



## Gulf Power Foundation makes powerful investment

The Gulf Power Foundation, Inc. recently announced a gift commitment of \$200,000, marking the single largest investment to date in the new University of West Florida School of Science and Engineering. This donation will create a state of the art lab allowing the engineering program to purchase training equipment to benefit UWF students in the areas of solar power, wind generation, etc.

Susan Story, president and CEO of Gulf Power, said the grant would also provide for enhanced curriculum. “In addition to equipping the lab, this grant will help with professional development, new courses, distance learning and new online classes. This is an important investment in terms of educating future employees who will have the knowledge and skill sets needed for our workforce. This Power Lab will empower these future engineers.”

The University of West Florida values its relationship with Gulf Power that has become a model for industry and education partners. Spanning more than 20 years, Gulf Power and UWF representatives have worked together to

develop and fine tune engineering curriculum to better meet the needs of the power industry. As new electrical technologies are developed for a technologically energy-dependent and ecologically sensitive world, students will need a solid foundation in the fundamentals of the cleanest form of energy. Their exposure to the latest technologies for power circuits and components will allow them to master reliable and efficient distribution of electrical energy from source to application.

According to school director Leo ter Haar, “During the design phase of the new Science and Engineering Building, Gulf Power engineers were consulted to provide layout and equipment recommendations for the Power Lab. However, budget shortfalls prevented us from fully equipping the lab. Thanks to this generous gift, we will complete our lab and immediately enhance and support basic engineering curriculum.”

*(continued on page 11)*

# Message from the Director



On behalf of the UWF School of Science and Engineering students, faculty and staff, I am pleased to share the inaugural edition of our newsletter with you and provide some exciting updates, including the announcement of Gulf Power's gift to equip the Power Lab in our new building. As a stakeholder, your active partnership with our school is both appreciated and critical to our future. We count on you to provide feedback about curriculum and student preparedness, offer internships, co-ops, capstone projects and employment for students, collaborate on research projects and contribute private support.

## Grand Opening

More than 1,000 undergraduates made history on Jan. 6 when they became the first students to take classes in the new School of Science and Engineering Building. Many of you joined us in early February to celebrate the grand opening of our school with great fanfare. We were honored to host you and also welcome Dr. Peter Diamandis, founder of the X Prize Foundation, to our campus.

## Design encourages collaboration

The opening of our new school and building marks the culmination of many years of planning. The \$30.6 million state-funded building embodies the principles of Project Kaleidoscope (PKAL), an advocate in the United States for building and sustaining strong undergraduate STEM programs by transforming the learning environment.

Designed by architecture firm Lord, Aeck & Sargent, the four-story, 94,719-square-foot building is an energy- and water-efficient structure that is targeting LEED silver certification from the U.S. Green Building Council. UWF selected Lord, Aeck & Sargent as our architect because of the firm's experience in designing buildings with a PKAL mindset. I am proud of the way the spaces in our building make

it easier for people to work together, since historically our STEM disciplines were in individual buildings where it just wasn't easy for people to interact across disciplines. The new building makes it possible for faculty to share their turf and their toys, and it helps us put that PKAL vision and theory of collaboration into practice.

That mind set comprises an approach that provides multiple opportunities for STEM faculty and students to collaborate across disciplines. It also places science on display and features sustainable design strategies as well as flexible laboratory and teaching spaces that can easily adapt to inevitable changes in educational programs. These principles became design drivers for the building. What I like best about the building is the way it's designed more around people and what they do than it is around the technologies.

Thank you for your commitment to our new school. If you haven't had the opportunity to visit us, please check our Web site for a listing of future events, <http://uwf.edu/sse>. We hope to see you soon.

**Dr. Leonard ter Haar, Director**  
School of Science and Engineering

*Dr. Leo ter Haar and Dr. Diamandis tour lab during the grand opening*



# Alumni Spotlight



*Tad Ihns*

After trying several different majors at UWF, Tad Ihns settled on computer science and graduated in 1982 with his bachelor's degree in systems science. In 1992, Tad started Avalex Technologies Corporation in Atlanta, Ga., by using "angel funding" and grew from a man-a-dog-in-a-garage stage to the current staff of 28 employees. Avalex is a leading innovator in the field of special mission avionics. Innovative solutions, such as digital map systems, digital video recorders and sensor pointing systems, provide services to all branches of the military, most Federal law enforcement agencies and many state and local law enforcement groups. The company relocated to Pensacola in 2001 and hires a variety of electrical, software and project engineers for positions in its development lab. Avalex Technologies has been named to the INC 5000 list of fastest growing companies for the last three years.

This spring, the UWF National Alumni Association honored Tad with a Distinguished Alumnus Award. According to School Director Leo ter Haar, "Tad is a very positive force on behalf of UWF. He has been especially dedicated to UWF through three projects in my domain: 1) Support of Unmanned systems (robotics) teams that participate at regional, national and international competitions, 2) Support for the implementation of new components in the curriculum and 3) Providing regional support for the entrepreneurial concepts that the School of Science and Engineering embodies. "

In addition to his active role as President of Avalex Technologies and commitment to UWF, he is a gracious giver to his community and currently serves as vice president of the Pensacola Symphony Board of Directors and member of the Pensacola Bay Area Chamber of Commerce Board of Directors.

## Florida's Great Northwest Grant Creates New Computer Science Graduate Programs

Research conducted by Florida's Great Northwest identified the business sectors of information technology and engineering as critical support industries for growing a knowledge-based economy in Northwest Florida and for supporting the growth in technology-based businesses such as aerospace and defense, medical technologies, health services and renewable energy.

The study revealed sufficient IT and engineering courses are already offered throughout the region. However, the capacity at the region's colleges and universities exists, but there are not enough graduates from the programs to meet the region's growing demand. To address the issue, Florida's Great Northwest developed the postsecondary scholarship program to spur enrollment in the region's existing IT and engineering programs.

Two new scholarship cohorts partially funded through Florida's Great Northwest for Florida residents started fall 2009 and spring 2010. These students will earn a Master of Science degree in computer science/software engineering specialization. Students in these cohorts had the additional benefit of receiving loaned laptop computers preloaded with software needed for their courses.



## New Graduate Program—Computer Science, Specialization in Database Systems

Fall semester 2010 marks the beginning of a new graduate program, offered by Computer Science, specializing in database systems. This specialization emphasizes designing, implementing, maintaining, and administering large database systems. Students will become proficient in database programming and SQL (in Oracle and SQL Server). They will also be able to identify and utilize tools to be able to work with vast amounts of data. This new program was made possible through a grant from Florida's Great Northwest, which will cover 80% of the tuition in the first semester of study. For more information regarding this new program, please visit: <http://uwf.edu/computer-science/graduate/db/> or e-mail program director Dr. Sikha Bagui at [bagui@uwf.edu](mailto:bagui@uwf.edu).

## Faculty Spotlight

### Physics Research Takes International Stage

Research conducted over the years by physics students and faculty in the area of liquid crystals has gained recognition on the international stage. **Dr. Chandra Prayaga**, chair and associate professor of the Physics Department, presented two papers on the “Dielectric Properties of Liquid Crystals Near Phase Transitions,” at the International Liquid Crystal Conference in Krakow, Poland, in July, which was attended by approximately 1,000 top researchers from around the world.

Over the years, UWF physics research has gradually developed to a level that can be published in technical journals and presented at national and international conferences. This kind of research uses high precision measurements of various properties of liquid crystals, which have important technical applications.

*Left to right: Dr. Chandra Prayaga, Tracy Lawson, Priya Garg and Michael Kordell.*

Exposure at an international level translates into increased awareness and collaboration with top research groups to further this area of research. Undergraduate students will be in touch with top research labs in the country and will be able to conduct their senior projects in these prestigious laboratories.

Students who have co-authored the liquid crystals paper have also benefited from their experience by making presentations at national conferences. **Tracy Lawson** presented her research at the National Women in Physics Conference in fall 2009 and **Michael Kordell II** presented findings during the National American Physical Society meeting in March 2010. Also among the participants in the research is **Priya Garg**, a student in the IB program at Pensacola High.

All of these experiences greatly benefit UWF undergraduates who want to pursue graduate work in the field. Because graduate programs are highly competitive, applicants who have actual research experience gain a competitive edge over other applicants. UWF graduate **Raymond Clay** was recently accepted into the University of Illinois at Urbana-Champaign, which is one of the top institutions in the country dealing with condensed matter research.

To learn more about the physics program at UWF, please visit <http://uwf.edu/physics>.



## UWF Student Gains Hands-On Experience in Tornado Chasing

UWF student Chelsea Lovrekovic spent a week with Extreme Chase Tours where she had the opportunity to study tornadoes up close. With the words “storm chasing” and “tornadoes” in the same sentence, it is difficult not to conjure up images from *The Wizard of Oz* or *Twister*, complete with flying houses and cows.

“*Twister* is my favorite movie,” admitted Chelsea Lovrekovic as she began discussing her weeklong adventure with Extreme Chase Tours where she had the opportunity to study these funnels up close.

A mathematics senior at UWF, Lovrekovic incorporated this tour as part of her studies for her senior pro-seminar, which is an independent research project required by the UWF Department of Mathematics and Statistics to promote active learning. Her intention is to employ the statistical models used in storm chasing as the basis for her research while she explores an exciting real-life application of her studies.

The company leading her tour, Extreme Chase Tours, takes guests such as herself with it to drive into storms tracking tornadoes and collecting valuable data to utilize in later studies. While on the tour, Lovrekovic had the opportunity to see two active tornadoes make ground-contact as the team sped after numerous storms looking for signs of twister potential. One tornado tore apart a mobile home, leaving

*(continued on page 11)*



## Research Spotlights

The intimate learning environment at UWF offers students the unique opportunity to work closely with faculty and engage in research activities that are not usually offered to undergraduates.

One of the ways in which the university recognizes these achievements is through the annual Scholars of Engineering, Applied Sciences and Technology Annual Research Symposium (SEASTARS), sponsored by the College of Arts and Sciences. To learn more about these research activities, please visit <http://uwf.edu/seastars/>. 2010 School of Science and Engineering award recipients include:

- **Computer Science Departmental Award**  
Development of a Personal Budgeting Application Using the Waterfall Model: Lorena Flores and Dr. Jacalyn Huband
- **Electrical & Computer Engineering Departmental Award**  
Automation Controller with the CAN 2.0B Standard: William Seaman and Dr. Mohamed A. Khabou
- **Mathematics Departmental Award**  
Cluster Analysis on Cancer Rates of Adults in Florida: Michael A. Johnston and Dr. Raid Amin
- **Physics Departmental Award**  
Investigation of Dielectric Properties of Liquid Crystals near Phase Transitions: Tracy Lawson, Michael Kordell II, Jacques Perry, Holly Renaud, Dr. Chandra Prayaga and Dr. Laszlo Ujj

*UWF student Chelsea Lovrekovic on her adventure with Extreme Chase Tours*



*Dr. White's Software Engineering II class*

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## Class project nets virtual tour

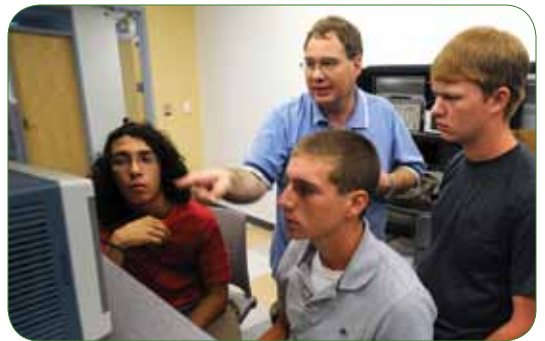
Computer science and software engineering students in Dr. Laura White's Software Engineering II class tackled the development of the virtual tour of the new school of science and engineering building over the spring semester. For their class project, they were assigned the task of showcasing the innovative spaces in the new building by developing a floor-by-floor "walking" tour. Virtual visitors can explore the building and see the different views and perspectives that other visitors enjoy. We invite you to visit our site and take the tour: <http://uwf.edu/sse/tour/index.cfm>.

## School of Science & Engineering Outreach

Thanks to a generous gift from AT&T, the School of Science and Engineering Discovery Innovation Center has been created to allow school-aged visitors an opportunity to experience hands-on activities that will enhance their interest in science and math. To learn more about this field trip opportunity, please visit the Web site: <http://uwf.edu/sse/>.

Students from Escambia County engineering academies participated in Extreme-Engineering Day during June and took part in a typical lab exercise taught by Dr. Andreas Fuchs, electrical and computer engineering faculty member.

*Students attend the Extreme-Engineering Day*



## Senior Engineering Project benefits community

Electrical and Computer Engineering students **Carol Chanley** and **Ashley Oram** partnered on a senior design project that centered around the installation of PV Solar panels and the creation of a mini-lab for the kids at the Escambia County Boys and Girls Club. As a result of this project, both students were able to complete their required senior design course and make a lasting contribution to the community.

As students, Ashley and Carol were active participants in the Society of Women Engineers student chapter and have coordinated numerous outreach activities, including Girl Scout events and e-week activities.

## BEST Robotics

The University of West Florida is the proud home of Emerald Coast BEST Robotics hub. BEST stands for Boosting Engineering, Science & Technology and is a non-profit, volunteer-based organization whose mission is to inspire students to pursue careers in engineering, science and technology through participation in a sports-like, science and engineering-based robotics competition.

The BEST Robotics competition is designed to help students prepare for entry into Florida's high-growth, technology-oriented workforce by teamwork, problem-solving, project management and pride in task completion.

This is accomplished each fall as middle- and high-school students come together to compete in a head-to-head engineering-based robotics competition. Each student team has six weeks

to design and build a remote-controlled programmable robot to solve a problem or perform a specific function. Students build their robots from a materials kit provided by the hub. Each team is judged on its robot performance, oral presentation, table display, project notebook, spirit and sportsmanship.

For the past three years, hundreds of students and spectators across Northwest Florida have participated in this exciting event. This year's theme is Total Recall and is scheduled for October 23, 2010, in the UWF Field House. The funding of hub operations depends entirely on corporate and individual sponsorships. A special thanks to the 2010 sponsors: AT&T, Bit-Wizards and UWF.

To learn more about BEST Robotics and Volunteer opportunities, please visit <http://uwf.edu/ece/emeraldcoastbest/> or contact hub director Bill Weber at [wweber@uwf.edu](mailto:wweber@uwf.edu).

*BEST Robotics*



# Gifts Make a Difference

Private gifts are becoming increasingly important to the University of West Florida. Whether they are unrestricted, earmarked for equipment, fund a faculty position, enhance academic programs or support student scholarships, gifts make a significant impact. Since the grand opening of the school in February 2010, several donors have shown their commitment to higher education by making generous contributions to the School of Science and Engineering. Their lasting investments will benefit our students and programs for years to come.

## DRS Technologies Endowment

DRS Training & Control Systems, LLC, a division of DRS Defense Solutions, LLC, has established a new endowment in the University of West Florida School of Science and Engineering that will provide ongoing support to the university's Unmanned Systems Program.

This program provides students with a unique learning opportunity that increases their knowledge of engineering through hands-on projects. Current teams include Autonomous Underwater Vehicle (AUV), Unmanned Aerial Systems (UAS) aircraft team and a robot team, which will be capable of providing tours in the new UWF School of Science and Engineering Building. The aircraft team has performed very well on the national and international level, placing fourth overall in the Association for Unmanned Vehicle Systems competition in 2009. The goal of the program is to expand the number of teams and incorporate more students and disciplines as resources become available.

"Numerous employees at DRS Defense Solutions are involved with unmanned systems so we support this program and look forward to enhancing the learning environment these students will have in their labs" said Steve Potts, vice president

of business operations of DRS Training & Control Systems. "We look forward to strengthening our relationship with UWF and the results these teams will have in their respective competitions."

In addition to the endowment, the company has provided in-kind donations, internships and employment opportunities for UWF students. Their engineers have also been involved in the unmanned systems review events, where students present to industry professionals in an effort to become better prepared for their actual competitions.

"We are very grateful for industry partners like DRS Technologies who provide much needed support and practical experiences for our students" said Leo ter Haar, director of the School of Science and Engineering. "Their contribution, along with their genuine interest in our program, provides an incredible boost to our students. We are very grateful for their friendship."

## Unmanned Systems Team Members



### National Defense Industrial Association announces new scholarship

The Gulf Coast Chapter of the National Defense Industrial Association, a government/industry non-profit organization, recently established a new NDIA School of Science and Engineering Scholarship Endowment, which will generate need-based support for students from the greater Eglin community who attend UWF and major in one of the school's disciplines. These include computer science, computer and electrical engineering, math and physics.

This gift marks the second scholarship endowment that NDIA has created at UWF. The first one was established in 2004 to benefit students from the greater Eglin community who are pursuing a bachelor's degree in engineering or other technical program. Since its creation, a total of \$11,000 in scholarships has been awarded to 10 students.

"The University of West Florida is extremely grateful for the support that the National Defense Industrial Association, Gulf Coast Chapter continues to provide to UWF students. We are honored their membership has decided to invest in our students with a second endowment. Their ongoing commitment to our institution is outstanding," said school director Leo ter Haar.

**“NDIA, Gulf Coast Chapter, is proud to announce their recent UWF scholarship endowment. Providing scholarships to students is just one way that NDIA is empowering men and women to succeed and advance in technical studies and careers. NDIA, in partnership with UWF, will strive to continue to provide important educational opportunities on the Gulf Coast.”**  
—Missy Ward, NDIA board member

NDIA is a non-profit educational association representing industry, government and all military services. Nearly 1,000 companies and 26,000 individuals build their businesses, careers and the future of the industrial base through NDIA membership. NDIA provides a forum for the interchange of ideas and technology between government and industry. It is in a key position to shape issues and influence defense policies through its chapters and divisions covering key facets of defense and is a 501c3 organization. The mission of the Gulf Coast Chapter is to support its members. Membership defines the needs and goals of this chapter through networking, sharing of information and socializing in positive and enriching environments.

### Former NASA engineer generates support for future women engineers

In 2006, JoAnn Morgan, retired NASA engineer and one of the first appointed members of the UWF Board of Trustees, issued a challenge to UWF to establish an initiative that would encourage young girls to participate in science and math classes



*JoAnn Morgan*

in preparation for college and a career in science and engineering. She offered to provide gifts to establish a scholarship endowment. Since then, a group of professional women engineers and educators formed the UWF Women in Engineering group. They meet informally to network and collaborate on related projects and outreach efforts.

"A few years ago, I was a trustee at UWF and attended graduation with the other trustees. I was very disappointed that the few engineers receiving degrees were all men. The next time there was only one woman awarded a degree, so I started talking with

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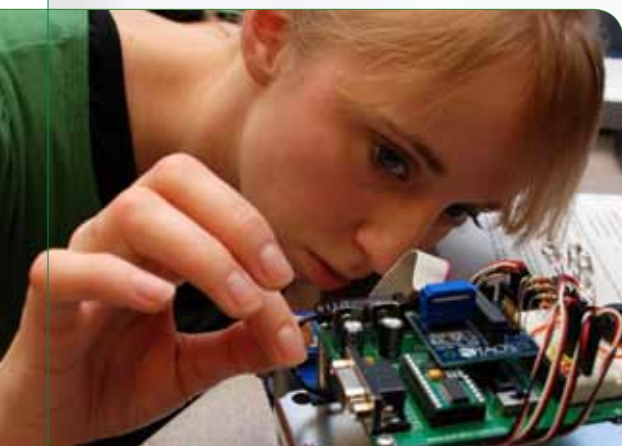
### Gifts cont. from page 9

officials at the foundation and in the university about why at a university where nearly 60 percent of the enrollment were women, there were so few in engineering. I also remembered how hard it was when I was attending university to work at two jobs and go to school. Money does help and especially is meaningful to women who may be mothers, or working to attend school or one of several in their family in school... and many other reasons. Lastly, I have a great passion for engineering as a field of great importance in our country and key to solving many of the problems of today and tomorrow. Our country lags behind many countries in numbers of engineering students. We need the creativity and brainpower, as well as the integrity and energy that women can bring to the field. I look forward to seeing this endowment grow and appreciate the contributions that organizations and individuals have added to my contributions to get the endowment funded.”

— JoAnn Morgan

Thanks to JoAnn’s gift and matching gifts from Engineering-Week committee, Florida Engineering Society, Gulf Power Company, Society of American Military Engineers and members of the UWF Women in Engineering group, a new endowment has been established at UWF. The first award will be made during 2011.

To learn more about the UWF Women in Engineering group and how to support this scholarship, please contact Gretchen VanValkenburg at [gvalkenb@uwf.edu](mailto:gvalkenb@uwf.edu) or Laura White at [lwhite@uwf.edu](mailto:lwhite@uwf.edu).



## Professional Organizations Strengthen School

Members of professional science and engineering organizations recognize the value of partnering with students and faculty. They are strengthening their ties to UWF by providing networking opportunities for students, extending invitations to technical education seminars and providing annual and endowed scholarship support. Thanks to our current partners: Association of Information Technology Professionals, Association for Computing Machinery, IT Gulf Coast, IEEE, Society of American Military Engineers, Florida Engineering Society and Society of Women Engineers.

To learn more about private giving and partnership opportunities that support the school and ways in which you can make a lasting impact, please contact Gretchen VanValkenburg at [gvalkenb@uwf.edu](mailto:gvalkenb@uwf.edu) or 850.474.2875.

## Gulf Power cont. from cover

In addition to Gulf Power's generous contributions, more than 70 UWF students have participated in the Gulf Power co-op program, with many becoming full-time employees upon graduation. Additionally, the company and its employees continue to provide significant support to Emerald Coast BEST Robotics, hosted at UWF. See page 7 to learn more.

## Tornado Chasing cont. from page 5

destruction in its wake as the group watched from a safe distance. "It was so cool," said Lovrekovic, "but there was some incredible devastation."

After the storm chasing tour, she began to gather information and programs to use in furthering the methods she used on the tour for her pro-seminar.

"I'm going to have to do some research on my own," said Lovrekovic, "but I was able to get enough information to see what I need to look at. Once I do it on my own in my pro-seminar, I will be able to understand the concepts even better."

Though this was an exciting experience as well as a life-long dream of hers, storm chasing is not on her list of potential career choices. Her goal is to become a teacher, and she hopes she can use this experience to inspire her students with the real-life applications that mathematics can offer.

"It could be a great hands-on way to draw interest from my students and show them that math is more than just punching numbers; it can be exciting, too."

To read more about the UWF Department of Mathematics and Statistics proseminar program, go to [uwf.edu/mathstat/undergraduate/documents/ProseminarGuide.pdf](http://uwf.edu/mathstat/undergraduate/documents/ProseminarGuide.pdf).

—Kelly Dieckmann

## Recent engineering graduate benefits from Gulf Power co-op

Brandon Eckard graduated in May 2010 with his bachelor's degree in electrical engineering and was immediately hired by Gulf Power based on his co-op experience with the company. "After an alternating co-op with Gulf Power Company for two years, I was able to begin working right out of college with the practical experience that I had gained. With the help of the UWF Career Services, I was able to build a professional résumé and meet the potential employers at career fairs hosted at UWF, which led to my co-op," says Eckard. He recommends all students utilize Career Services and credits them for providing guidance to him to achieve his educational and professional goals. Brandon is an EIT (engineering in training) in the Technical Services Department at Gulf Power.

*Brandon Eckard –  
Gulf Power co-op  
student/ECE  
May graduate*



## Building Visitors

The School of Science and Engineering is thrilled with the number of visitors who have toured the new building. Even though academic schedules take first priority for space allocation and assignments, special tours and room reservations are available in the building. In order to better accommodate the growing number of requests and to provide excellent customer service, the school has implemented a new on-line reservation process. Please visit the following Web site to make a request: <http://uwf.edu/sse/visitor.cfm>

## Upcoming Events

**Come visit us during UWF Open House, Oct. 2 or Nov. 20, 2010**

**BEST Robotics: Oct. 23, 2010**

**Software Engineering Research Center Showcase: Nov. 17-19, 2010**

## Photos

**1.** UWF President Judith Bense and Dr. Leo ter Haar **2.** Dr. Dimandis (left) with UWF trustees Nancy Fetterman (center) and K.C. Clark **3.** Dr. Franco Fedele, math faculty, greets Jay Windham **4.** Van de Graaff generator demonstration **5.** Holodeck **6.** SSE classroom **7.** SSE laser lab



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