



Spring/Summer 2010

# AEROCONTACT

AEROSPACE ENGINEERING  
A. JAMES CLARK SCHOOL of ENGINEERING

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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.

## Brendan Godfrey Appointed Senior Research Scientist for the Aerospace Department

The Department of Aerospace Engineering recently welcomed Dr. Brendan Godfrey as a Senior Research Scientist. Dr. Godfrey joins the department with a substantial background in research and S&T management, culminating in his most recent position as the Director of the Air Force Office of Scientific Research, from which he retired in January 2010. In that position, Dr. Godfrey guided the management of the entire basic research portfolio of the U.S. Air Force, including a staff of 200 scientists, engineers, and administrators responsible for a nearly half a billion dollar investment in basic research.

Dr. Godfrey was an Air Force lieutenant at Kirtland Air Force Base, New Mexico, from 1970 to 1972, performing research in computational plasma physics. He began his civilian career in 1972 at the Los Alamos National Laboratory, also in New Mexico, where he was responsible for establishing the intense particle beam research program. He left Los Alamos in 1979 to manage and conduct intense microwave and particle beam research at Mission Research Corporation, becoming their Vice President and Regional Manager in

1987. In 1989, Dr. Godfrey returned as an Air Force civilian as Chief Scientist of the Air Force Weapons Laboratory at Kirtland AFB. His later assignments include Director of Advanced Weapons and Survivability at Kirtland's Phillips Laboratory; Director of the 1500-person Armstrong Laboratory at Brooks AFB, Texas; and Director of Plans and Program at the Air Force Research Laboratory at Wright-Patterson AFB, Ohio. Prior to his last assignment, he was Deputy Director of the 311th Human Systems Wing, Brooks City-Base, Texas, where he established a comprehensive economic development partnership between the Air Force and the San Antonio community.

Dr. Godfrey received a Ph.D. in physics from Princeton University and a B.S. in physics from the University of Minnesota. He is a fellow of the Institute of Electrical and Electronics

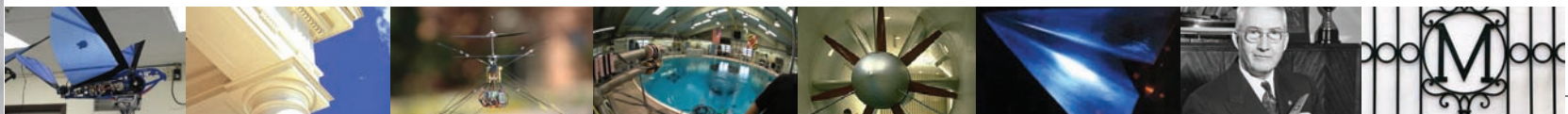


DR. BRENDAN GODFREY

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DR. MARK J. LEWIS

## CHAIRMAN'S CORNER

What an amazing spring and summer it has been! Our faculty have continued to excel and distinguish themselves, our students continue to impress and amaze, and our department as a whole continues to lead in several

significant cutting edge research areas, as I hope you will see in this current issue of our newsletter. From the realm of small micro-air vehicles, to the limits of hypersonic flight, Maryland is having an international aerospace impact.

In faculty news, you will read about Prof. Ray Sedwick receiving a well-deserved promotion to Associate Professor with tenure. Ray has had an outstanding year, receiving an invention award and most recently, a significant new grant from DARPA, in addition to a prestigious Young Investigator Award. We have also just hired Dr. Anya Jones, who will be joining us in the late Fall from Cambridge University (that's the other Cambridge, in England). Anya works in the field of unsteady aerodynamics, and will augment our already strong activities in micro-air vehicles. We have also asked Prof. Peter Sunderland, in the Clark School's Fire Protection Department, to join our faculty as an Affiliated Professor.

This spring, two members of our Department's educational staff were honored as Fellows of the American Institute of Aeronautics and Astronautics, Darryll Pines and David van Wie. Darryll is of course not only a professor in aerospace, but also our Dean of Engineering. Dave has been a lecturer in our department for over two decades, and is also a proud

alumnus of our department. It was my own great pleasure as the new President of AIAA to be able to personally present their certificates at the AIAA Gala in May, in addition to our colleague Bala Balachandran from our Mechanical Engineering Department. Prof Jim Baeder also received AIAA Engineer of the Year from our local National Capitol Section.

Our students had another banner year as well, winning many prizes and competitions, including sweeping the AIAA Region 1 MA paper competition yet again, and taking first prize in the NASA Revolutionary Aerospace Systems Concepts Academic Linkage (RASC-AL) undergraduate competition with their project, Robotic Assist Vehicle for Extravehicular Navigation. This project, mentored by Prof. Dave Akin, was especially exciting because our students teamed with a group from Arizona State University. Accomplishments such as these are obviously helping to spread word of the quality of our program. As just one indication, despite the uncertainties in our economy, this year's incoming class of freshmen will include 94 new students, up almost 60% from the previous year.

As I look at those amazing enrollment numbers, I sometimes wonder what continues to attract the best and brightest to our field. I had a nice reminder of this in May, when I had the opportunity to participate in the Air Force's launch of the first X-51 hypersonic flight test vehicle. As you have hopefully heard, X-51 had an incredibly successful flight, delivering 140 seconds of accelerating airbreathing hypersonic flight. Both the original designer of X-51 airframe, Dr. Kevin Bowcutt, and the overall project manager for the USAF, Mr. Charlie Brink, are Maryland graduates! It is a project

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Engineers and of the American Physical Society. Upon joining the department, Dr. Godfrey remarked that he was, “greatly honored to become a member of the Department of Aerospace Engineering. It is an outstanding research and education organization, contributing greatly to the Nation.”



that I had involvement in while I was on loan to the Pentagon, and can even claim some credit for choosing it's name; I believe it stands as a milestone in our quest for high-speed flight. Being at the launch, sitting in the control room, watching the data screens as the X-51's engine lit off, will count as one of the most exciting events of my professional life.

**Dr. Mark Lewis**

President, American Institute of Aeronautics and Astronautics and Willis Young Prof. and Chair, Department of Aerospace Engineering



*RASC-AL's 2010 winning project, "Robotic Assist Vehicle for Extraterrestrial Navigation" (RAVEN).*



**MORPHEUS VIP PROGRAM HOSTS ARL DIRECTOR**

On Friday, October 16, 2009, the Morpheus Laboratory hosted Mr. John Miller, the Director of the U.S. Army Research Laboratory (ARL), the army's premier laboratory for basic and applied research and analysis. Mr. Miller holds both a bachelor's degree in aerospace engineering and a master's degree in mechanical engineering, from the University of Maryland. Mr. Miller joined Dr. James Hubbard's Morpheus Team for lunch and a research overview briefing during his annual town hall visit with the Army employees located at NASA.

The laboratory tour was also attended by Dr. Mark Nixon, Director of the Army Vehicle Technology Directorate. The Morpheus Laboratory is a part of the University of Maryland's Army Collaborative Technology Alliance (CTA) Center on "Micosystem Mechanics" or CTA MAST Center on Microsystem Mechanics which was awarded on February 25, 2008. The total amount of the initial award to Maryland is \$10 million over 5-years with an option for another five years with additional award of \$12.5 million. The Morpheus Laboratory is developing active wing morphing technologies for agile flight under as well as a state of the art auto-pilot for flapping wing vehicles under the auspices of this center.





## AEROSPACE HELPS WITH PARKLAND MAGNET MIDDLE SCHOOL FLIGHT NIGHT

In March the Aerospace department participated in the Family Science & Technology Flight Night held at Parkland Magnet Middle School for Aerospace Technology. Syed Ali, a graduate student working in the Space Systems Lab (SSL), presented information about various research projects that students work on every day. The space suit and robotics testing fascinated members of the audience, who asked a number of questions. “Being able to provide our students and parents with real life experiences, stories and activities goes beyond what we can bring to them within the classroom,” said Parkland’s magnet coordinator, Donna Blaney. “We cannot thank you enough for taking time out of your busy schedule to share with our families.”

Participation in the Parkland Partners program is one of many ways the Clark School facilitates K-12 outreach to neighboring communities. Activities like these aid the Aerospace Department in exposing students to engineering professions and encourages them to pursue their interest in math and science. According to a 2009 letter drafted by the members of the National Science Board to then President-elect Obama, “the earlier children are exposed to STEM concepts, the more likely they are to be comfortable with them later in life.”

Students or faculty interested in participating in the Parkland Partners program as speakers or volunteers are encouraged to do so and can contact Erika Aparakakanange (eparaka@umd.edu) for more information.

## PROF. JAMES HUBBARD: MORPHEUS HIGHLIGHT



Dr. James E. Hubbard, Jr. and his students have been pushing the boundaries of flapping wing air vehicles.

With the support of the Air Force Office of Scientific Research the Morpheus team has kicked off a new project entitled, “Design, Fabrication and Testing of a Passively Morphing Ornithopter Wing for Increased Lift and Agility”.

Under the contract, Morpheus Lab, in collaboration with Dr. Mary Frecker of the Engineering Design & Optimization Group at Penn State University, will be developing a purely passive means of increasing the range and endurance of flapping wing UAVs by structural modifications which significantly increase platform lift and thrust metrics without any subsequent increase in energetics or power requirements.

Two years ago Morpheus Lab created a flapping wing research initiative with the ultimate goal of designing and building fully autonomous, efficient, and agile flapping wing vehicles capable of unassisted take-off, hover, perching, and soaring in addition to normal forward flight. More information on the Morpheus Lab is available online at [www.morpheus.umd.edu](http://www.morpheus.umd.edu).



*An example of the stock ornithopter, Odyssey. It weighs about 450 grams and has a 4ft wingspan. Flight times can extend up to 30 minutes.*

**SEDWICK PROMOTED TO ASSOCIATE PROFESSOR**



Professor Ray Sedwick received a well-deserved promotion to associate professor with tenure this year.

Dr. Sedwick joined the faculty in 2007 as an assistant professor. He received his B.S. from Penn State and his S.M. and Ph.D. from MIT. His research interests include space power and propulsion with specific application to nuclear fission and fusion to space transportation.

Since he has been a member of the faculty, Dr. Sedwick has been awarded an NSF Career Award, been recognized by the Office of Technology Commercialization as one of nine finalists for *Invention of the Year*, and has most recently received a significant new grant from DARPA. Dr. Sedwick also serves as the faculty adviser to the UMCP student chapter of AIAA.

**CHOPRA WINS DOD RESEARCH GRANT**



Dr. Inderjit Chopra is one of five Clark School faculty members who have won Department

of Defense (DoD) Defense University Research Instrumentation Program

(DURIP) Awards. DURIP is designed to fill a critical need of scholars by purchasing state-of-the-art equipment that augments current university capabilities or develops new capabilities to perform cutting edge defense research. Dr. Chopra's winning proposal was titled "Fabrication and Testing of Mission-Adaptive Actively Morphing Rotor Systems."

**PALEY WINS NSF CAREER AWARD**



Clark School aerospace engineering assistant professor, Derek Paley, has won a \$400,000 National

Science Foundation Early Faculty Career (CAREER) Award for work that will study information transmission in biological groups (like schools of fish) and apply the same principles to design motion coordination strategies for autonomous vehicles.

"Research in biologically inspired coordination of unmanned systems has applications in the inspection of aging civil infrastructure, improved forecasts of hurricane intensity, and environmental monitoring of climate variability," said Paley. As part of this research, Paley will work with Clark School K-12 outreach programs and use his research to interest K-12 students in science and engineering.

**DR. JOHN ANDERSON INDUCTED INTO NATIONAL ACADEMY OF ENGINEERING**



John Anderson, professor emeritus and curator at the Smithsonian National Air and Space Museum was

one of three Clark School affiliated faculty inducted as members of the National Academy of Engineering. Anderson was inducted for aerospace engineering and history textbooks and for contributions to hypersonic gas dynamics.



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**www.facebook.com and search for "The Department of Aerospace Engineering at UMCP."**



## DR. JAMES BAEDER ENGINEER OF THE YEAR



Prof. James D. Baeder was honored as the Engineer of the Year from the National Capital

Section of the American Institute of Aeronautics and Astronautics on June 11, 2010, at the National Capital Section's Annual Awards Banquet at the Army-Navy Country Club in Arlington, Virginia.

Prof. Baeder has been a Professor of Rotorcraft Computational Fluid Dynamics, in the Dept. of Aerospace Engineering since 1993. He is a member of the highly successful Alfred Gessow Rotorcraft Center and Center for Microsystem Mechanics, both at U-MD.

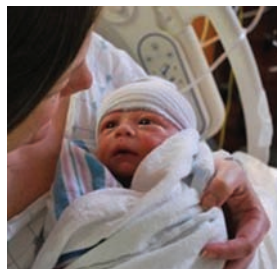
Dr. Baeder is an internationally recognized leader in Computational Fluid Dynamics, especially in rotorcraft and micro-hovering air vehicle applications.

He pioneered development of highly innovative coupling strategies for multiple-fidelity aeromechanic simulations. As Principal Investigator, he led a research team from U-MD and Stanford University in the highly successful "Hybrid Unsteady Simulation of Helicopters (HUSH)" under the DARPA Helicopter Quieting Program (HQP). Dr. Baeder is extending CFD to such multi-fidelity simulations as rotorcraft brownout. Professor Baeder has

co-authored over 30 journal and 100 conference publications. He is an Associate Fellow of the AIAA. His citation reads:

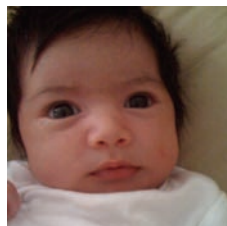
"For revolutionary research leading to improvements in the prediction of aero-mechanics in helicopters and other rotary wing vehicles, especially in regards to DARPA Helicopter Quieting Program (HQP) SMART rotor aeroacoustic predictions."

## AERO ARRIVALS



Dr. Christopher Cadou, his wife Carol and their daughter Lily welcomed

William Borchert Cadou on March 22, 2010. William weighed 7 lbs. 15 oz. and was 21.25 inches. Mother and baby did well and all are enjoying getting to know each other.



Director of Administration, Otto Fandino and his wife Elizabeth welcomed their first

child, Sofia Alejandra Fandino, on June 16, 2010. Sofia weighed in at 8lbs. 6oz. and was 20.75 inches. The family is enjoying the newest member.

## programNEWS

THE COLLECTIVE DYNAMICS AND CONTROL LABORATORY IS IN THE DEPARTMENT OF AEROSPACE ENGINEERING AT THE UNIVERSITY OF MARYLAND. THE CDCL IS DIRECTED BY DR. DEREK A. PALEY, AN ASSISTANT PROFESSOR OF AEROSPACE ENGINEERING. RECENT MEDIA ATTENTION HIGHLIGHTED THE RESEARCH IN THE CDCL, WHICH FOCUSES ON SYNCHRONIZED SWIMMING FOR SUBMARINES. THE STUDY, WHICH IS SUPPORTED BY FUNDS FROM THE NATIONAL SCIENCE FOUNDATION, STUDIES SCHOOLING BEHAVIORS AND MOVEMENT IN FISH TO IMPROVE MOTION COORDINATION IN UNMANNED VEHICLE TEAMS. THERE ARE HOPES THAT THIS RESEARCH WILL BE THE PRECURSOR TO A VARIETY OF USEFUL APPLICATIONS IN THE DEFENSE AND ENVIRONMENTAL INDUSTRIES. MORE INFORMATION AND VIDEOS ARE AVAILABLE ON THE CDCL WEBSITE:

[HTTP://CDCL.UMD.EDU.](http://cdcl.umd.edu)





**LAUREN CREWS  
FEATURED IN 2010  
WOMEN TO WATCH**

The March issue of the Journal of New England Technology featured a profile on aerospace alumna, Dr. Lauren Crews, a former aerospace undergrad, Crews received her M.S. and Ph.D. from MIT. JNET called Crews her one of the 2010 Women to Watch. They cited her noteworthy accomplishments such as making “significant contributions to radar programs for the defense of the U.S. ...[and] in the design of the radome for the SPY-3 Engineering Demonstration Model radar.” She currently runs the Integrated Defense Systems’ internal research and development program at Raytheon.

**NIKHIL KORATKAR  
WINS ECS YOUNG  
INVESTIGATOR AWARD**

Nanomaterials expert and Department of Aerospace Engineering alum, Dr. Nikhil Koratkar (M.S. '98; Ph.D. '00) was awarded the 2009 SES Young Investigator Award from the Electrochemical Society (ECS) Division of Fullerenes, Carbon Nanotubes and Nanostructures. Koratkar is currently a professor of mechanical, aerospace, and nuclear engineering at Rensselaer Polytechnic Institute (RPI). As part of the award, Koratkar received \$500 and delivered a special presentation in April at the ECS annual meeting in Vancouver.

**ALUMNI NOTES**

**BRENT SHERWOOD** (M.S., '88) just published *Out of This World: The New Field of Space Architecture* (AIAA, members discount through the AIAA website). It is an edited survey of the three domains of designing and building the human environment in outer space: orbital architecture, planet surface architecture, and terrestrial space architecture.

**NAVY LIEUTENANT. J.G. DANIEL J. FARNOLY** (M.S., '07), received his Wings of Gold on Oct. 23 at a ceremony at Naval Air Station Whiting Field in Florida. As a naval aviator, Farnoly has been assigned to Fleet Replacement Squadron in San Diego for training on the Navy's new MH-60 Romeo "Seahawk" helicopter.

**MARK TISCHLER** (M.S., '79) has been awarded the 2009 Presidential Rank Award for Distinguished Senior Professional. This is an annual award given to members of the Senior Executive Service (SES) who have demonstrated “exceptional service to the American people over an extended period of time.... [and is] designated by the President.”

Congratulations to **ALICE RYAN** (BS '04 aerospace engineering) on her marriage to David Mount. The ceremony occurred in New Orleans, LA on April 10, 2010.

## AERO STUDENTS VISIT MARS

Over the 2010 winter term, three aerospace students traveled to the Mars Desert Research Station (MDRS) in Utah, to participate in a weeklong simulated mission to Mars, where they collaborated with an elite group of students from around the country as part of a multidisciplinary team of researchers. Chief Engineer of the mission was M.S. student Heather Bradshaw, who was joined by UM seniors Laura Meyer (ME/AE), Habitat Operations Officer and Justin Brannan (AE), Field Operations Engineer.

While at the MDRS site, located near the small isolated town of Hanksville, Utah, the Clark School team conducted scientific research in the dusty crater-filled "Martian" landscape. Their work was part of the Drilling on the Moon and Mars and Human Exploration (DOMMEX) project, which provides a unique opportunity for engineering students to gain hands-on experience with Ground Penetrating Radar (GPR), soil surveys, endolithic identification, biosignatures of shell fossils, and the application of human exploration operations metrics.



## STUDENTS TRIUMPH AT AIAA'S YPSE-09 CONFERENCE

Several Clark School students in Aerospace Engineering took home awards at the Baltimore Section of AIAA (American Institute of Aeronautics and Astronautics) held at The Johns Hopkins University Applied Physics Laboratory. YPSE-09 provided young professionals and students the opportunity to present a work in progress, and network with their peers in the aerospace industry. The following students won awards:

### Graduate Student Papers

*1st place:*

Camilo Aguilera, "Scramjet Mixing Control Using Fin-Guided Fuel Injection." (Advisors: K.H. Yu, B. Pang, Amardip Ghosh, and Allen Winkelmann).

### Honorable Mention:

Nicholas L. Wilson, "Performance Robustness of a Magnetorehological Seat Suspension to Temperature Variations."

### Undergraduate Student Papers

*1st place:*

Heather Bradshaw, "Morphing Space Suit Design: A Range-of-Motion Study."

*3rd place:*

Siddarth Kolluru Venkata, "Active Flow Control: Flow Over Bluff Bodies Using Synthetic Jet Actuators." University of Maryland, College Park.

*Honorable Mention:*

Andrew Ellsbury, Conni Cialerglio, "Long Range Link Testing of Commercial off the Shelf Radio Modules for Stratospheric Communications,"

Laura Meyer, Connie Cialerglio, Andrew Ellsbury, Jarred Young, "Cansat Competition: Small Aerospace Systems Design."

## AWAIS RAZA RECEIVES GOLDEN KEY BOEING SCHOLARSHIP

Aerospace senior Awais Raza has recently been awarded a Golden Key International Honor Society Boeing Scholarship. The amount of the award is \$1000 and Awais was one of four recipients of the 2009 scholarship.

Upon receiving the award Awais commented, "It is a matter of honor for me to be deemed worthy of the 2009 Boeing Engineering Scholarship Award. Being one of the few selected from a large pool of applicants worldwide is no less than a privilege, and I would like to thank The Boeing Company and Golden Key International Honor Society for providing such a great opportunity to students around the globe."

## LEISHMAN AND SCHALER NAMED GOLDWATER SCHOLARS



Alexander Leishman was awarded one of the 2010-11 Goldwater Scholarships. The

Goldwater Scholarship is the premier national award granted to undergraduate students majoring in mathematics, natural sciences and engineering who are interested in research careers.

Leishman is a University Honors student in the aeronautics track and has maintained a 4.0 GPA. He worked for Prof. Derek Paley in the Collective Dynamics and Controls Laboratory on an Unmanned Underwater Vehicle testbed and is currently working for both Paley and Prof. Alison Flatau on a smart material tactile and flow sensor. He has worked in Peru as a member of Engineers Without Borders and currently serves as its fundraising coordinator. Leishman plans to earn a Ph.D. in aerospace, mechanical, or ocean engineering. His goal is to help advance the mechanical, sensing and systems design of submerged vehicles, through research in order to enhance our ability to explore and monitor bodies of water for scientific research.

## MALHAN AND SYAL AWARDED AMELIA EARHART FELLOWSHIP



Monica Syal and Ria Malhan have been awarded with the Zonta International

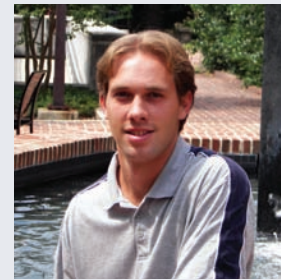
Amelia Earhart Fellowship for the 2010 –2011 academic year. Monica also received the Zonta International Amelia Earhart Fellowship Foundation in the year 2009-2010. These fellowships are granted annually to women who demonstrate a superior academic record in the field of aerospace-related sciences, and aerospace-related engineering. Fellowship recipients are awarded \$10,000, which may be used to cover tuition, books, and living expenses.

Monica completed her Bachelor of Science in Aeronautical Engineering from the Punjab Engineering College, Chandigarh (India) in 2004. She joined the University of Maryland as a Masters student with Dr. J. Gordon Leishman as her adviser in 2006. After receiving her M.S. in 2008, she continued her education as a Ph.D. student working on the Helicopter Brownout problem.

Before completing her M.S. at Maryland, Ria received her B.S. in Aeronautical Engineering from Punjab Engineering College, Chandigarh (India) in August 2007. After finishing her M.S. in May

2009, she continued as a Ph.D. student with Dr. Inderjit Chopra and is working on Bio-inspired flapping wings.

## HARRINGTON AWARDED SMART SCHOLARSHIP



In April, Aaron Harrington (M.S. '11) was awarded the Department of Defense's

SMART Scholarship (Science, Mathematics & Research for Transformation). Over 3500 people applied this year and between 250 and 300 people were accepted. This scholarship is for service and includes full tuition and related expenses, health insurance funding, book allowances, cash award, summer internships, travel expenses and guaranteed employment with a DoD facility upon graduation/degree conferment.

## LEVI DEVRIES RECOGNIZED AS DISTINGUISHED TEACHING ASSISTANT

The Center for Teaching Excellence, the Office of Undergraduate Studies, and the Graduate School named Levi Devries as a 2009-2010 Distinguished Teaching Assistant. On May 12th Devries was recognized alongside other Distinguished Teaching Assistants at the Riggs Alumni Center and presented with a Distinguished Teaching Assistant certificate.

## AERO STUDENTS SWEEP COMPETITION AT AIAA CONFERENCE

A group of twenty-eight undergraduate and graduate aerospace students traveled to the 2010 AIAA Regional I-MA conference in Blacksburg, VA at the campus of Virginia Tech on the weekend of April 9-11. Students presented papers on various research projects and as luck and hard work would have it, the University of Maryland swept the competition, snapping up first and second places in the undergraduate research category as well as first, second and third place in the graduate category.

Heather Bradshaw and Justin Brannan, for example, presented papers on the two research projects they conducted while at the Mars Desert Research Station(MDRS) and were awarded first place in the Master's category for the development and field testing of the prototype geological toolkit (a

potential astronaut hand tool). As a result of the first place award, the research will be presented at the International level next January.

Results of the competition (below) illustrate the level of effort and quality of work presented by UMCP aero students:

### Undergraduate Category:

1. Teju Jarugumilli:  
*Experimental Optimization and Performance Analysis of a MAV Scale Cycloidal Rotor*
2. Brandon Hall:  
*Lunar Regolith In Situ Resource Utilization: Applications in Dust Mitigation and Vacuum Pyrolysis*

### Graduate Category:

1. Justin Brannan and Heather Bradshaw  
*Mars Analog Aerial Mapping for Planetary Geology Applications*

2. Cyrus Abdollahi  
*Dynamic Testing and System Identification of a Statically Unstable Wind Tunnel Model*
3. Harinder Singh  
*Semi-Active Optimal Control of Vertically Stroking Crew Seats for Enhanced Shock Mitigation*

For more information on the recent Regional I-MA conference visit the AIAA conference website: [www.aiaa.org](http://www.aiaa.org)

On Facebook, Elena Shrestha writes about her ENAE project:

"Yay! That's my team :)"

Visit us on Facebook to see and add more of your comments.

# graduation 2010

### SUMMER AND FALL 2009 GRADUATES

**B.S.**  
FIZA CHAUDHARY  
JOLYON ZOOK

**M.S.**  
PATRICK BETONEY  
GILLIAN BUSSEY

**PH.D.**  
SHANE JACOBS

### SPRING 2010 GRADUATES

**B.S.**  
RYAN ANDREW  
PHILLIP BECKNER  
PRATIK BHANDARI  
MATTHEW BISHOP  
TOREY BIXLER  
KEVIN C. BUCKLEY  
MATTHEW COLLETT  
KEVIN DAVIS  
JAMES DOGGETT  
JENNIFER DONALDSON

JONATHAN ELLIOTT  
SUHAS GHANTE  
MARK GLUCKSMAN-GLASER  
ZACHARY GONNSEN  
BRANDON HALL  
BENJAMIN HANCE  
NATALIE HANKINSON  
MATTHEW HEBERT  
MARK HENNINGER  
JUSTIN HILL  
JASON HITT  
SHAWN HOFFMAN  
MARISSA INTELISANO  
JACOB KLEIDMAN  
SIDDARTH KOLLURU  
VENKATA  
NICHOLAS KOSTRESKI  
LAUREN KREMNITZER  
LIDANG LI  
BRANDON LITT  
SAMANTHA LUSTIG  
CHRISTOPHER MAK  
DAVID MCKEARIN  
RYAN MENRATH  
LAURA MEYER

JARED MOTT  
HUNTER NELSON  
ALAINA NIGRO  
NATHANIEL NILES  
BRYAN PALMATEER  
ELAINE PETRO  
XAVIER PRATT  
THEODORE PROCTER  
ANA RAMEKAR  
AWAIS RAZA  
EDWARD ROBERTS  
MICHAEL SCHWARTZ  
PRATEEK SHARMA  
KAMALA SHETTY  
RYAN SHOFNOS  
DAVID  
WARSHAWSKY  
JOSHUA  
WIENHOLD  
ELIAS YOON  
WAYNE YU  
ALBERT ZHOU

**M.S.**  
DAVID GERS  
COLIN VANDERCREEK  
DARRYL DOUGLAS  
OMAR MEDINA  
MICHAEL DEMAIO  
JAMIE MEEROF

**PH.D.**  
KIRAN DELLIMORE  
QINA DIAO  
JAYE FALLS  
ANDREW HYSLOP



## GRADUATE RESEARCH AWARDS AT THE ALFRED GESSOW MEMORIAL LUNCHEON

Jared Grauer and Harinder Singh were awarded the Graduate Research Awards in the Ph.D. and M.S. categories, respectively, during the Alfred Gessow Memorial Luncheon.

Grauer's paper, *Modeling of Ornithopter Flight Dynamics for State Estimation and Feedback Control*, discussed applications for ornithopters, or avian-based flapping wing vehicles. Singh's research submission, entitled *Semi-active Optimal Control of Vertically Stroking Crew Seats for Enhanced Shock Mitigation* addressed magnetorheological energy absorption and shock isolation. Each winner was awarded a \$1000 prize for their exemplary submissions.

Dr. Thomas Killion, the Deputy Assistant Secretary for Research and Technology/ Chief Scientist was the guest speaker at the luncheon. He discussed a variety of near term and long term army projects and the implications for aerospace related developments. Dr. Killion was summarily presented with the Alfred Gessow Memorial medallion for his participation.

The Alfred Gessow Memorial Luncheon is a facility tour and seminar experience designed to honor the memory of Professor Alfred Gessow, a pioneer in the helicopter field, an author of books and articles, and the founding editor of the Journal of the American Helicopter Society. Gessow, who passed away in 2002, was a professor emeritus and a former chair of the aerospace department.

## 2010 HONORS AND AWARDS CEREMONY

The 2010 Honors and Awards Ceremony recognized Clark School students from all majors for their academic and service accomplishments.



The Department of Aerospace Engineering Gessow Academic Achievement Awards were presented to graduating seniors who attained the highest overall academic average:

- Jennifer Donaldson (Elaine Gessow Award)
- Brandon Hall (Alfred Gessow Award)

The Robert M. Rivello Scholarship Awards and the Joseph Guthrie Memorial Scholarships were presented to juniors who attained the highest overall academic average.

- Alexander Leishman (Rivello)
- Zhen Zhao (Rivello)
- Harrison Chau (Guthrie)
- Matthew Gross (Guthrie)

The American Institute of Aeronautics and Astronautics Outstanding Achievement Award was presented to the student who made the most outstanding contribution through scholarship and service to the student branch and the department.

- Pratik Bhandari

## RASC-AL "THREE-PEAT"

In the largest Revolutionary Aerospace Systems Concept-Academic Linkage (RASC-AL) field of all time, a Clark School-Arizona State University team took first place in the undergraduate division for their project, "Robotic Assist Vehicle for Extraterrestrial Navigation" (RAVEN).

2010 marks the third straight year aerospace engineering undergraduates have placed first in the competition. This year's challenge focused on space transportation and lunar surface system infrastructure for a lunar outpost.

Aerospace students in ENAE 483/484 work on the project that is entered each year into the RASC-AL competition. Prof. Dave Akin teaches the class and advises the team. Maryland Space Grant supported this year's project.

Among the other 19 schools competing this year were MIT, Georgia Tech, Virginia Tech, Princeton, Harvard, Michigan and Colorado.



*Team members included:*

Jayne Breitwieser  
Kevin Buckley  
Kevin Davis  
James Doggett  
Jennifer Donaldson  
Zach Gonnsen  
Brandon Hall  
Justin Hill  
Gregory Holste  
Marissa Intellisano  
Brandon Litt  
Samantha Lustig  
Christopher Mak  
Laura Meyer  
Elaine Petro  
Wayne Yu  
Albert Zhou

Videos and additional information about the RASC-AL competition are on the aerospace website at [www.aero.umd.edu](http://www.aero.umd.edu)!



## A. JAMES CLARK SCHOOL OF ENGINEERING

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

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Department of Aerospace Engineering  
3181 Martin Hall  
University of Maryland  
College Park, MD 20742

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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>

Chair: Dr. Mark Lewis  
Editor: Erika Aparakankanange  
Graphic Designer: Allison R. Ernst