemia in 1991 at the age of 45. Only a year prior to this, Dr. Hokenson's husband passed away of similar disease.

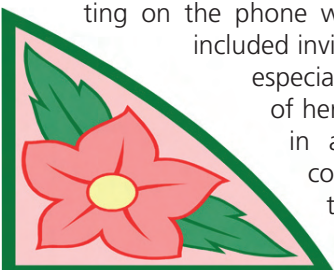
The first recipient of this fellowship award was Andreas P.F. Bernhard, who received it from 1996-1999. Andy and Dr. Hokenson became good friends over their years of contact. She was especially pleased to

be part of the wedding of Andy to his wife, Ruta, in July 2001 at the University of Maryland Memorial Chapel. They remained in close contact even after Andy and Ruta moved away from the area upon his graduation.

The second recipient of the award was Suneel I. Sheikh from 2000-2001. Suneel and his wife, Kristen, also became close friends with Dr. Hokenson. They had enjoyed many outings with her to visit the sites in the Washington area. They had been spending a significant amount of time with her during her recent treatments.

The third recipient was Matt Tarascio in 2003. The fourth and latest recipient of this award is Timothy T. Leach in 2005.

Along with the significant monetary award for the year, each student received a kind, generous, and inquisitive individual who loved to learn more about them and their lives outside of school. Edna enjoyed writing and reading letters to and from her students (sometimes sending a return letter almost faster than e-mail), as well as chatting on the phone with them. Her hospitality also included inviting students over to her home especially whenever her garden (one of her favorite passions) had erupted in a springtime kaleidoscope of color. She also enjoyed many of the flower arrangements that



her students sent to her, and had dried several of the unique flowers in order to remember each student. Dr. Hokenson had kept a single flower from Tim alive and well until her passing and enjoyed mentioning how long it had lasted.

Through her kindness and graciousness, as well as the loss of her immediate family, the students quickly felt comfortable accepting her as one of their own family members. As Department Chairman Dr. Fourney noted following her passing, "Each of the students who were funded through her fellowship became a big part of her life."



**Dr. Hokenson and Suneel Sheikh share a laugh at the University Scholarship luncheon in 2002.**

Over the past several years, she came to know the Aerospace Engineering department staff, as well as persons in the Clark School Dean's office. Dr. Fourney had a good personal relationship with Dr. Hokenson, and both enjoyed sharing a joke with each other. "Edna will be greatly missed by the department and especially by me," stated Dr. Fourney. "She was an amazing person. Although Edna was not 'rich' she found a way to fund our only privately funded graduate fellowship in honor of her son whom she loved dearly.

Edna adopted, and was adopted, by this department. She was a down to earth, no nonsense type of person who never took herself or life too serious."



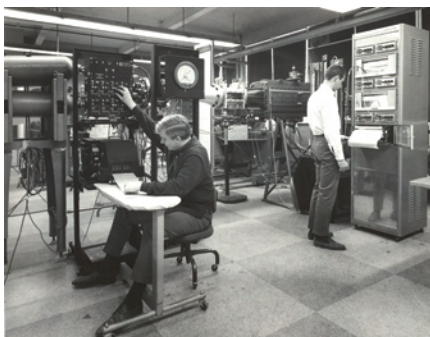
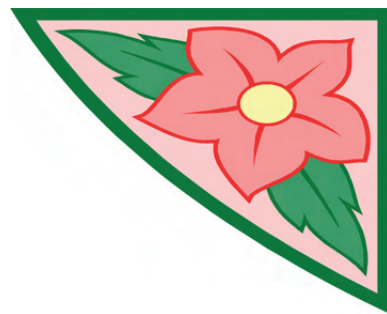
**Andreas Bernhard receives a plaque for Gustave J. Hokenson Fellowship from Dr. Hokenson and then Engineering Dean Dr. William Destler in 1996**

Born in Wadena, Minnesota, she married John Hokenson in 1941. They lived in Minneapolis for a number of years where she worked for the United Fund as well as the Red Cross during World War II. After moving several times, the family eventually ended up in College Park in 1962. During the 1960's, Dr. Hokenson taught at George Mason College and at Northern Virginia Community College. She also volunteered for several government committees, including the Montgomery County's advisory committees for energy conservation and solid waste, and the U.S. Department of Agriculture Advisory Committee on Foreign Animal Diseases. She liked discussing her contributions in helping to bring a waste incinerator to Maryland. She was ambitious in nature, and was not shy of sharing what was on her mind.

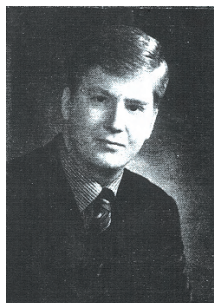


*Edna loved life and was better informed on all topics than anyone I have ever met. My meetings with her were enjoyable and enlightening. Edna had a fantastic sense of humor and was a constant supporter of both the department and the university. She has touched our lives and we are better for having known her.*

*~ Dr. Bill Fourney on Dr. Edna Hokenson*



**Pictured above, Dr. Gustave J. Hokenson (far left) working in an Aerospace laboratory in late 1960's, and below, his picture from a department newsletter (circa 1990).**



Dr. Hokenson and her family enjoyed traveling overseas and took many trips for both work and pleasure. She also enjoyed spirited political discussions about all the current events within Washington, D.C. and the nation. Through her various organizations she made many significant acquaintances, and Edna often attended services at the National Cathedral of those she knew. Her latest was the memorial service of Katherine Graham of the Washington Post, where she was seated by Bill Gates of Microsoft. She really enjoyed telling stories about these events.

Prior to her doctoral work, Mrs. Hokenson received her Bachelor's degree in 1958 from Memphis State University and her Master's degree in 1960 from the University of Tennessee. Dr. Hokenson earned her Ph.D. degree in microbiology from the University of Maryland in the same year as her son Gus achieved his Bachelor's degree, and she was fond of telling the story how **mother and son** had graduated in the same ceremony.

Prior to her passing, Dr. Hokenson also began a fellowship within the College of Chemical and Life Sciences at the University of Maryland for microbiology and immunology graduate students.

By starting both of these prestigious fellowships at the University of Maryland, Dr. Hokenson will continue to provide assistance to many graduate students for years to come. And it is through these two fellowships that the memory and spirit of Dr. Edna Hokenson and her son, Dr. Gustave Hokenson, will endure.

This wonderful lady with a great sense of humor, rockfast courage, treasure trove of experiences, travel adventures, and advice, will be missed by many.

Memorials in honor of Dr. Hokenson can be sent to:

The Clark School of Engineering,  
c/o Radka Nebesky, Associate Director of Development  
3214 Jeong H. Kim Engineering Building  
College Park, MD 20742

E-mail: [radka@umd.edu](mailto:radka@umd.edu)  
Phone: (301) 405-8072

or to:

The College of Chemical and Life Sciences  
c/o Bruce Shatswell, Development Officer  
1302 Symons Hall  
College Park, MD 20742-5568

Email: [bashatswell@umd.edu](mailto:bashatswell@umd.edu)  
Phone: (301) 405-0295



**Dr. Edna Hokenson at the 2005 University Scholarship luncheon with the 2005 Gus Hokenson fellow, Tim Leach and his wife Jennifer, and with Sue Hickes, Dean Norma Allewell, and Ellen T. O'Connor of the College of Chemical and Life Sciences, .**



## Department at a Glance

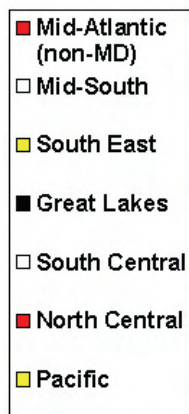
### Faculty Statistics FY 2004

18	Faculty
2	Emeriti Professors
17	Professional Society Fellows
8	Journal and Book Series Editors
8	Journal Associate Editors
23	Journal Editorial Boards
12	Published Books
6	Published Book Chapters
38	Published Journal Articles
69	Conference/Seminar Presentations
5	Plenary/Keynote Speakers

### Technical & Educational Research Expenditures ~ July 1, 2004 - June 30, 2005

Federal Government	\$13,173,979
State Government (sponsored)	\$111,036
Foreign Governments	\$0
Industry	\$3,244,634
Non-Profit Organizations	\$33,934
Local Government	\$0
Individuals	\$192,765
State Research	\$346,048
Maryland Industrial Partnerships	\$137,258
Designated Research Initiative Funds	\$147,912
<b>TOTAL</b>	<b>\$17,387,569</b>

### Out of State U.S. Region of Residency for 2005-06 Undergraduate Students \*



\* There are no students from Northwest and Rocky Mountain Regions

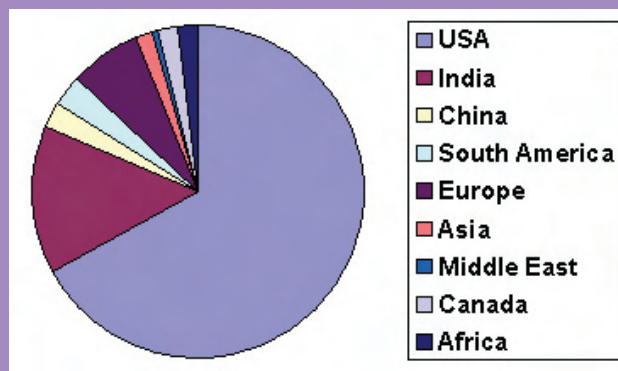
## Undergraduate Program Statistics

10th	Ranking of Undergraduate Program (At schools whose highest degree is a doctorate)
367	Undergraduate Students
268/99	In-State/Out of State Residency
1290/1420	SAT 25/75 Percentiles of Entering Freshmen
4.01	Average GPA of Entering Freshmen
32	Percentage of Women/Minority Undergraduate Students
65	Number of Undergraduate Students in Aerospace Honors Program
3.25	Average GPA of Aerospace Students (2004-05)
40	Percent of Students who Pursue Graduate School Upon Graduation
80	Percent of Students Who Complete Their Degree in 4 Academic Years or Less

## Graduate Program Statistics

9th	Ranking of Graduate Program
163	Graduate Students
93	Number of M.S. Students
70	Number of Ph.D. Students
25	Number of M.S. Students in Entering Class
14	Number of Ph.D. Students in Entering Class
3.58/3.78	Average Undergraduate GPA of Entering M.S./Ph.D. Students
583/538	Average Verbal GRE Score of Entering M.S./Ph.D. Students
765/781	Average Quantitative GRE Score of Entering M.S./Ph.D. Students

### Country of Origin for 2005-06 Graduate Student Enrollment



Bacon, Charles Elbert  
 Balar Rama Ashok  
 Beasley, Robert William  
 Brill, Mark David  
 Buck, Marshall Kevin  
 Butani, Shawn D  
 Calabro, Kevin Michael  
 Churchill, Andrew Michael  
 Correa, Jose Miguel  
 Ferre, Anna Kristine  
 Gackenbach, Peter Kyle  
 Grauer, Jared Andrew  
 Gruntz, David Wayne  
 Haack, Sarah Jo

Hartsough, Christopher Michael  
 Hebert, Christopher John  
 Howell, Bradley Elton  
 Knorr, Laurie Christine  
 Laus, Jessica Helen  
 Livingston, Ryan Scott  
 Luria, Erez  
 Mallare, Jason Paul  
 Mularski, John Richard  
 Myers, Ralph Winchester  
 Pandya, Nilay Bharat  
 Parlett, Robert Wayne  
 Quach, An Trong  
 Sahin, Baran David

Sanchez, Jay Philip  
 Saydam, Han Turan  
 Schreiber, Samuel Eli  
 Shabazz, Aaron Rashod  
 Shah, Amit J  
 Silva, Ernest Surendra  
 Sloan, Michael Anthony  
 Smith, Reuel Calvin  
 Supamusdisukul, Jirapat  
 Wasserman, Timothy Andrew  
 West, Bryan Jason  
 Zsak, Michelle Ann-Marie



COMMENCEMENT ~ MAY 21 & 22, 2005

17

Duraisamy, Karthikeyan  
***Studies in Tip Vortex Formation Evolution and Control***; Advisor: James Baeder

Sullivan, Brook Rowland  
***Technical and Economic Feasibility of Telerobotic On-Orbit Satellite Servicing***;  
 Advisor: Dr. David Akin



Abhishek, Abhishek  
 Arancibia, Antonio  
 Beasman, Timothy  
 Robert  
 Bryant, Elaine Melendez  
 Chaudhary, Satej V.  
 Colville, Jesse Ryan  
 Drysdale, Andrew  
 Weidner  
 Hoskins, Aaron Bradley

Kothari, Kunal B.  
 Mathai, Pramod  
 Pappachan  
 Ruddy, Suzzane Elizabeth  
 Schnaubelt, Matthew L.  
 Shapiro, Elisa Gail  
 Smith, Kerrie Anne  
 Vess, Melissa Fleck  
 Woodruff, Craig U.  
 Zang, Andrew Henry





In February 2005, Mr. Edward Miller, BSME '50, received the Charles Stark Draper Prize from the National Academy of Engineering, along with fellow Maryland alumnus James W. Plummer, '53. This Prize was in recognition "for the design, development, and operation of Corona, the first space-based Earth observation system."



Ed Miller speaks at an event in his honor during the 2005 National Engineers Week. During Miller's tenure on campus, the aeronautical sciences option was separated as a discipline from the mechanical engineering department. (Photos courtesy of Mike Morgan)

The Prize is awarded for "substantial contributions to the advancement of engineering," and honors "an engineer whose accomplishment has significantly impacted society by improving the quality of life, providing the ability to live freely and comfortably, and/or permitting the access to information."

Edward Miller's historic contributions to satellite technology and to the security of the United States, have earned

him an honored place among engineering's greatest practitioners. His illustrious professional career spanned both corporate and government work. At General Electric, Miller rose from being an entry-level technical engineer to department general manager, working in applied research, jet engine development, satellite recovery and manned space systems. This was the period of his Corona Project work.

Mr. Miller became a vice president at Philco Ford Corporation, leading programs for communications and weather satellites and high-speed communications systems. At Fairchild Industries he served as vice president of the corporation, leading the development of advanced technology satellites for NASA Goddard and high-speed data links.

At Sanders Associates, later purchased by Lockheed Martin and then by BAE Systems—both of which maintain strong ties with the Clark School—Miller was vice president of engineering, president of the Federal Systems Group, and executive vice president of the company, focusing on electronic countermeasures.

For the United States government he served as a member of:

- The US Trade and Investment Mission to Saudi Arabia and Algeria
- The Defense Intelligence R&D Board
- The Army Science Board
- And the Navigation Technical Group of the Research and Development Board of the Department of Defense.

During the Ford Administration, Mr. Miller served as Assistant Secretary of the Army for Research and Development by presidential appointment and confirmed by the full U.S. Senate.

The Draper Prize is not Mr. Miller's first award. He was named "Eminent Engineer" in 1976 by the Tau Beta Pi Beta Chapter right here at the University of Maryland. For his service as Assistant Secretary of the Army, he was awarded the Distinguished Civilian Service Decoration, the highest honor the Army confers on civilians. He was designated a "Pioneer of Space Technology" by the Central Intelligence Agency in 1985, in commemoration of the 25th anniversary of the recovery of Discoverer 13, the first man-made object recovered from earth orbit.

**Article information obtained from the Clark School of Engineering. To view more pictures from Mr. Miller's lecture, visit: <http://www.eng.umd.edu/eweek/2005/>**

**Vineet Sahasrabudhe, PhD '97**, received the Francois-Xavier Bagnoud award by the American Helicopter Society "for outstanding contributions to vertical flight technology by a Society member under the age of thirty". Dr. Sahasrabudhe is currently a Principal Engineer, Handling Qualities, Sikorsky Aircraft Corp. The award honors the memory of a young helicopter engineer, Swiss citizen, author, and rescue pilot who founded the AHS student chapter at the University of Michigan.

**Andrew Zang, BS, '03, MS '05**, is working at the Naval Air Warfare



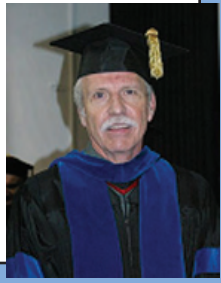
Center Aircraft Division as a flight dynamacist within the Aircraft and Unmanned Aerial Vehicle Department.

**Alice Ryan, BS '04**, spent time this fall in southeast Asia assisting the area in their rebuilding efforts after the December 26, 2004 tsunami. She traveled to Andaman and the Nicobar Islands northwest of Indonesia and south of Burma. Alice recently completed her first year at Stanford University and plans to take her qualifying exams in spring 2006.

**David Giger, BS '03**, has completed his masters from University of California, Berkeley in mechanical engineering. He is currently working for Space X in El Segundo, California.

**Daniel Shafer, BS '03**, has completed his masters in aerospace engineering from Virginia Tech. He is working at the Naval Air Warfare Division in the flight testing department.





## Fourney Scholarship Benefits Transfer Students

For over 30 years, Dr. William Fourney has been an educator and advisor in the School of Engineering. During that time, he has spoken to and assisted numerous transfer students from Maryland and from around the country. While the Clark School has offered many scholarships for freshmen, few scholarships have been available to transfer students in the past. "I have met transfer students who were struggling to stay in school," Fourney says. "They were looking around, but there wasn't much help." Seeing a limited number of scholarships for transfer students to the University, he established the Fourney Scholarship in 2004.

The purpose of the scholarship is to annually provide \$1,000 scholarships to at least two eligible transfer students each year. This fund will support transfer students to the University who will be majoring in mechanical or aerospace engineering.

Recipients will be selected by the Dean of the Clark School of Engineering or his/her designee, and must have a minimum grade point average of 3.2 to be considered for an award.

Fourney understands first-hand the challenges students face in paying for their education. "I was a poor kid from West Virginia who wouldn't have been able to go to college without help," says the professor and the youngest of 13 children. His parents emphasized the importance of education and encouraged all of their children to go to college. Ten of the children survived to adulthood and they all earned college degrees.

Anyone wishing to contribute to the fund can contact Radka Nebesky, Associate Director of Development at 301.405.8072. You may also give online at <http://www.engr.umd.edu/giving/>. Please select on the online gift form the specific fund you wish to contribute to by indicating 'Fourney Scholarship Endowment' on the pull-down menu.

## photoGALLERY



At Maryland Day 2005, the Aerospace Department design competition entry won Most Original/Creative with their mock space vehicle control board. Above are aerospace students (l to r) Kevin Schoonover, Josh Schachter, Jeff Marquart, and Ashley Korzun. Right, Ashley and Jeff assist two young visitors at the booth.



(Below) Dr. Donald W. Richardson, President of the AIAA national organization, was the guest speaker at the March AIAA Maryland student chapter meeting. He is pictured with all students and faculty in attendance that evening. Dr. Richardson is the corporate vice president at Science Applications International Corporation (SAIC), the largest employee-owned research and engineering firm in the US.



**AEROCONTACT** is published several times a year for alumni and friends of the Department of Aerospace Engineering at the A. James Clark School of Engineering.

Your alumni news and comments are welcome. Please send them to:

Nicole P. Roop  
Department of Aerospace Engineering  
3181 Glenn L. Martin Hall  
College Park, MD 20742-2111

Phone: 301.405.2376  
Fax: 301.314.9001

Visit our Web site at  
[www.enaе.umd.edu](http://www.enaе.umd.edu)

Department Chair:  
Dr. William Fourney  
Director, Undergraduate Program:  
Dr. Alison Flatau  
Associate Director, Graduate Program:  
Dr. Mary Bowden

## **CALENDAR OF EVENTS**

December 21 University Commencement  
December 22 Engineering Commencement  
December 26 -  
January 2 Campus Closed - Holiday Break  
January 16 Campus Closed - Martin Luther  
King Holiday  
January 25 Spring Semester Begins  
March 20 - Spring Break  
March 24 (Campus Closed March 20, 21)



**A. JAMES CLARK**  
SCHOOL OF ENGINEERING

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University of Maryland  
College Park, MD 20742-2111

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