Douglas Hutchings, founder of Silicon Solar Solutions, closed the NASDAQ on August 20, 2010, as a result of winning the Stuart Clark Venture Challenge. Douglas completed his PhD under the supervision of Dr. Magda El-Shenawee in May 2010, and joined the company he founded as the full time CEO. The entire company was present at the closing, which includes Dr. Hameed Naseem, Seth Shumate, and Khalil Sharif. Among the distinguished guests at the event was the Dean of Engineering, Ashok Saxena, and the Executive Director of the Arkansas Economic Development Commission, Maria Halley. Silicon solar Solutions is commercializing University of Arkansas technology for significantly reducing the cost of silicon based solar cells which was developed by Dr. Naseem and others at the High Density Electronics Center (HiDEC). The company was also mentioned by Arkansas Governor Mike Beebe in one of his weekly addresses. The Governor stated “Silicon Solar Solutions is one example of a company that turned start-up ideas into entrepreneurship with the assistance of Innovate Arkansas. The joint program of AEDC and Winrock International helps new technology-based companies become viable firms that create jobs and enhance our economy. With programs like these, which facilitate economic development and diversify industry, Arkansas will continue to develop home-grown, eco-friendly, energy-efficient technology that is at the core of 21st-century business development.”

In recent months, Silicon Solar Solutions has placed first in several business competitions, winning over $85,000 in prize money and over $40,000 in legal fees.

“AWESOME!” was only one of the words students used to describe the summer camps sponsored by the College of Engineering this July. The first camp, Explore Engineering I, was for local students entering the 6th and 7th grades. They spent the week exploring the different types of engineering, visiting fun interactive labs, and having tons of fun. On Thursday, July 15, the day was devoted to exploring electrical engineering by designing and building solar cars and a windmill. Explore Engineering II was a similar camp for students entering the 8th and 9th grades.

The week of July 26-30 brought 10-12th graders to campus for the Engineering Summer Academy, where they worked with representatives of the Electrical and Mechanical Engineering Departments to build a solar boat. The week started with an opportunity to view the boat entered by the University in Solar Splash 2010. The final day of camp involved a solar boat competition held at Lake Wedington, west of Fayetteville.
Dear Alumni, students, friends of the department and colleagues,

Welcome to our fall 2010 issue of our departmental newsletter. Fall 2010 started with a bang in various fronts; the number of undergraduate students is 157 (up from 131 students in the previous academic year; this number includes only sophomore, junior, and senior students as there is now a common freshman engineering program), the number of graduate students is 77, and research activities continue at full speed with several faculty members receiving research awards. Example of the latter is awards on the order of $2.6M per year for a total of 5 years received from the National Science Foundation under the Experimental Program to Stimulate Competitive Research (NSF-EPSCoR program) by two state-wide research groups led by Dr. Vasundara Varadan and Dr. Alan Mantooth. The main goal of this NSF program is to build infrastructure in the field of photovoltaic systems covering areas from materials to grid-connected systems.

Dr. El-Shenawee, who was promoted to professor this fall 2010, and Dr. Carol Gattis, will host, at the end of October, a national workshop on breast cancer research; NSF, Ozark Susan Komen for the Cure, and the University are sponsoring this workshop bringing to campus well known specialists in the field.

Our recruitment activities intensified this summer 2010; the department hosted 3 summer camps for 6th-7th, 8th-9th and 10-12th graders, with the Dean’s office recruiting staff organizing and conducting the camps with support from our staff. The first two camps were one-day camps and the third one was a week-long camp co-hosted with mechanical engineering, where the students built a solar powered boat.

We continue to improve our website and hope that you visit it; and we welcome any comments that you may have. Also, send us news of your accomplishments; we would like to post them on our website.

We are still short of reaching the goal of $25,000 endowed funds for the student scholarship in the name of Prof. Bryan Webb who passed away this past January. If you want to contribute, please, contact Mrs. Carmen Hamilton, our Alumni Affairs Coordinator. I thank you in advance for your contributions.

Lastly, stop by and visit us if you are in the area; we want to hear from you.

Kind regards,
Juan Carlos Balda

$5,495,125 in research funding awarded this past year, including NSF grants to Magda El-Shenawee in the amount of $91,850, Alan Mantooth, in the amount of $565,000, Scott Smith in the amount of $122,120, and Jingxian Wu in the amount of $181,710

Department Highlights

Magda El-Shenawee was promoted to the rank of Full Professor within the Department.

Brady Hurlburt received the 2010 Presidential Scholar award. Each year the University recognizes one student in each undergraduate school and college, and one law student on the Fayetteville campus as Presidential Scholars. This program was established in recognition of James E. Martin as President of the University of Arkansas. Each Presidential Scholar is recognized among upper-class students on the basis of grade-point average and receives an award of $1,000. Brady is from Nixa, Missouri.

Kazem Sohraby, professor of Electrical Engineering, will be Technical Program Co-Chair for the 18th International Conference on Telecommunications, which will be held in May 2011 in Cyprus.

T.A. Walton, Managing Director of NCREPT/GRAPES, and the College of Engineering Recruitment staff hosted several visits from Arkansas schools this year. Students were given valuable information to assist in college decisions and preparations. They toured several colleges, buildings, and laboratories as well as meeting a number of people from the Department, College, and University. The schools involved were Lee County High School, Forrest City High School, Asbell Elementary, and Westwood Elementary.

Students working on research for Alan Mantooth and Simon Ang recently attended a “meet-and-greet” sponsored by Texas Instruments in Dallas. The students discussed their various projects with TI managers during two poster sessions and reconnected with University of Arkansas alumni over dinner. Presentations included the NASA-funded SiGe project, GAANN Wireless Sensors project, SOI High Temperature project, as well as others. The two-day event was coordinated by alumni Tea Williams and Tsedeniya Abraham.
**2010 NSF Advances in Breast Cancer Research Workshop**

Trevor Hempel was selected as a 2010 spring intern with NASA’s Undergraduate Student Research Program (USRP). Hempel spent the semester at the NASA Glenn Research Center in Cleveland, Ohio. He worked with NASA mentor Gary Hunter during his 15 weeks as a full-time intern in the Communication, Instrumentation and Controls Division. Hempel worked with micro-sensors to test chemicals at high temperatures. Current applications for these sensors include leak detection, emissions monitoring, fire detection, human health monitoring, and environmental monitoring.

Trevor Hempel has done an outstanding job this spring and contributed in a number of significant ways to our program,” commented Hunter. Along with his USRP internship, Hempel is involved with Tau Beta Pi, Etta Kappa Nu, and the National Scholars Honor Society at University of Arkansas.

Hempel received his Bachelors degree in electrical engineering from the University of Arkansas in December of 2009 and is currently pursuing a Master’s degree in electrical engineering.

**REU WSN Program**

Drs. Scott C. Smith and Jingxian Wu hosted a Research Experiences for Undergraduates (REU) program on Wireless Sensor Networks (WSN), where 7 students from all over the U.S. worked in the professors’ labs for 10 weeks over the summer, researching, designing, and building two WSN systems: a Remote Digital Wildlife Cam Triggered by Spatially Deployed Infrared Sensors and a Smart Home Monitoring System. The REU program is funded by the National Science Foundation in partnership with the Department of Defense, and will be continued for the next two summers. See [http://comp.uark.edu/~smithsc/REU/index.html](http://comp.uark.edu/~smithsc/REU/index.html) for more information. This year’s students were: Bill Collins and Daniel Sanchez from Sonoma State University, D Hearn from Mississippi Valley State University, Zach Sharp from Arkansas Tech University, and Peter Killeen, John Monkus, and Biz Klessig from University of Arkansas.

**NCREPT/GRAPES Welcomes George Washington Carver Summer REU Students**

Two students were selected as George Washington Carver Project Interns in the Department of Electrical Engineering. Jermaine Dory, a rising sophomore Electrical Engineering major at Norfolk State University, and Mario McGregor, a rising senior Math/Computer Science major at Fort Valley State University worked on several projects during the 8-week summer program including solar panel projects and the construction of other semi-permanent SMART grid demonstration models for the Fayetteville Public Library and National Center for Reliable Electric Power Transmission (NCREPT). The summer work for these interns was overseen by their site mentors, Dr. Roy McCann, Professor, Director of Control Systems Laboratory in Electrical Engineering and Mr. T.A. Walton, Managing Director of GRAPES/NCREPT Research Centers.

The purpose of the George Washington Carver Project is to help increase the racial diversity of the graduate and professional student body on the UA campus. The Carver Project utilizes mutually beneficial institutional relationships with Historically Black Colleges and Universities (HBCUs) to provide internships for participating HBCU institutions with a paid summer internship under the supervision of a UA faculty member in various academic disciplines including Electrical Engineering.

Jermaine Dory, Mario McGregor
FEATURED ALUMNI CORNER

Dr. Bami Bastani is the Chairman of VSSB Medical Nanotechnology Inc. as well as B2 Global Consulting LLC focusing on corporate transformation. He Serves on the Board of Directors of CorMedix with IPO March 2010 (AMEX: CRMD), Nitronex Corporation and the Advisory Board of Petra Solar Inc.

Dr. Bastani draws his expertise from his many years at top-level positions in many knowledge based organizations and a successful track record of implementing, transforming and managing innovation at several top high-tech companies, including Intel, National Semiconductor, Fujitsu Microelectronics and ANADIGICS. He has been a driving force in innovation in the fast moving high-tech field.

Dr. Bastani is the former President and CEO of ANADIGICS, Inc. (NASDAQ:ANAD) where he led the company for a decade (1998-2008). ANADIGICS is a leader in RF semiconductor solutions for the wireless and wireline Broadband Communication industry.

Prior to ANADIGICS, Dr. Bastani served in various leadership positions at Fujitsu Microelectronics, National Semiconductor, and Intel Corporation. At Fujitsu Microelectronics, he was the EVP of the System LSI Group. At National Semiconductor, he served in several key executive positions including VP and GM, Embedded Technologies Division, VP Memory Products Division, and prior to that served as VP of Technology Development for the corporation. At Intel, he was involved in memory and microprocessor technology development.

He has received numerous recognitions, including: 2007 American Electronics Association (AeA) NJ & PA High Tech CEO Hall of Fame; 2007 ANADIGICS NJ Electronic Company Of The Year by New Jersey Technology Council; Opened NASDAQ Stock Market twice (2007 & 2000); Featured in real time interviews on CNBC Power Lunch twice; National Semiconductor Business Excellence & Mission Awards; Intel Corporation Individual Achievement Award; Ohio State University Distinguished Alumni Award; Shafstall Award, University Fellow; and University of Arkansas Distinguished Alumni Award; Electrical Engineering Academy Award, School of Engineering Sr. Scholar Award.

He previously served on the Board of Directors for ANADIGICS; Glowpoint Inc; Board, Audit Cte, Nominating Cte, Comp Cte; GlobespanVirata (NASDAQ: GSPN) till its sale to Conexant, and American Electronics Association (AeA) national organization.

Dr. Bastani, has a PhD (1980) in Solid State Electronics and MSEE (1977) from The Ohio State University and a BSEE from the University of Arkansas (1976). Dr. Bastani holds three U.S. Patents and several publications. He was inducted into the Arkansas Academy of Electrical Engineers in 1996.

Dr. Bastani and his wife, Janice, reside in Basking Ridge, New Jersey.