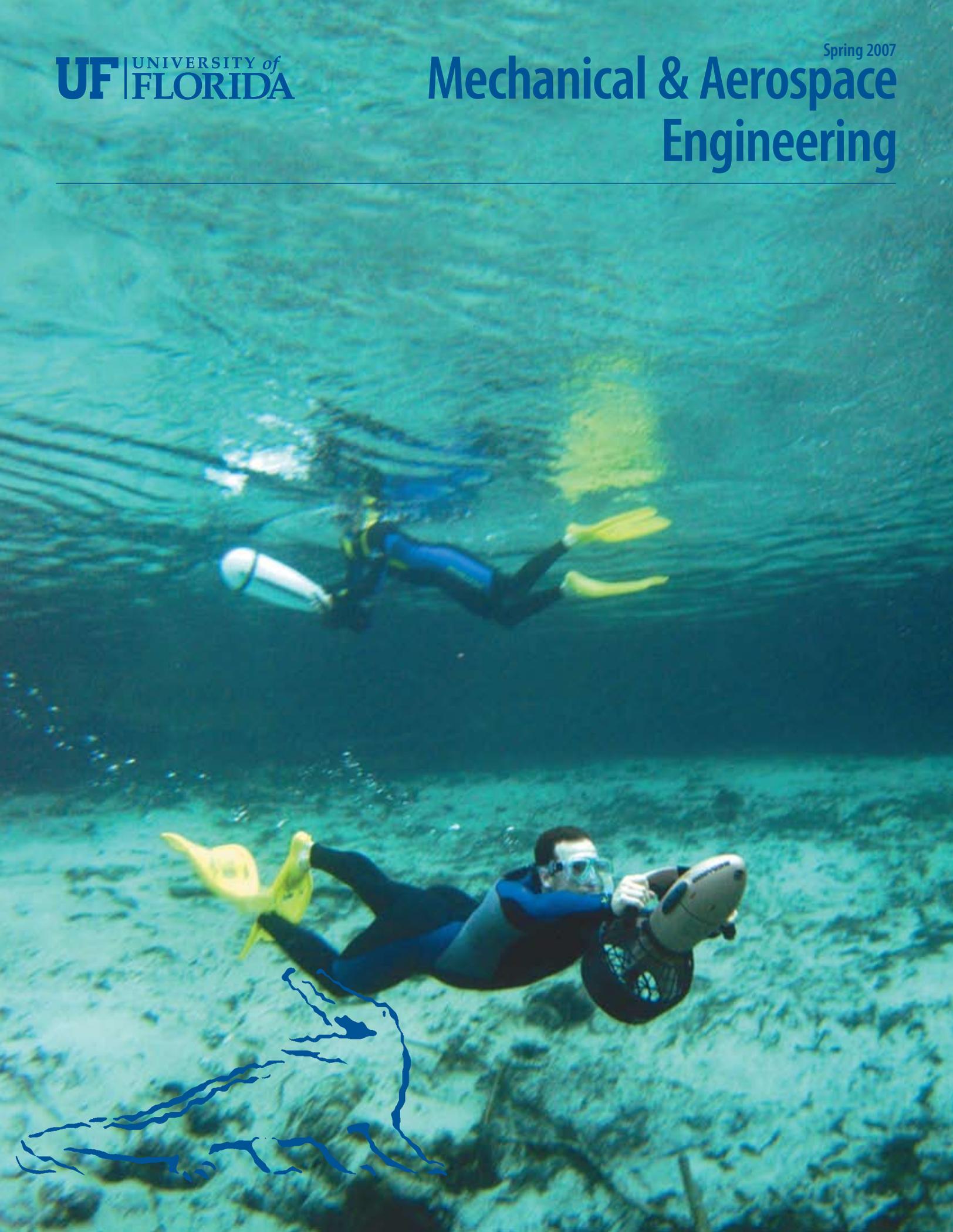


Mechanical & Aerospace Engineering



Welcome to a long overdue issue of the MAE newsletter. With my full-time arrival at the department, I have decided to put my bubbling enthusiasm to work, and embark on a number of new initiatives and change a few things hopefully for the better.

Certainly things have gone extremely well for Gator sports after my arrival last January - we won the 2006 NCAA Basketball Championship in March and the BCS Football Championship in December and the 2007 NCAA Basketball Championship again just a few weeks ago! Well, who can complain about that? Now my

family and I are (of course) die-hard gator fans in



a short span of few months. I cannot stop laughing at my two-year-old daughter going around clapping her hands and saying, "Gato baith."

The first new initiative is to infuse a new look and new vibrancy to our newsletter. We wish to establish the newsletter as an exciting bi-yearly publication that keeps the Department in touch with our alumni and friends. Inside you'll find exciting new innovations in the Department, the latest information about our faculty, staff and students and their accomplishments. Hopefully, as soon as you receive it you will be immediately drawn and riveted to it, till you finish from cover to cover, and this includes my column as well. We want you to share with us your recent exciting activities and accomplishments or any other newsworthy development. We simply would love to hear from you. If you have questions, comments, suggestions, or news and information, please Email it to mae-newsletter@ufl.edu.

The past year has been a period of tremendous growth and change for our Department. We have hired five new top-notch faculty and two outstanding instructors for our laboratory courses. Please take a look inside for a brief introduction of all our new hires. We are now beginning to reap the benefits of the merger

between the mechanical and aerospace departments. Our student enrollment for both the programs has sky rocketed. We are by far the biggest department in the College. We also have an outstanding crop of graduate students, and our Ph.D. production has doubled since last year.

The steady increase in the research activity of our faculty and students, measured in every possible way -- new grants and contracts, research expenditures, scholarly publications, invited lectures and patents -- has continued this past year. With the new hires we have made, and with more to come this year, the future looks very bright.

One clear measure of performance is the recognition



we receive from our peers. We have been aggressively pursuing and nominating our faculty, students and staff for the college, campus, federal and society awards and honors they rightfully deserve. Peer recognition is the key to enhancing our visibility and our reputation. Please read our impressive sections devoted to the awards and achievements of our faculty and students.

We strongly believe that our alumni and friends have a big role to play in defining our future. We have reconstituted a vibrant External Advisory Board that includes several highly accomplished alumni. We will soon have a staff dedicated to external and alumni relations. The Department plans to recognize exceptional personal and professional achievements of our alumni with the Outstanding Alumnus Awards at our annual spring award ceremony (see inside for details). These new initiatives are important steps designed to put into action our commitment and desire to stay fully connected with our alumni and friends. We will proactively seek your input and feedback in important matters concerning research focus, faculty hires, curriculum and career opportunities for students.

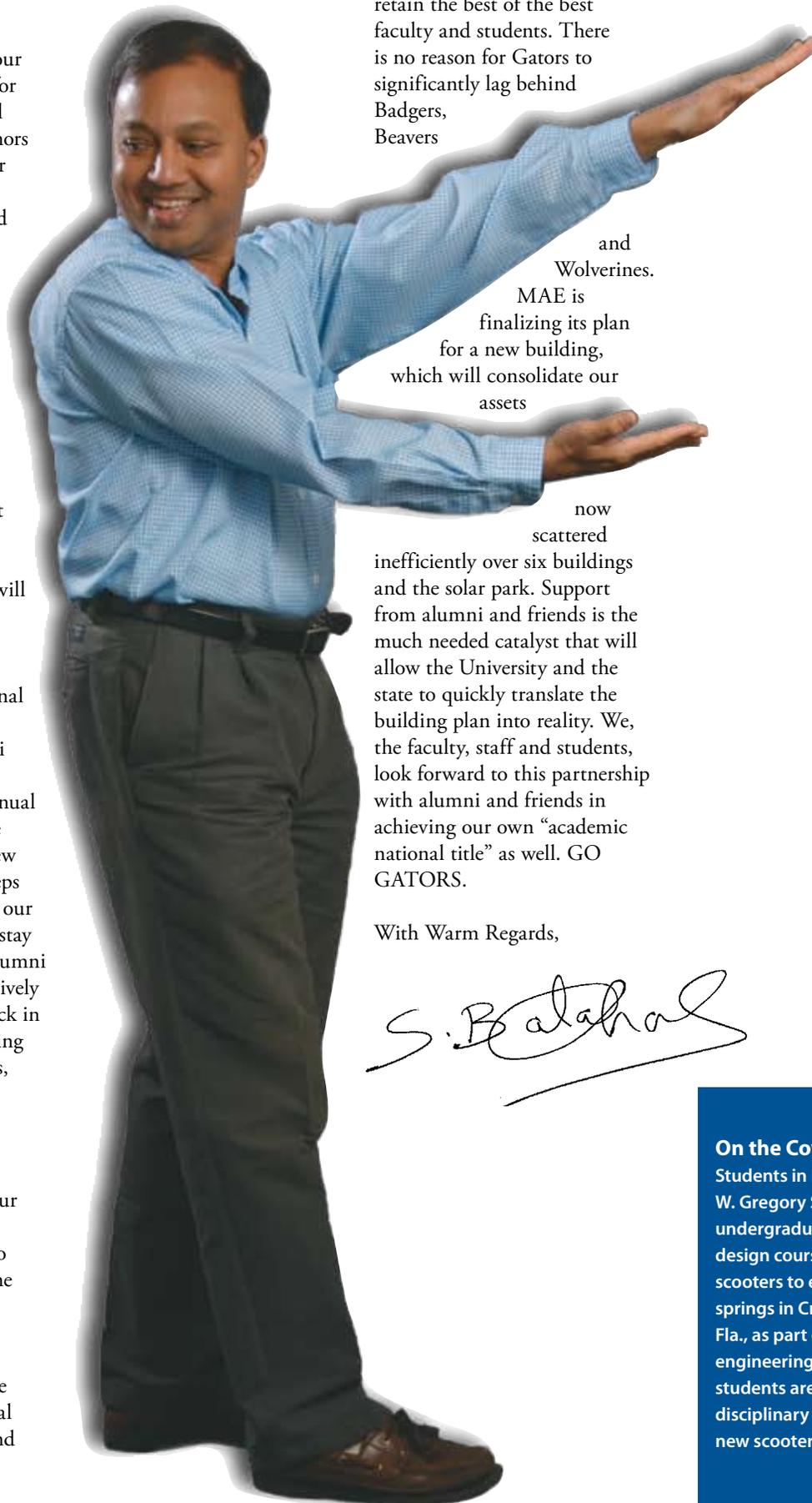
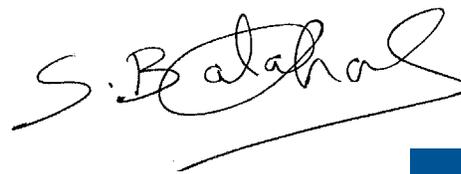
The final point I want to address is the critical role our alumni and friends play in development. There are two areas of serious handicap the Department faces vis-à-vis our competition. Endowed professorships, chairs, and graduate and undergraduate student scholarships are vital tools necessary to attract and

retain the best of the best faculty and students. There is no reason for Gators to significantly lag behind Badgers, Beavers

and Wolverines. MAE is finalizing its plan for a new building, which will consolidate our assets

now scattered inefficiently over six buildings and the solar park. Support from alumni and friends is the much needed catalyst that will allow the University and the state to quickly translate the building plan into reality. We, the faculty, staff and students, look forward to this partnership with alumni and friends in achieving our own “academic national title” as well. GO GATORS.

With Warm Regards,



On the Cover

Students in Professor W. Gregory Sawyer's undergraduate capstone design course use underwater scooters to explore various springs in Crystal River, Fla., as part of the reverse engineering approach. The students are working in multi-disciplinary teams to design new scooters.

MAE Seminar Series Hosts Return To Flight Astronaut Camarda

On Feb. 6, NASA astronaut Charles “Charlie” Camarda, who flew on the space shuttle Discovery in July 2005 and was involved in investigating the 2003 Columbia accident, came to visit the department and met with students and faculty, including his former professors Rafi Haftka and Pat Sforza. Camarda, now deputy director for advanced projects at NASA’s Safety and Engineering Center at Langley Research Center in Hampton, Va., came to UF as a part of the MAE seminar series, which hosts noteworthy speakers on a weekly basis and is open to all MAE faculty, students and friends.

While still an undergraduate at Polytechnic Institute of Brooklyn, Camarda interned for two summers at NASA where he met professors Sforza and Haftka. After receiving his B.S. in aerospace engineering he began work for NASA’s Langley Research Center. It was during this time that Camarda says he was “profoundly influenced” by Haftka’s innovative and analytical work in structures. Camarda says this inspired him to model himself upon this same way of thinking.

Camarda has received 21 NASA awards for technical innovations and accomplishments. He also received a Research and Development 100 award from Industrial Research Magazine for one of the top technical innovations of 1983, entitled

“Heat-Pipe-Cooled Sandwich Panel.” He holds seven patents and one patent pending.

In April of 1996 Camarda was selected as an astronaut candidate. He completed two years of training and evaluation at NASA’s Johnson Space Center, and qualified for flight assignment as a mission specialist. Camarda flew as MS-5 on the Return to Flight mission STS-114 Discovery, July 26 – Aug. 9, 2005, the flight that followed Columbia’s explosion. During launch, a large piece of foam broke off from the external tank (similar to what caused damage to the space shuttle Columbia) though it did not hit the orbiter. Then several smaller pieces were found to have broken off and “gap fillers” had to be removed during a spacewalk.

Asked about the dangers of space travel and the demeanor of the crew on board the Return to Flight mission after discovering the damage after launch, Camarda was quick to point out that when danger plays out on a public stage, often so much is made of the risk that it hurts advancements in the field of research. While space travel has its share of risk, he says, when one considers the history of aeronautics and the advancements in that field as the public gradually embraced the associated risks and benefits of air travel, it all seems worth it in the end.



During the Return to Flight launch the main concern Camarda had was not the one in 75 chance of something very bad happening, but instead he was disappointed that they had told the public this “could not happen” because he felt it was a show of arrogance that could negatively affect public perception of the space program.

The truth, he says, is that his mission to space was an “engineer’s dream.”

Camarda felt that being able to go into space, and gain first-hand experience using some of the very advancements he and his research team put in place, was the ultimate experience for a person in his position.

From an educational standpoint, Camarda is interested in a more cross-curriculum approach to learning. During his visit to UF, and while visiting other universities such as Columbia University and Penn State, Camarda has challenged faculty to form design courses where small groups of students from various backgrounds and

engineering specialties can try to solve the very problems NASA researchers are trying to solve right now for themselves. As he witnessed in the workings of his mentor Haftka, it takes creativity and innovation, and often the ability to look at things from a different perspective, to find the solution to the most difficult engineering challenges.

Another key element, says Camarda, is the ability to communicate clearly and effectively. In a field where the future is largely influenced by public perception, and where it is rare that the audience being addressed possesses the same technical knowledge as the speaker, every word and every image has resounding effects.

When asked what the future holds for the space program, Camarda said this: “My grandparents were born before the automobile was invented and in their lifetime they watched man land on the moon. I think we will see man land on another planet.”

Professors promote UF engineering

Lind's Team Flies Seagull UAVs for Congress



By this point, it seems, almost everyone should have heard about Rick Lind's work on the development of morphing planes. The "Seagull" and other related unmanned-air vehicles (UAVs) have been featured on The Discovery Channel, The National Geographic Channel, The Science Channel, in public television segments in Austria and Holland, Popular Mechanics magazine, msnbc.com, yahoo.com and quite a few other mainstream publications and web sites. In all, 160 articles in 17 languages can be found. Most recently, however, Dr. Lind and his graduate students were contacted by another impressive source seeking a live demonstration.

On January 23, 2007, Lind, accompanied by his graduate research assistant, Mujahid Abdulrahim and undergraduate student Daniel Grant, were invited to Washington, D.C. to present their research to Congress. Their presentation, which included live demonstrations of UAV flight capabilities in one of the House chamber rooms, was attended

by a number of congressional staffers and dozens of lobbyists with scientific interests.

The event, held in the Rayburn House Office Building, was part of The Science Coalition program recognizing outstanding research. Dr. Lind's team showcased a range of wing-morphing UAV's with wingspans ranging from 6 to 24 inches, and demonstrated UAV flight capabilities while also recording the flights with onboard cameras.

The Air Force Office of Scientific Research, which funds portions of Lind's research, as well as many other projects in UF's MAE department, sent several representatives, including an official photographer and several AFOSR program managers, to accompany Lind and his students on their trip. On Feb. 8 the Air Force Research Laboratory Web Site featured Lind's trip on its Web Site: www.afosr.af.mil.

According to Lind, the presentation went very well. While Abdulrahim and Grant were given a chamber room to do flight demonstrations,

Lind manned an impressive display table where he spoke with approximately 150 representatives, aides and lobbyists about the research being done at UF.

"Overall," Lind said, "it was a great experience for me and an even greater opportunity for our graduate students to get to do something like this."

Lt. Col. Scott R. Wells, one of the AFOSR program managers accompanying Lind's team on the trip said, "Rick Lind's research is another step forward in the overall goal of developing highly agile, autonomous, cooperative teams of UAVs."

The Science Coalition, based in D.C., represents more than 400 member organizations and seeks to expand and strengthen the federal government's investment in university-based research.

Lind's research, which involves designing prototypes for highly-maneuverable miniature urban drones, is funded by AFOSR and NASA.

The UF morphing fleet will be the centerpiece of an hour-long documentary exploring biologically-inspired flight. The program will air in the fall of 2007 on NOVA on PBS.

New Faculty

In one year's time, UF's Department of Mechanical & Aerospace Engineering has hired five new faculty members and two new instructors, with more to come, as there are still a number of active faculty searches. Meet our new faculty.

John Abbitt, Ph.D., was born in Martinsville, Va. He received his B.A., M.S. and Ph.D. at UF. He has previously served in the U.S. Navy as a P-3 and T-28 pilot. Abbitt also was a science teacher at Buchholz High School in Gainesville, and the owner of Digital Photo, Inc. He has a large family which includes his wife, Kay, a 5th grade teacher at Idylwild Elementary; two sons, Sam and Hank, who are both pursuing degrees in building construction at UF and Santa Fe Community College, respectively; and four step-children, Megan, a 10th grade History teacher at Buchholz High School; Kevin, with the USMC in Djibouti, Africa; Kelli, a ME student at FSU; and Brian, who works locally in Gainesville. Abbitt says he enjoys boating, playing banjo and weight lifting, and that he really enjoys being a part of the MAE department. jda@ufl.edu

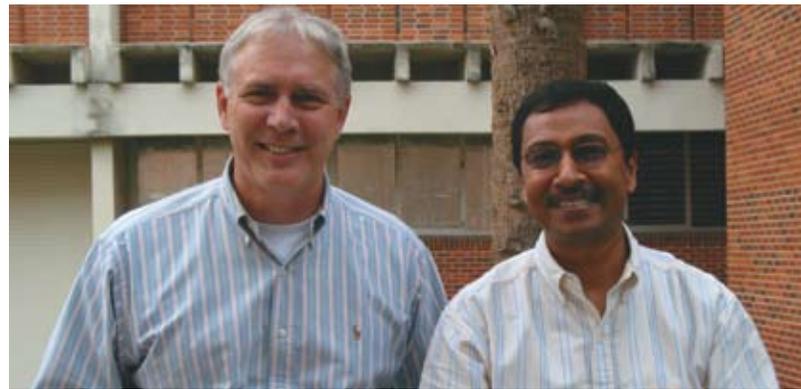
Youping Chen, Ph.D., was born in Changsha, China. She received her Ph.D. at The George Washington University, where she has also worked previously as a research scientist. Her current research interests include nano/micro materials, multiscale materials modeling and mechanics of biological materials. Her hobbies include reading and swimming. She and her husband, Sam Han, have one son, Brandon. ypchen2@ufl.edu

Carol Chesney, Ph.D., was born in San Juan, Puerto Rico. She received her B.S. in ME from Carnegie Mellon and her M.S. and Ph.D. in ME at UF. She was previously a

DCI post-doc fellow at UF. Her current research interest is in man machine interface. Her personal interests include pottery, photography, ham radio, and doing outdoor activities with her husband Vann. Chesney is also active with the Trigators, UF's triathlon club. irenec@ufl.edu

Andreas Haselbacher, Ph.D., was born in New Haven, Conn. He received his B.Sc. (Hons.) and Ph.D. in Aeronautical Engineering from Loughborough University in the UK. He has previously worked for ABB Corporate Research Ltd. and ABB Alstom Power Technology Ltd. in Baden-Daettwil, Switzerland, and for the Center for Simulation of Advanced Rockets at the University of Illinois at Urbana-Champaign. His current research interests include computational fluid dynamics, unstructured grids, special discretization methods, discrete filtering, parallel processing, large scale computing, multiphase flow, large-eddy simulation, and fluid-structure simulation, verification and validation. His wife is Katrin Haselbacher, and his personal interests include reading and mountain biking. haselbac@ufl.edu

Anil V. Rao, Ph.D., was born in Mumbai, India. He received his B.S. and A.B. at Cornell University, his M.S.E. at the University of Michigan and his M.A. and Ph.D. at Princeton University. He has previously worked as a senior member of the technical staff at The Charles Stark Draper Laboratory in Cambridge



John Abbitt and Subrata Roy



Youping Chen, Anil V. Rao and Carol Chesney

Mass., and held the same position at The Aerospace Corporation in El Segundo, Ca. His current research interests include optimal control, guidance, linear and nonlinear control, nonlinear optimization and navigation. Rao enjoys yoga, tennis, swimming and playing bridge. anilvrao@ufl.edu

Subrata Roy, Ph.D., was born in Kolkata, India. He received his Ph.D. from the University of Tennessee and previously worked at Kettering University (formerly known as GMI). His current research interests include plasma flow control, space propulsion and micro-nanofluidics. He enjoys painting, creative writing and soccer. He and his wife, Manjari, have two sons, Sarthak and Saayon, and one cat named Hootie. As for his transition to living in Gainesville, Roy says, "70 degrees in January! I just feel like pinching myself!" roy@ufl.edu

Ghatu Subhash, Ph.D., was born in India. He received his Ph.D. from the University of California, San Diego. He has previously worked as a professor in the Department of Mechanical Engineering-Engineering Mechanics at Michigan Technological University in Houghton, Mich. His current research interests are in dynamic behavior of novel materials, thin films, metallic glasses, foams and ceramics. His personal interests are cross country skiing (though not here in Florida), walking and spending time with his wife, Shobha, daughter, Sanika, and son, Sohan. subhash@ufl.edu

The Future Looks Bright

Matthew Bennett (ME) was the University-wide Outstanding Four-Year Scholar at the Fall 2006 graduation ceremonies. He was also one of the two students who addressed the graduates. During his talk he thanked his family for their support and his mentor, David Hahn (MAE) for his guidance.

Daniel Grant, an undergraduate researcher in Rick Lind's group, won the AIAA/Calspan Best Paper Award for Atmospheric Flight Mechanics. Grant was also one of the two students who accompanied Lind on his trip to Congress. (see article on pg. 5)

Brian Homeijer (MAE) and Robert Dieme (ECE) received Pride @ Boeing Accomplishment Awards for their outstanding performance on a collaborative project titled Progress in MEMS Sensor Technology toward Suitability Phased Array Measurement Applications. Homeijer, a doctoral student of Mark Sheplak, is working on the development of a measurement-quality piezoresistive microphone.

Keith Stegath, pictured at right, a graduate student in Warren Dixon's Nonlinear Controls and Robotics group, is working to try to ease the anguish of stroke victims and people with spinal cord injuries. Though Stegath's passion is robotics, during his final undergraduate year in EE he joined Dixon's group in order to develop algorithms that excite human muscles via computer controlled electrical stimulation. His goal is to help people with muscular maladies regain some control of their body. Dixon's lab is working collaboratively with members of UF's College of Health and Human Performance in order to better understand muscle physiology. This collaboration led to one of the first experiments shown where Stegath's leg is undergoing computer-controlled stimulation. In the experiment, the leg is stimulated and controlled by a computer, which is computing in real time the electrical pulse parameters needed to drive the leg to 45 degrees. Due to the uniqueness of the equipment (and the limitations of funding) all equipment is being designed and built by Stegath.

Kim Wright received the 2007 Delta Air Lines Engineering Scholarship. Wright received a \$5000 educational scholarship sponsored by Delta Airlines and offered through the Women in Aviation Organization and full conference admission to the WAI conference held February 15-17 in Orlando.

The 11th International **Micro Air Vehicle** Competition will be held in Rochester, New York in May. UF has won the competition for eight consecutive years. At last year's competition in Provo, Utah, the UF team won in three categories (Endurance, Surveillance and Design Report) giving it first place overall with a perfect score. The UF team also set a new record for the smallest surveillance aircraft, and acquired a target located 600 m away with a 4.5-inch aircraft carrying a color video camera and transmitting real-time video back to the ground station.



The UF **Integrated Product and Process Design** Team CuBIC, pictured above, took first place honors in the Manufacturing Engineering Student Design Competition at the 2006 ASME International Conference on Manufacturing Science and Engineering. Jian Cao of Northwestern, chair of the Student Design Competition, said the team was the unanimous grand prize choice among the five judges, exhibiting outstanding coordination between the speakers and demonstrating excellent integration of the Pro/Engineer design software to complete their project. Team CuBIC members Gorang Gandhi (EE), Jose Garcia (CEE) Robert Hay (ME), Jeffrey Lee (ME), Laura Locke (ISE) Jeffrey Thomas (CEN) and faculty coach Dr. Keith Stanfill developed a digital cube printer for sponsor Bic Graphic. Finalists in the competition included another entry from UF represented by MAE graduate students Raul Zapata (ME) and Lee Kumanchik (ME). UF has submitted IPPD project entries for this competition three times (2001, 2005 and 2006) and has won first place each time.



The Measure of Our Success

S. Balachandar was elected as a Fellow of the American Physical Society at its annual meeting in Tampa, Fla. in November. The citation read “For fundamental contributions to the understanding of thermal convection in the Earth’s mantle, the structure of bluff body wakes and their effect on the dynamics of small particles, the dynamics of vortices in wall turbulence, and theory of two-phase flow, including the equilibrium Euler formulation for disperse flow.”

Warren Dixon has the unique distinction of winning both the prestigious NSF CAREER Award and the IEEE Robotics and Automation Early Academic Career Award.

Norm Fitz-Coy, has won the Abe Zarem Educator Award from AIAA. His student, Frederick Leve, has won the Abe Zarem Award for Distinguished Achievement.



Peter Ifju recently co-authored a book, “Introduction to the Design of Fixed-wing Micro Air Vehicles” with Thomas Mueller of Notre Dame University, Sergey Shkarayev of the University of Arizona, and James Kellogg of the U.S. Navy Research Lab. The book is published by the American Institute of Aeronautics and Astronautics and is in the AIAA Education Series. Ifju has been conducting research in the field of Micro Air Vehicles for more than eight years. This book highlights his contributions to the development and theory of flexible wing-based MAVs. His MAV research group is considered one of best in the world and has won the International MAV competition the last eight years (see “Student News and Accomplishments”).

Rafi Haftka, distinguished professor, was chosen as the International Educator of the Year in the College of Engineering. Haftka’s research interests include structural and multidisciplinary design optimization, design of composite structures by genetic algorithms, design under uncertainty and micro air vehicles.

James Klausner was recently appointed to the ASME Heat Transfer Division Executive Committee for a five-year term. Klausner will cycle through the positions of officer, secretary, treasurer, vice-chair and chair of the Heat Transfer Division. Recently, Klausner competed three years of service as the chair of the Heat Transfer in Multiphase Systems Technical Committee, which is part of the Heat Transfer Division.

Rick Lind has been selected as a 2007 SAE Ralph R. Teeter Educational Award recipient for the aerospace category. Established in 1953, this award is given to younger engineering educators to honor teaching and research accomplishments.

Tony Schmitz was the chairman of the 21st annual meeting of the American Society for Precision Engineering held in October in Monterey, CA. The keynote speaker was John L. Hall, 2005 Nobel Laureate who was awarded the Nobel Prize in Physics along with Theodor W. Hansch and Roy J. Glauber for their contributions to the development of laser-based precision spectroscopy, including the optical frequency comb technique.

S.A. Sherif and **H.A. Ingley** were issued a U.S. patent (No. 6,925, 819 B2) entitled “System for Trapping Airborne Water in



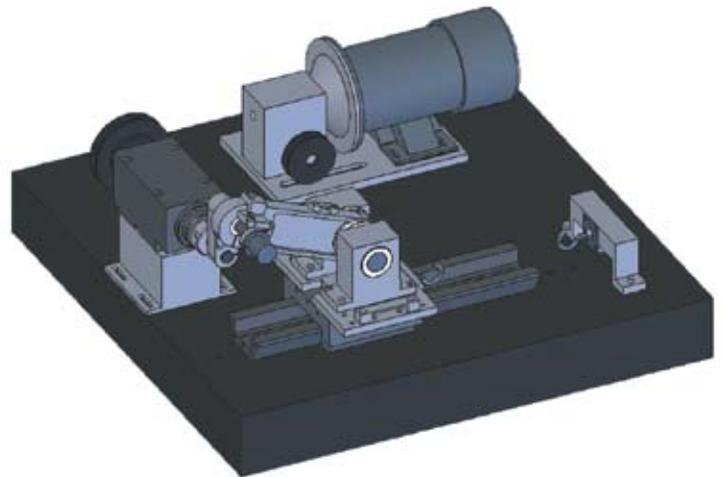
The research accomplishments of **B.J. Fregly** were featured in the most recent issue of Biomedical Computation Review, a new magazine from the National Institutes of Health that presents overviews of recent developments in biomedical computation. A copy of the article can be found at www.mae.ufl.edu/~fregly/egm4590/BiomedicalComputationReview2007.pdf.

A Sample of Current Research Projects

Design Theory and Modeling Tools for Systems with Evolving Kinematics

Sponsor: John Deere and National Science Foundation
Professors: Nam-Ho Kim, W. Gregory Sawyer and Tony Schmitz,
Graduate Students: Nate Mauntler and Saad Mukras
Undergraduate Student: Sameer Matta

The joint geometry of many mechanical systems changes over time according to wear in the contacting surfaces. These geometric changes in turn alter the contact stress distribution at the interface, and also can cause changes in the kinematics of the mechanism which lead to changes in the forces at the contact. Such evolution of joint geometry and system kinematics has been critical in the design issues for pin-and-pivot joints of various construction equipment at John Deere and for bushings in automobiles. The goal of this research is to develop principal-based engineering analysis tools that can accurately predict the geometric evolution of components and resulting kinematic evolution mechanisms, allowing accurate life prediction of mechanical components in relative motion. A slider-crank mechanism is being built to validate the accuracy of the prediction tool. Successful development of a method for life-prediction of wearing surfaces will elevate the designer's approach to this widespread failure mode from its current



The crank-slider serves as an experimental platform to validate predictions from a coupled finite element and wear model being developed by Professor Nam-Ho Kim. It uses air bearings and a precision spindle to isolate friction and wear to a single bushing. The evolution of wear in this bushing is monitored in situ using capacitance probes and an instrumented pin.

state of heuristic and qualitative methods, to the same level of rigor routinely applied to stress analysis, fatigue, and fracture; resulting in improved product reliability and shorter development cycles.

Cooling and Freezing Devices.” The patent grew partly from experimental research performed on frost and ice formation on industrial walk-in freezers in supersaturated air.

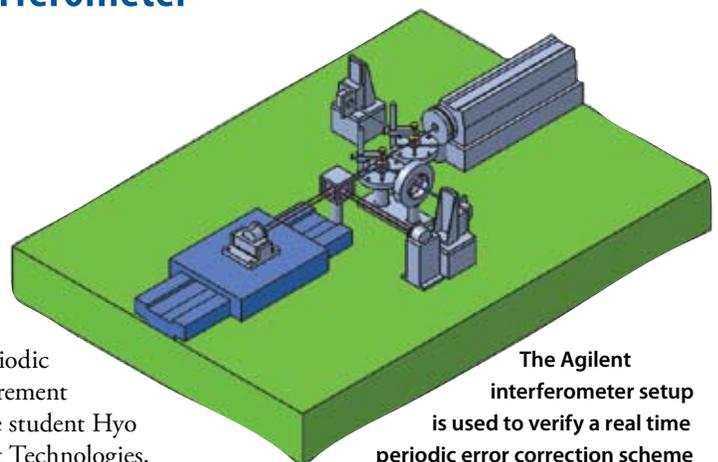
New Arrival

Pamela Dickrell (Ph.D. 2005) and **Daniel Dickrell III** (Ph. D. 2006) welcomed their first child, Daniel John Dickrell IV, in November. Pamela is currently an adjunct assistant professor in the Department. Daniel is a mechanical engineer at a Gainesville consulting firm.

The Heterodyne Interferometer

Sponsor: Agilent Technologies
Professor: Tony Schmitz
Graduate Student: Hyo Soo Kim

The heterodyne interferometer is used extensively in situations requiring accurate displacement measurements. Due to non-ideal performance, mixing between the two frequencies can occur and periodic error is introduced into the measurement signal. Tony Schmitz and graduate student Hyo Soo Kim are working with Agilent Technologies, a premier measurement company based in Santa Clara, Ca., to improve measurement accuracy for precision positioning applications, such as wafer steppers used for semiconductor fabrication.



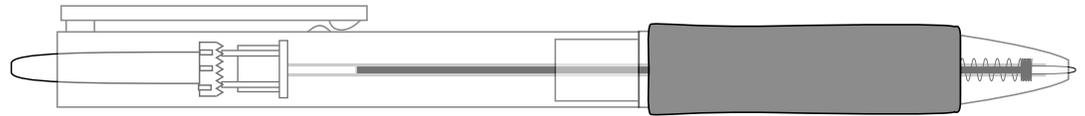
The Agilent interferometer setup is used to verify a real time periodic error correction scheme based on digital logic hardware.

Professor W. Gregory Sawyer

Have you ever taken a pen apart?

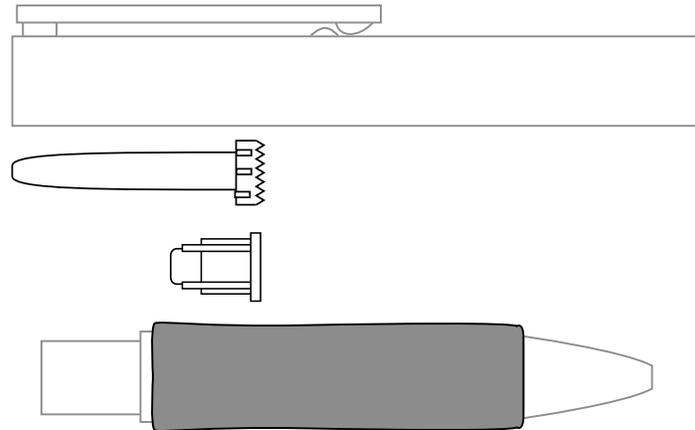
The following is an exam question from the midterm for the senior-level capstone design course. Sawyer has been stressing the importance of reverse engineering as part of the design process and, as he says, “find and stand on the shoulders of those that came before you.” Sawyer continues, “There are a lot of very good engineering examples all around us. Part of the design process is to force the exploration/discovery part of how things work.” In the capstone design course, learning to take things apart and figure out the “tricks” is a good place to start. The following is a 10 – 15 minute exercise. The students are very good at it.

Problem

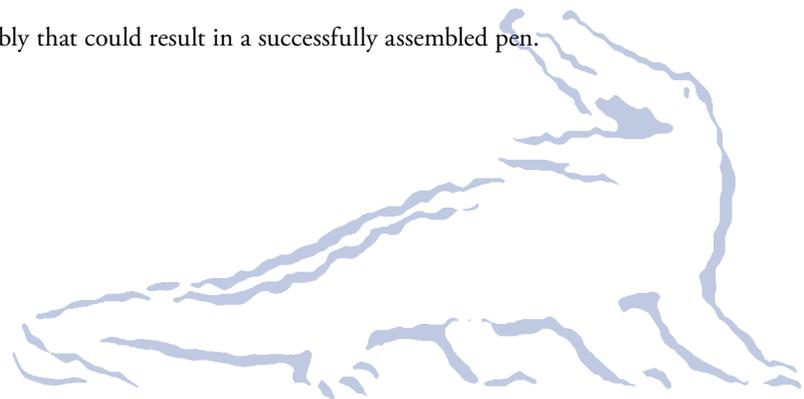


a.) Describe how the thumb “clicker” keeps the ink cartridge extended and retracted sequentially. Sketch, label, and name any parts that you need/use in your description.

b.) Describe how each part shown below was manufactured, make sure to indicate any particularly challenging parts (your company needs to know if there are parts that are difficult to make). Give some evidence to support your conclusions (feel free to sketch on the parts shown to support your discussion).



c.) Describe a sequence of assembly that could result in a successfully assembled pen.



Outstanding Alumnus Award

The MAE Outstanding Alumnus Awards are the highest honors the department bestows upon its alumni, and is in recognition of a particular achievement of noteworthy value, a series of such achievements, or a career of noteworthy accomplishments. Each year we seek to honor a select group of alumni who, by extraordinary effort, unusually creative endeavors and remarkable success in whatever enterprise they set their hands to, are worthy exemplars of and ambassadors for the MAE Department and all its alumni.

For the academic year 2007-2008 we encourage nominations for both the MAE Outstanding

Young Alumnus Award and the MAE Outstanding Alumnus Award. Nomination forms are due by Jan. 31, 2008, and will be evaluated by an award committee. Decisions will be reached by Feb. 28, 2008, and the awards will be bestowed on the awardees at the MAE Annual Awards Banquet in April 2008. We request the nomination process to be discreet and without the involvement of the nominee.

Nominations can be done over the Web at www.mae.ufl.edu/MAE-OAA or mailed to **MAE Outstanding Alumnus Award
Mechanical & Aerospace Engineering
231 MAE-A, PO Box 116250
Gainesville, FL, 32611**

Eligibility

The Outstanding Young Alumnus Award is established to recognize the budding accomplishments of alumni under the age of 40 on April 1 of the year they will be bestowed the award. The Outstanding Alumnus Award is established to recognize the significant accomplishments of senior alumni.

Background

The MAE Department has a rich heritage which reaches back over nearly 100 years and encompasses a number of ancestor departments including Mechanical Engineering, Aerospace Engineering,

Mechanics, and Engineering Science. The alumni of the MAE Department and its forebearers have traveled many roads since their graduation and are a part of the University's worldwide Gator Nation. We have created the annual MAE Outstanding Alumni Award as a means to recognize the exceptional personal and professional achievements of our alumni. We feel this brings credit to the alma mater and stimulates our newer members.

UF UNIVERSITY of FLORIDA

MAE Department Newsletter
231 MAE-A
P.O. Box 116250
Gainesville, FL 32611-6250

Our newly designed MAE Alumni Newsletter has everything . . . except Alumni News! Please let us know where you are and what you have been doing since leaving Gainesville. Simply email us at mae-newsletter@ufl.edu with your personal and professional updates or clip and return this form to so we can make sure to include bi-annual features and updates of our former classmates and faculty.

NAME IN FULL (INCLUDING MAIDEN NAME)

RESIDENCE ADDRESS

CITY STATE ZIP PHONE (AREA CODE)

YEAR OF GRADUATION DEGREE MAJOR

NEWS OF INTEREST ABOUT YOUR ACTIVITIES, RECOGNITIONS, ETC.

JOB TITLE EMPLOYER

BUSINESS ADDRESS

Yes, I would like to make a charitable donation to the department. Enclosed

\$25 \$50 \$100 OTHER



MAE in the World

Sunset Soccer

Children play soccer in the courtyard of Al-Rahman mosque in Halab, Syria, during the final days of the 2006 World Cup. The mosque serves as a place of worship, a community center, and a hospital. The structure in front of the sun, which casts a shadow over the courtyard, reads “Allah” in Arabic. While most mosques are architecturally intricate, Al-Rahman mosque is largely considered to be one of the most ornate, and arguably most beautiful, mosques in Syria.

About the Artist

Mujahid Abdulrahim is a Ph.D. candidate in Aerospace Engineering. He is studying the dynamics and control of shape-changing aircraft. Abdulrahim most recently accompanied his advisor Rick Lind on a visit to Congress to demonstrate his research. (Story on pg. 5) His career goal is to be an astronaut. Abdulrahim’s picture “Sunset Soccer” won first place in the 2006 UFIC Global Culture Photo Contest. His work, along with other winning photos, are currently displayed in the Grinter Gallery on first floor of Grinter Hall on University of Florida’s main campus.

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