

Roy G. Perry

College of Engineering

POSSIBILITIES

SPRING 2012 ENGINEERING NEWSLETTER

FOR YOUR FUTURE

Roy G. Perry College of Engineering Expanding Student Support as Pathway to Better Graduates

“Good enough is no longer good enough,” reiterated Dean Kendall T. Harris as the Roy G. Perry College of Engineering (COE) faculty and staff met in mid-January at the New Elec-

trical Engineering Building to map out plans for the 2012 Spring Semester. That statement is just as relevant in April.

student leadership qualities.” Dr. Harris talks about improvements in attrition and retention rates (an overall 63 percent of all students) and rising external funding (approaching \$10 million), but it is the upward movement and nurturing of COE undergraduate and graduate students that takes precedence over the college’s other exceptional accomplishments.

In addition, the dean proudly points to the growing movement to establish and sustain international student



Dr. Kendall T. Harris
Dean of the Roy G. Perry
College of Engineering

exchange programs. “Most people are surprised to learn that about 60 percent of the Prairie View faculty already have international connections and we are working hard to take these assets to the next level.”

Dean Harris is consistently upbeat about the accomplishments of his college which continues to blaze new territory in initiatives designed to better educate and support students who intend to someday become some of the most innovative scientists, brilliant engineers and creative technicians in the workforce. “We want to prepare our graduates to take over the leadership roles of tomorrow,” he told the group. “We are pushing our faculty harder and we must do those little extra things required to develop



Delegates to the 17th Annual AMIE Conference hosted by the Roy G. Perry College of Engineering in September pose for a group photo on the steps of the Don K. Clark Juvenile Justice and Psychology Center.



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INSIDE

COE Has Strong Presence at Egyptian Conferences

World ecology and earth science research took the spotlight for Dr. Safwat H. Shakir during 2011 as a senior research scientist with the Chemical Engineering Department of the Roy G. Perry College of Engineering was selected to make scientific presentations at three prestigious international conferences.

Dr. Shakir, who serves as director of the Texas Gulf Coast Environmental Data (TEXGED) Center at Prairie View A&M University (PVAMU), began his trio of presentations January 3, 2011 with an appearance before the international scientific community at Ain Shams University and the Egyptian Academy of Science.

His presentation on *Ecological Footprint of Water Resources in Egypt: Assessment and Future Prospective* was part of the international conference on “Water Resources in Egypt.”

On June 1, 2011, Dr. Shakir and Dr. Irvin W. Osborne-Lee, head of the PVAMU Chemical Engineering De-



Dr. Kendall T. Harris, Dean of the Roy G. Perry College of Engineering, takes a little time off to visit the pyramids while studying and observing the Egyptian higher education system with Dr. Safwat Shakir of PVAMU.

partment, delivered a presentation on *Modeling and Evaluating the Global Energy Flow in Ecosystems and Its Impacts on Ecological Footprint* during the 5th International Conference on Ecological Modeling in Italy.

According to Dr. Shakir, this presentation will be published this year as a

chapter in the book titled, “Models of the Ecological Hierarchy from Molecules to the Ecosphere”. The book is edited by Professor Jordan Ferenc and Sven Erik Jørgensen and is slated for publication by Elsevier.

A paper about the *Ecological Energy Footprint in Egypt and Its Impacts on Development* was presented December 18, 2011 at Sharma-El Sheikh, Egypt by Shakir with Dr. Kendall Harris, Dean of the Roy G. Perry College of Engineering, and Dr. Osborne-Lee. The December 17-20 conference addressed sustainable development in Arab and African countries. Shakir said the presentation is slated to be published in the “International Journal of Sustainable Development, 2012”.

In late 2011, Dr. Shakir’s PVAMU students presented their research during the Texas A&M University Pathways Research Symposium. Prairie View students were among more than 500 undergraduate and graduate students making oral and poster presentations during the symposium which attracted TAMU system students representing a variety of disciplines ranging from education to life sciences to mathematics.



From the left, Dr. Irvin Osborne-Lee, head of the Department of Chemical Engineering and Dr. Safwat Shakir are joined by Dr. Kendall T. Harris during a recent visit to Ain Shams and the Egyptian Academy of Science.



Senior Jeren Brewer is flanked by junior Jameka Griffin, left, and Mikaela Dulan as the three celebrate recent “outstanding” Vanguard Awards from the Region V NSBE Conference.

NSBE Honors Three PVAMU Standouts

Three Prairie View A&M University (PVAMU) undergraduate students were honored in November for their initiative and achievements while engaged in activities with the Region V National Society of Black Engineers (NSBE).

Returning from the St. Louis, MO conference with 2011 Vanguard Awards were Jeren Brewer, president of the PVAMU Chapter of NSBE and winner of this year’s “Most Outstanding President” award; Jameka Griffin, who was named for her second “Pre-College Program of the Year” award in as many years; and Mikaela Dulan, who earned the organization’s “Community Service Program of the Year” award.

Jeren is a senior electrical engineering major from DeKalb, TX

Jameka is a junior chemical engineering major from Houston and serves as the NSBE Pre-College Initiative chairman.

Mikaela is a sophomore electrical engineering major at PVAMU. The Dallas native is the chairman of NSBE’s Community Service efforts at PVAMU.

Computer Science Zeros In on Thurgood Marshall Programs

Dr. Lin Li, assistant professor and graduate program coordinator for the Computer Science Department in the Roy G. Perry College of Engineering, (COE) put the emphasis on activities involving the Thurgood Mar-



Dr. Li, center, is joined by Roy G. Perry, right, at the Texas Science Festival for 2011.

shall College Fund (TMCF) in 2011.

A weekend TMCF workshop was conducted on Nov. 12-13 involving students from area high schools. Students also took part in a National Science Foundation-sponsored project workshop on May 19-20 in an activity that used faculty from PVAMU and Texas Southern University. Other students took part in the Texas Science Festival for 2011.

In addition, a new Thurgood Marshall \$100,000 grant under a cooperative project with the Department of Energy became a reality.

The TMCF partners with the Department of Energy to contribute to the advancement of STEM (Sci-

ence, Technology, Engineering, and Mathematics) disciplines within the Historically Black Colleges and Universities (HBCU) communities. The organizations serve as conduits of resources regarding STEM educational programs, college funding, fellowships, job opportunities, and career development.



Dr. Li, top right, is joined by Thurgood Marshall College Fund students.

Roy G. Perry College of Engineering Reporting



LSAMP Students Gather for Contest



Visiting School Kids Enjoy Virtual Lab



AMIE Delegates Tour PVAMU Labs

The Roy G. Perry College of Engineering (COE) reported a banner year of student involvement, recruitment and participation in 2011.

COE administrators, faculty and staff concentrated on the tasks of introducing potential Prairie View A&M University (PVAMU) enrollees to the opportunities and challenges of higher education through on-campus summer programs and off-campus outreach programs in the students' home school district. Other activities included Texas A&M University System student competitions, special conferences and outstanding PVAMU Engineering Week activities.

7th Annual LSAMP Symposium

The 7th annual Louis Stokes Alliance for Minority Participation (LSAMP) Symposium in February 2011 brought together students from Texas A&M University at College Station, Texas A&M University at Corpus Christi and Prairie View A&M University. All are members of the Texas A&M University System (TAMUS) LSAMP Alliance.

During the two day event, students attended several workshops focused on graduate school opportunities, funding for graduate school and explored insight on international research experiences. On the final day, participants presented their research during a poster session. More than 50 posters were displayed and judged.

Three students from PVAMU were honored during the research poster session. Tied for second place were biology major Asha Hobbs and electrical engineering major Trenton Johnson. Alexis Crawford, a mechanical engineering major, tied for third place. "Our students did extremely well in the research competition," said Dr. CherRhonda M. Smith-Hollins. "They continue to do great re-

search with the outstanding faculty of the Roy G. Perry College of Engineering as well as the College of Arts and Sciences. The Symposium ended with a closing banquet at Hotel ZaZa in Houston.

Roy G. Perry College of Engineering Special Week in 2011

Many exciting things happened for students and faculty during the 2011 Engineering Week hosted by the Roy G. Perry College of Engineering (COE) in February 2011.

Sticking with tradition, the week began with the Celebration of Excellence Banquet where recognition was given to outstanding faculty, staff and students.

IBM Corporation was the recipient of the 2011 Corporate Partner Excellence Award, while Spectra Energy receiving the Emerging New Partner Initiative Award.

Mrs. Marilyn D. Johnson, Vice President for Market Development at IBM Corporation, was guest speaker for the evening. COE officials finished the week by offering several professional development seminars, community service events and the 7th Annual LSAMP Symposium.

AMIE Conference Advancing Minorities' Interest in Engineering

The Roy G. Perry College of Engineering (COE) hosted the 2011 Ad-



Food Is the Word During E-Week

Banner Year in Student Recruitment, Participation

vancing Minorities' Interest in Engineering (AMIE) Conference, at the Crowne Plaza Northwest in Houston and on the PVAMU campus.

The theme was "Impacting Tomorrow's Work Force Transition. The annual conference is geared toward assisting businesses in their efforts to diversify their workforces and prepare for the 21st Century and beyond.

The Council of Engineering Deans of Historically Black Colleges and Universities (HBCUs), engineering professionals, military personnel and leaders from top corporations across the United States were brought together to develop fresh strategies that are expected to foster more interest in the engineering profession among minority students.

The conference began with a Dean's Reception at the downtown Houston Club hosted by Dr. Kendall Harris, Dean of the Roy G. Perry College of Engineering.

Dr. Julian Earls, retired director of NASA Glenn Research Center (GRC) inspired conference attendees with his address during the opening session held on Wednesday, Sept. 7, 2011 followed by a networking luncheon and Dean's Roundtable discussion.

Mr. Lloyd W. Howell, Jr., 2011 Black Engineer of the Year, addressed conference attendees at the closing banquet. He encouraged participants to keep championing the cause so that other students may be impacted and encouraged to pursue careers in engineering.



Young Visitors Hear About NASA

Summer REU Program Research Experiences for Undergraduates

The Roy G. Perry College of Engineering hosted a five week summer Research Experience for Undergraduate (REU) program July 7-Aug. 5th in conjunction with the second summer session term at PVAMU.

Participants worked with faculty in several research areas across campus.

REU participants worked with faculty in biology, physics, electrical engineering, chemical engineering and engineering technology on research projects that encompassed diverse areas within the science, technology, engineering and mathematics (STEM) disciplines. At the end program, students presented their research to faculty, staff and other summer REU participants in the COE and the College of Arts & Sciences.

Harmony School of Discovery

The Harmony School of Discovery hosted by the Roy G. Perry College of Engineering on February 23, 2011 was hailed as a highly effective outreach program for young students who might one day seek careers in engineering.

Dean Kendall T. Harris welcomed the students who went on to receive a brief introduction to engineering, engineering technology and computer science presented by Associate Dean, Dr. Shield Lin.

Students were given a PVAMU campus tour and treated to lunch at the Memorial Student Center.

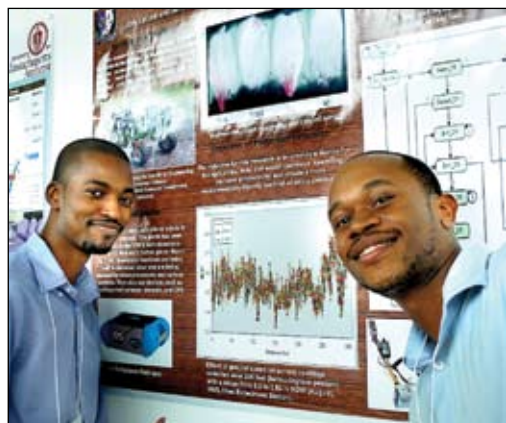
Following their lunch, students enjoyed a demonstration of a robot excavator presented by Mr. Kevin Lee.



Dean Harris Counsels Harmony Kids



AMIE Leaders Take Engineering Tour



LSAMP Students Show Off Poster



Harmony Kids Visit Engineering Lab

Roy G. Perry College of Engineering Names 2012 Student, Faculty, Research, Staff Service Awards

The Celebration of Excellence Banquet hosted in February by the Roy G. Perry College of Engineering again served as one of the major highlights of 2012 Engineering Week activities at Prairie View A&M University.

Dr. Kendall T. Harris used the banquet at the Willie A. Tempton Memorial Student Center to honor 36 outstanding students, four outstanding faculty and COE staff members and pay recognize two top corporate award recipients.

Lockheed Martin earned the Corporate Partner Excellence Award for 2012, being recognized for many years of corporate support of PVAMU students through its “store-front” operations, one of only two such academic-focused operations of its kind in the nation. The company’s program manager of facilities, development and operations, at Johnson Space Center, Laurie Labra, was the evening’s guest speaker.

This year’s Emerging New Partner Initiative Award went to NAVSEA whose representative, Jim VanAntwerp, assisted Dean Harris in the presentation of all remaining awards.

The 2012 outstanding students by departments and listed from freshman through senior in order were:

- Chemical Engineering – Bruna Menezes, Gavannie Beharie, Bal Gurung and Jerry Jose

Ms. Myrtle Thompkins second from left, is congratulated by NAVSEA’s Jim Van Antwerp, left, Dean Kendall Harris and Lockheed Martin’s Laurie Labra, right, as the 2012 winner of the Outstanding Faculty Teacher Award.



- Civil and Environmental Engineering – Sanjay Tillmutter, Issa Joseph, LaSasha Walker and Don Nash II
- Computer Engineering – Reginique Williams, Mariah James, Ivana Sanders and Amie Rollie

- Computer Engineering Technology – Clarence Shields, Angela Newsome, Henry Diop and Crystal Espinoza
- Computer Science – Courtney Williams, Darian Nelson, Kokouevi

Foadey, Karla Wooten, Koma Patolia, MS; and Ibrahim Momoh, MS.

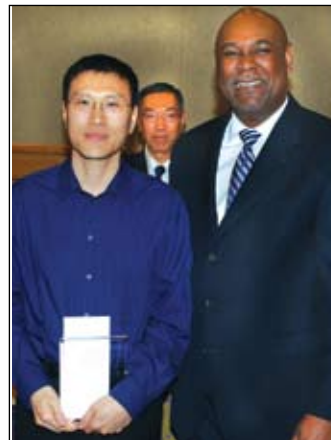
- Electrical Engineering – Elijah Blakenmore, Jesus Pinales, Shawn Lester, Roddrick Jefferson, Eyidayo F. Adebola, MS; and Paul Potier, Ph.D.

- Electrical Engineering Technology – Ricardo Aguilar, Keirra Caldwell, Ike Anyatonwu and Timothy Wilson

- Mechanical Engineering – Jarvis Hall, Kaleb Richardson, Mitchell Williams and Jessica Patterson

The four 2012 faculty-staff “outstanding” award recipients were:

- Outstanding Faculty Teaching Award – Ms. Myrtle Thompkins, associate professor of Computer Science
- Outstanding Faculty Research

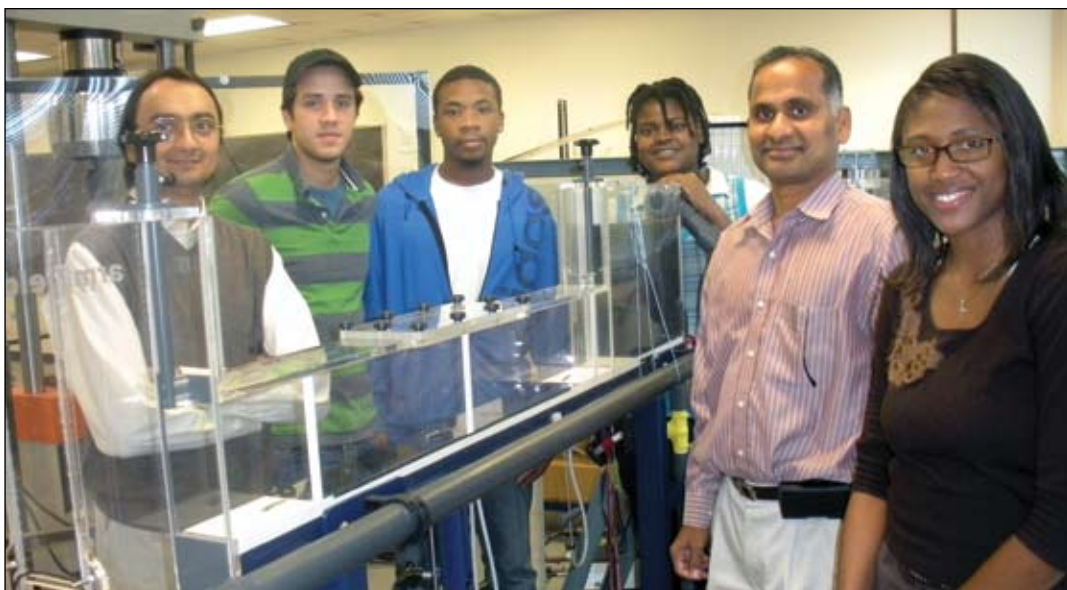


Dr. Lijun Qian, above left, accepts his award as Outstanding Faculty Researcher from Dean Kendall Harris. Clifton O’Neal, above right, is recognized for Outstanding Staff Service.



Dr. Kelvin Kirby, second from left, is saluted by NAVSEA’s Jim Van Antwerp (left), Dean Kendall Harris and Lockheed Martin’s Laurie Labra, right, as winner of the 2012 Outstanding Faculty Service Award.





Working with open channel equipment, from the left, are Dr. Iftekhar Ahmed, Jesus Williams-Sequera, Sanjay Tilmutt, LaSasha Walker, Dr. Raghava Kommalapati, and Tiffany Chatman.

Civil, Environment Engineering Stepping Up

Dr. Raghava R. Kommalapati, associate professor and interim head of the Department of Civil and Environmental Engineering within the Roy G. Perry College of Engineering reports a banner year of major accomplishments and academic advancements highlighted by a \$446,000 allocation from Title III to enhance student learning and improve the quality of graduates through laboratory experiences.



Dr. CherRhonda Smith-Hollins and Panther Ambassadors check Excellence Banquet guest list.

Award – Dr. Lijun Qian, Associate Professor of Electrical and Computer Engineering

- Outstanding Faculty Service Award – Dr. Kelvin Kirby, Associate Professor of Electrical and Computer Engineering, and
- Outstanding Staff Service Award – Mr. Clifton O’Neal, College of Engineering Recruiter

The U. S. Department of Education set aside the funding to assist the Title III civil engineering program.

Dr. Kommalapati said year-one funding is targeted for Prairie View A&M University’s Hydraulics Lab and Environmental Engineering Lab, enabling the purchase of a hydraulic bench, a hydrostatic bench, hydrostatic pressure, impact of jet, pipe flow equipment, a pump test rig and an open channel unit. Year two funding in 2011-12 will use another \$548,255 for continuation of improvements to the Environmental Lab and the Constructional Materials Lab.

The associate professor also oversees the Summer Transportation Institute (STI) program on campus which, in June 2011, hosted 22 students selected from 50 applicants.

The program was funded with \$63,695 by the Federal Highway Administration through the Texas Department of Transportation. Dr. Kommalapati said the intent is to expose students to college life and educate them on careers in the transportation industry. Information in the study or air quality impacts from different fuel blends for transportation were presented by Dr. Kommalapati to students during an

assembly of LSAMP and Eisenhower Fellow students.

Underway since 2000, STI has made more than a half a million dollars in education funding to the campus and has benefitted more than 200 students. Dr. Ramalingam Radah, associate professor of Civil and Environmental Engineering, is STI’s co-director.

The University Transportation Center for Mobility titled “Transportation Workforce Development: Sustaining and Expanding High School Outreach Programs and Multi-Agency Partnerships,” will provide another \$98,635 through July 2012 for transportation issues. Dr. Kommalapati is principal investigator with Dr. Radha as Co-PI.



STI group celebrates activities wearing red safety gear.

Dean Harris Finds Role at PVAMU Just

Why does a hard-charging Ph.D. with multiple degrees in mechanical and aerospace engineering trade the arguably glamorous job of piloting a \$30 million dollar military jet fighter for the more placid lifestyle and re-

Space Exploration Software Simulation Curriculum a “Go”

The Space Exploration Software Simulation Curriculum and Student Training Program will provide \$50,000 in the coming months to develop a formal course in Space Exploration Software Simulation as a technical elective within the Roy G. Perry College of Engineering at Prairie View A&M University.

Dr. Shield Lin, Associate Dean of the College, said the new technical elective will benefit various engineering, computer science and engineering technology majors. The initiative will also be used to train students to work on space-related computer simulations under the supervision of faculty and space industry advisors using an L-3 Communications-funded laboratory located on the first floor of the S. R. Collins Building.

Built on the L-3 Communications infrastructure, the program is also designed to assist students in securing summer internships at a NASA facility or with various space contractors.

Dr. Lin submitted the proposal in response to the Minority Serving Institution Program Development and Collaboration Enhancement Competition. Activities under the program will continue through August 31, 2013, according to the NASA Texas Space Grant Consortium Coordinator Talia Jurgens, who announced the award from offices in Austin.

sponsibilities of a university administrator?

If you're Dean Kendall T. Harris of the Roy G. Perry College of Engineering, the quick answer is his consuming passion for education and his determination to truly make a difference in the lives of and futures of young people.

Clearly, Dr. Harris finds the mental challenge of motivating students who are determined to become tomorrow's engineers, scientists, researchers and educators comparable to the physical adrenaline rush of doing high-G turns in an F-14 Tomcat.

Over the last four years, Dr. Harris and his dedicated faculty can point to a 43 percent engineering enrollment increase at Prairie View A&M accompanied by a 22 percent improvement in freshmen and sophomore students.

It is a remarkable achievement that Harris attributes to one of his PVAMU innovations – the College of Engineering Success Center on the second floor of the C. L. Wilson Building. It is a dedicated space where freshmen and sophomore students can find the latest-technology engineering library and supplemental course instruction by advanced students who are paid to sit in and teach concepts to newer and sometimes struggling first and second year undergraduates.

Harris insists the first two years are critical to the success of students

seeking careers in science, technology, engineering and mathematics (STEM). “That’s where you get your foundation and your concepts,” he pointed out. “I believe that the STEM industry makes this country great.”

Raised by his mother with a sister and younger brother in a single parent household in East St. Louis - an area which, at the time, led the nation in murder rates - Harris said he came to learn that “environment doesn’t dictate where you can go.” His mother saw to it that, without fail, Harris and his siblings spent every summer

in summer school. That unwavering support for the value of the education process led to engineering degrees for Harris and his younger brother and a career as a biologist for their sister.

His talent in math and science classes caused his ninth grade teacher to push him toward an engineering career. Harris recalls that the only engineer he knew back then was a distant uncle who drove trains, something entirely different from his private determination to spend his adult years flying airplanes. This same teacher succeeded in convincing Harris that his mathematics skills and science interest would serve him well as the student of aeronautical engineering.

After graduating from high school at the age of 15, Harris went on to earn his bachelor’s degree in the University of Kansas aerospace program. From there, he made good on his



Dean Kendall T. Harris makes a point with COE students during a meeting at the Electrical Engineering Building.

as Demanding as Flying Jets



Dean Kendall T. Harris, left, enjoys a moment with Dr. Howard Adams, one of the Advanced-Paid Professional Development Workshop speakers during the 2011 meeting at the ZaZa Hotel on “Successfully Navigating Your Career” hosted by the Roy G. Perry College of Engineering.

dream to become a fighter pilot in the military, serving for six years, four on active duty. Despite his tall frame, Harris said he fit comfortably inside the supersonic, twin-engine, two-seat variable sweep-wing Grumman fighter aircraft, most recognizable from its use in the movie, *Top Gun*.

When his armed services career ended, Harris said he was just not interested in becoming a commercial pilot as do many who have successfully flown military aircraft. Instead, Harris went back to college at “Ole Miss” to pursue a master’s degree in mechanical engineering. That was where he met Tyrus McCarty, the first African American in the state to receive his Ph.D. in engineering. With McCarty’s guidance and advice, Harris went on to become the second African American in Mississippi to earn his Ph.D. in engineering.

It was from his association with McCarty and one of McCarty’s friends studying in the same research area that Harris learned the importance

of a strong support system. Today, he urges students to align themselves with “right-thinking people passionate about their own success.”

His students are bombarded with academic encouragement, career counseling and personal development strategies that are designed to move them to the head of the career market. “Your college GPA will get you invited to the table, but how you perform keeps you there and moves you closer to the head of the table,” he explains.

The Dean believes the immediate future for college graduates lies in the need for electrical and computer engineers, but he also advises students to get a solid understanding of the opportunities in energy studies which touch on many areas of traditional engineering.

“It’s great being a scientist or engineer with the chance to discover new things, to help people, to help society,” he said. “It’s a great feeling.”

L-3 STRATIS brands College of Engineering as ‘Ideal Teammate’

Prairie View A&M University (PVAMU) in general and the Roy G. Perry College of Engineering in specific were honored by L-3 Communications STRATIS for serving as the “ideal teammate” for excellent and extensive performance in a NASA Johnson Space Center contract involving the Engineering Student Success Center and the L-3 Space Exploration Software Simulation Lab.

The project was named the Civilian Historically Black Colleges and Universities/Minority Institution of the Year (HBCU/MI).

Dr. Shield Lin, Associate Dean of the College, was presented the award by L-3 Senior Program Manager Bob Zehentner and L-3’s Wayne Pizer, vice president of Small Business Programs of as part of a ceremony and open house at L-3 STRATIS office Feb. 21, 2011.

The partnership has and will continue to result in a winning endeavor for all stakeholders, said L-3 officials. The partnership allows NASA to take a hands-on approach with bright young minds, some of whom may one day support NASA projects.

L-3 develops a strong relationship with its clients and PVAMU improves the quality of its educational experience through funded research, internships, advance computing resources and space-based projects, said Dr. Lin.



Dr. Shield Lin, Associate Dean of the Roy G. Perry COE accepts award as L-3 “Ideal Teammate.”



COE's Chris Galvez is a key member of the "Passport for Your Future" event team that attracted 400 7th, 8th and 9th graders to the M. O. Campbell Education Complex at Aldine ISD last year.

Metagenomics Research by Dr. Lu

After spending a month and a half conducting cutting-edge research in metagenomics at the Los Alamos National Laboratory, Dr. Yi Lu returned to his assistant professorship post with the Computer Science Department of the Roy G. Perry College of Engineering with an expanded focus on the power of genomic analysis.

Metagenomics is new research that facilitates the analysis of all the DNA in an organism, exciting applications for entire communities of microbes that bypass the need to isolate and culture individual microbial species. Dr. Lu says this new science opens doors to a large amount of new scientific exploration that addresses some of the most complex medical, environmental, agricultural and economic challenges of the day.

Lu is principal investigator for a \$199,661 NSF grant, *Advancing Bioinformatics through Services Computing* and for a Thurgood Marshall College Fund (TMCf) \$100,000 grant titled, *Metagenomics Research for Renewable Energy*. He is also Co-PI for another \$100,000 grant through GMCF on *Energy Conservation in Large Scale Storage Disk Systems*.

Dr. Lu's publications in 2011 included *Predictions of Flexible C-Terminal Tethers of Bacterial Proteins with the FLEX-TAIL Bioinformatics Pipeline* in the "International Journal of Data Mining and Bioinformatics," *Tumor Classification Using Dataset Splitting Base Neural Network Ensemble* for the 3rd International Conference on Information Technology and Computer Science and "A comparison Study on Cost-Sensitive Learning and Sampling Methods Based On Imbalanced Data Sets" published in the 3rd International Conference on Multimedia and Information Technology.

PVAMU Raises Bar for 400 Students Attending May "Passport for Your Future"

The Roy G. Perry College of Engineering (COE) was well-represented May 5, 2011 when the Houston Northwest Chamber of Commerce hosted an all-day "Passport for Your Future" outreach program that attracted 400 junior high and high school students from Spring, Aldine and Klein ISDs to the M. O. Campbell Education Complex at Aldine Independent School District.

The COE was one of four Prairie View A&M University exhibitors on the Campbell Arena floor. Together, Prairie View dominated the exhibitor's stations with representatives manning four out of nine display and information booths. The 400 7th, 8th and 9th graders spent ten minutes at each exhibition booth during their rounds of the complex. Other exhibitors were the PVAMU College of Nursing, Physics Department and Chemistry Department. The University of Houston College of Technology was the only other higher education entity participating.

A big exhibit hit was provided by the PVAMU Society of Women Engineers (SWE). Program manager Dr. CherRhonda M. Smith-Hollins said SWE members led all 400 students in opening "breakout sessions" that featured fun-style, hands-on activities involving ice cream, lipstick and deodorants.

Houston Northwest Chamber of Commerce coordinator Barbara Thomason said the event presented a special day of career exploration for student participants who were offered a variety of engaging learning experiences.



Computer Science professor Mr. J. D. Oliver, left and Dr. Shield Lin, Associate Dean of the Roy G. Perry College of Engineering, enjoy the COE outdoor Town Hall Picnic.

Grants Promote Virtual Reality in Real World

Dr. Xiaobo Peng, associate professor of Mechanical Engineering, has been awarded back-to-back National Science Foundation (NSF) grants, providing more than \$300,000 in research funds through the Roy G. Perry College of Engineering at Prairie View A&M University (PVAMU).

Dr. Peng won NSF approval in September for the \$199,999 Research Initiation Award titled "Advancing the Complex Product Design Using Virtual Reality Techniques." The project, with Dr. Peng as principal investigator, will continue through August, 2013.

In October, Dr. Peng's proposal in collaborative research, "Assessing the Effect of Contextual Exercises on Student Adoption of Expert CAD Modeling Techniques," received \$113,047 in funding through September, 2014.

Earlier in the year, a group of PVAMU mechanical engineering students including Justin Bostic, Brian Douglas, Danny James and Brandon Kizzee, won awards in the 1010-11 Partners for Advancement of Collaborative Engineering Education (PACE) competition with their "Sustainable Urban Transport Vehicle Project."

Dr. Peng, who served as advisor, said the competition was organized by PACE in cooperation with General Motors, Autodesk, Hewlett-Packard, Oracle and Siemens PLM Software. PVAMU's team is part of a collaborative effort among students from three other universities including the United States, Mexico and Canada.

The PVAMU team competed against six others and came home with the "Top Award" in the manufacturing engineering category and the second place award in the market research category. They also finished third in the product engineering division and third for the "Most Innovative Design" in the industrial division.

In March, 40 middle school students from Houston Harmony School of Discovery visited the PVAMU Virtual Prototyping Research Lab in the C. L. Wilson Building. In June, Dr. Peng hosted a session for the Minority Introduction to Engineering and Science (MITES) program with 22 high school students participating. Students were introduced to the concept of mechanical engineering. Showcased was the virtual reality technology that can be applied to various engineering fields.

Dr. Peng was author with Dr. E. V. Oriakhi and Dr. J. S. Linsey on *Design-by-Analogy Using the Worldtree Method and an Automated Wordtree Generating Tool* published by the 18th International Conference on Engineering Design at Copenhagen, Denmark in August. He was first author with Dr. Y. Yang, Dr. H. Fan, Dr. H. Zial, Dr. J. Zhou and Dr. S. G. Lin on *Virtual Prototyp-*



Middle school students, above, are amazed by virtual reality applications. Below, MITES program students relax while enjoying virtual reality simulations at the C. L. Wilson building



ing Using PowerWall Virtual Reality Systems published for the Civil, Mechanical and Manufacturing (CMMI) Innovation Conference at Atlanta, GA in January. He also presented *Development of MotionView Tutorials* with J. Johnson during the PACE Annual Forum at Vancouver, Canada in July.

Dr. Vaman Wins TAMU Regents Professor Title

The Texas A&M University System Board of Regents in November honored a long-time Prairie View A&M University (PVAMU) electrical and computer Engineering professor as one of 13 professors to receive the Regents Professor award for the 2010-2011 academic year.

Dr. Dhadesugoor R. Vaman, a Texas Instruments Endowed Chair professor

who joined the PVAMU engineering faculty in 2002, adds his newest honor to a list of many other awards and recognitions since his arrival. Among them is his selection as Outstanding Researcher of the Year for Innovative and Extensive Research at PVAMU in 2008. To date, 144 Texas A&M System faculty members have been recognized with the Regents Professor Award.

\$5 Million CRESSE Continues Student Focus

The five-year, \$5 million Prairie View A&M University (PVAMU) Center for Radiation Engineering and Science for Space Exploration (CRESSE) continues to focus on leading-edge radiation research in search of new materials intended to make future National Aeronautics and Space Administration (NASA) deep space missions safer and more reliable while educating students through research and course content with studies critical to NASA's diverse workforce needs.

The training of students in radiation engineering and science with the objective of increasing and contributing to the pipeline of underserved minorities qualified to transition confidently into the aerospace community is the

center's educational focus. CRESSE's six scientists are charged by NASA with providing relevant and

Computer Science Visiting Local Classrooms

Hempstead High School teachers and students got an intensive, in-depth look this year at the innovative studies going on in the Computer Science Department of the Roy G. Perry College of Engineering, thanks to outreach activities of Interim Department Head, Dr. Yonggao Yang, and two other members of the Prairie View A&M University faculty.

Hempstead High School teachers were participants during June in a Computer Science Summer Workshop hosted by PVAMU with Dr. L. Lodgher, also a member of the Com-

puter Science faculty, and Dr. Suxia Cui of the Electrical Engineering faculty, leading the sessions. The three educators moved on to the Hempstead High School Student Summer Camp that same month. Both sessions received enthusiastic receptions from the participants.

Yang's work during 2011 included the publication of three journal papers and three conference papers. Many of Dr. Yang's papers reached out with research on how best to utilize virtual reality learning environments for undergraduate mathematics teaching. For the IEEE 4th International Conference on Computer Science and Information Technology, Dr. Yang and assistant professor, Dr. Lin Li, submitted a conference paper on how to *Turn Smartphones into Computer Remote Controllers* and presented a second paper on how to *Enhance Engineering College Math Teaching with Gaming and Virtual Reality Learning Modules* at the American Society for Engineering Education Annual Conference.

Dr. Yang's on-going grant projects continue at PVAMU. Yang is principal investigator with Co-PIs Dr. L. Lin and Dr. Sherrie Frizell are overseeing their "Target Infusion Grant: Infusing the Tablet PC and Problem Based Learning into Computer Science Curriculum to Enhance Student Ability in Computing Problem Analysis and Software Design," a two-year \$170,000 National Science Foundation (NSF) project that runs through 2012. Dr. Yang, Dr. Lodgher and Dr. Cui are also Co-PIs for a three-year NSF grant in the amount of \$599,085 about "Building Computing Aptitude, Confidence and Engagement for Students (BPC-DP) and (Computer Aces)."



CRESSE Director Dr. Richard Wilkins, left, interests a visiting Nigerian delegation with a block of "moon dirt" used in experiments to find new materials to shield humans and equipment from space radiation

Nigerians Visit COE Labs, Classrooms

A faculty and staff delegation from Kano University of Science and Technology at Kano State, Nigeria, paid a visit to Prairie View A&M University (PVAMU) in June to study the possibilities of establishing an exchange graduate student program and to explore the possibility of collaborations on future research projects.

Professor Ibrahim Garba, Dr. Aisha Abdul-Ismail and Zakari Yau Ado also took time to visit the Roy G.

Perry College of Engineering (COE) where they toured several engineering departments and stopped by to visit the offices and laboratories of CRESSE, the NASA-PVAMU Center for Radiation Engineering and Science for Space Exploration.

The delegation also visited the University Farm, Cooperative Agriculture Research Center, the School of Architecture and the Graduate School.

Zenon is JSC “Success Story”

Prairie View A&M University (PVAMU) graduate Kenneth Zenon, was this year named as one of the NASA-Johnson Space Center “success stories” for his work at JSC and his role as an academic stand-out and role model for others trying to find a career path with the nation’s premiere space agency.

The Beaumont native got his start with NASA after using the STEM Enhancement Program and the Minority University Research and Education Program (MUREP) as an undergraduate stepping stone on his



Zenon

way to full-time employment in research with the space agency. He spent the summer of 2009 as an intern, working as a flight controller for the Data Processing Systems group, then moved into

the Onboard Computing and Information Systems group providing pre-flight planning and support for space shuttle missions as flight controllers in the Mission Control Center.

Zenon urges aspiring NASA students to take advantage of every opportunity offered and to shed their comfort zones to tackle every task assigned.

NSBE Honors Kirby for Leadership

St. Louis, MO – A Prairie View A&M University (PVAMU) electrical engineering professor who serves as deputy director of the \$5 million dollar, five-year Center for Radiation Engineering and Science for Space Exploration (CRESSE) was honored November 5, 2011 by the National Society of Black Engineers (NSBE) with the Region V Vanguard Award.



Kirby

Dr. Kelvin Kirby, who has been instrumental in bringing many student-focused opportunities to the PVAMU campus through projects funded by the National Science Foundation, the U. S. Department of Education, NASA and others, was recognized for years of dedication and service to students seeking to excel in areas of science, technology, engineering and mathematics (STEM).

He was recognized for his strong commitment to the NSBE mission and outstanding leadership at the Region V conference, “Vanguard Harmony,” held at St. Louis, MO.

Dr. Kirby’s nomination, in writing, was made by Jeren Brewer, president of the active NSBE Chapter at PVAMU.

Brewer cited Kirby’s grant writing skills which have helped to bring millions of dollars to the university and the Roy G. Perry College of Engineering.

“He has increased research, scholarship and internship opportunities for students on our campus through programs such as the NASA Johnson Space Center, STEM Enhancement Program, Center for Radiation Engineering and Science for Space Exploration (CRESSE), and, before that, for the Center for Applied Radiation Research (CARR),” said Brewer.

Sandia Signs COE Grad

Quincy Fitzgerald Johnson, who is literally only weeks away from his master’s degree in mechanical engineering in the Roy G. Perry College of Engineering (COE),



Johnson

headed for New Mexico and Sandia National Laboratory in January to continue his research exploring the radiation effects on lunar regolith/polyethylene composites intended for human habitat building in space.

The 26-year-old PVAMU graduate in mechanical engineering had four years of Science, Technology, Engineering and Mathematics (STEM) undergraduate studies with the five-year NASA Center for Radiation Research (CARR) then moved seamless to the newer NASA Center for Radiation Engineering and Science for Space Exploration (CRESSE).

In 2007-08, he began graduate studies. “The opportunities provided to students by Prairie View in general and by the Roy G. Perry College of Engineering in specific are great – as good an engineering education as you’ll find anywhere.”

Johnson’s most recent accomplishment came in October when the Lufkin native earned his first international recognition to his resume by spending eight days at Cape Town, South Africa as one of NASA’s graduate student researchers at the 62nd International Astronautical Congress (IAC). He has since been named as one of three PVAMU graduate students to guide the pilot NASA URC Student Leadership Series for 2012.

“When I’m 45 or 46, I want to go back to the classroom and teach space-related subjects and help the next generation of students prepare for space flight and space travel in the future,” he said. His immediate goal is to focus on his Ph.D. degree.

Imagine the possibilities!

Electrical, Computer Engineering Department Readying Ph.D. Students for Advanced Degrees

With strong academic counseling and guidance from their Prairie View A&M University (PVAMU) advisor, two of five Ph.D. students passed their electrical engineering doctorate qualifying examination and advanced to candidacy in August.

Dr. Lijun Qian, associate professor in the Electrical and Computer Engineering Department of the Roy G. Perry College of Engineering, held regular meetings to discuss research topics and guidance in areas of research and the preparation of research papers as well as guidance in preparing their Ph.D. proposals and dissertations.

Advancing to candidacy were Paul Potier and CaLynna Sorrells. Qian also supervises Nan Zou, Joseph Kamto and Jari Nieminen, the latter with co-advisor, Professor Riku Jantti from Helsinki University of Technology in Finland. Together, Dr. Qian and his students have a refereed journal paper, two book chapters and six refereed conference papers published.

“We are working on test beds and experiments dealing with various challenging topics in wireless communications and signal processing,” said the professor, who noted that students Potier and Sorrells joined him in attending the USRP/GNUradio training at US ARFL and Wright State University during the summer. “We gained valuable knowledge and hands-on experiences in experimental systems and software implementation of cognitive radio using COTS devices.

With that research and support from his National Science Foundation (NSF) project, “A Software-Defined Radio Based Testbed for Next Generation Wireless Networks Research,”



With Dr. Lijun Qian keeping watch, Ph.D. Students CaLynna Sorrells and Paul Potier work on the state-of-the-art cognitive radio test bed. Dr. Qian supervises five Ph.D. students for the Electrical and Computer Engineering Department of Prairie View A&M University.

Dr. Qian offered a workshop titled “Introduction to Cognitive Radio: an Experimental Approach,” on Sept. 30. The researcher described the workshop as a study in a “revolutionary technology for future wireless systems” which was attended by faculties and students. Qian’s plan is to offer workshops to industry researchers and engineers outside PVAMU to increase the visibility of engineering program, to share knowledge and experiences while establishing new collaborations and searching for new funding opportunities.

For the year, Qian has published two book chapters, two refereed journal papers, 14 refereed conference papers and four journal papers currently under review. He was an organizing committee member for the 7th International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness

Nov. 17-19, 2010. He also chaired two sessions – Cognitive Networking I and Dynamic Spectrum Access I – during the IEEE Globecom in December 2010. He was also a reviewer for proposals submitted to the U.S. Army Research Office and delivered two invited talks, attended and presented two papers at conferences and was invited to serve as a member of the Technical Program Committee in four international conferences where he reviewed 33 papers for 10 journals and conferences.

A portion of Dr. Qian’s time is devoted to his service as principal investigator for the NSF project on cognitive radio, a \$365,023 research effort. He is also Co-PI on the extension of the \$500,000 ARO-sponsored project, “ARO Center of Battlefield LOS/BLOS Lethality Research” which is funded by the U. S. Army Research Office.

Civil, Environmental Engineering Thrives on Collaborations

Assistant Professor Dr. Iftekhar Ahmed of the Civil and Environmental Engineering Department within the Roy G. Perry College of Engineering and his collaborators at Texas A&M University (TAMU) and the University of Houston (UH) have been awarded a three-year \$500,000 Capacity Building Grant (CBG) by the U. S. Department of Agriculture (USDA) to study hydrological influence on soil organic carbon (COC) loss monitoring using stable isotope.

As the lead institution under Dr. Ahmed's supervision, Prairie View A&M University (PVAMU) will for the first time make use of state-of-the-art tools in isotope biogeochemistry in soil organic carbon loss monitoring within a hydrologic framework to introduce and expend research in this area. The team's work will augment current USDA/NRCS efforts to develop a scientifically-based and statistically valid baseline inventory of soil carbon stocks for the United States.

Co-principal investigators are Dr. Tom Boutton, a Regents Professor in the Department of Ecosystem Science and

Electrical Engineering Major Wins Women of Color Community Award

On November 4, 2011, Ms. Melanie Price was selected as one of the winners of the Women of Color Community Award for her outstanding service. She was honored at the Student Leadership Awards dinner held at the 16th Annual Women of Color in Technology and Business Conference, co-hosted by Northrop Grumman Corporation and the Career Communications Group.



Price

Ms. Price is senior electrical engineering student in the Department of Electrical and Computer Engineering. Classmates call her the epitome of service. She was a member of the Prairie View A&M University students team that planned and developed an experiment to fly on the Space Station. She has volunteered for programs that feed the needy a Thanksgiving Feast at George R. Brown Convention Center, prepare flowers to give to the sick, and prepares ice-cream for ill children at the Ronald McDonald House in Houston. In addition, Ms. Price is an active member of the IEEE, secretary of the National Society of Black Engineers at PVAMU, and was the secretary of the Students in Free Enterprise.



Dr. Iftekhar Ahmed is happy about being voted as one of only 10 University of Arizona alumni to be honored by the Ten by Ten Program

Management at TAMU and Dr. Kyle Strom, assistant professor in the Department of Civil and Environmental Engineering at UH.

Dr. Ahmed said the interdisciplinary research framework will include scientific ways to monitor SOC loss by creating statistical models to assess the relationship between rainfall runoff and SOC release during soil erosion in space and time, capturing the episodic nature of rainfall events and its role in the spatial distribution of SOC loss from soil erosion. Created will be an integrated watershed scale statistical soil loss monitoring model driven by uncertainty in hydrologic inputs and spatial and temporal correlation of flow and stable isotope composition.

The research will be supported primarily by the TAMU Stable Isotope Biogeochemistry Laboratory and the US sedimentation engineering team. Various local and federal government agencies involved in ecosystem and watershed management will play significant roles.

Dr. Ahmed holds bachelor's, master's and doctorate degrees in Civil Engineering from the University of Arizona where he was recently recognized for his philanthropic services to engineering education through that university's Ten by Ten Project.

Ahmed, now 38, said his work in this area was triggered by his own memories of looking for scholarship funds to complete his education. "I can't give a lot," he said, "but whatever I do helps out." Dr. Ahmed worked with engineering consulting firms in Phoenix after completing his degree work, then accepted his first teaching post in 2009. This year, he was one of only 10 UA alumni under 40 years of age recognized for the Ten by Ten Program.

Please give generously! We need your support.
Roy G. Perry College of Engineering - P. O. Box 519, Mail Stop 2500
Prairie View, TX 77446-0519 - Call 936-261-9890

PVAMU Senior Design Team 2nd in Lone Star Challenge

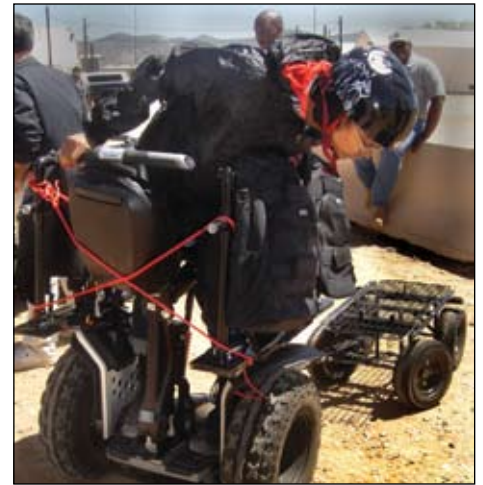
Prairie View A&M University's entry in the 2011 United States Air Force 4th Annual Lone Star Challenge looked slightly surreal churning across the hilly rock-strewn clump of New Mexico desert last April with its human pilot and a tiny payload trailer in tow.

Team leader Breona King, protected by a safety helmet and knee pads, aimed the highly modified Segway X2 Personal Transporter (PT) up the steep unpaved slope, hoping to top the hill with 75 pounds of military-style cargo, including an assault rifle. The mini-hauler

performed crisply, but ran out of raw pulling power before cresting the hill, leaving the PVAMU senior design team with second place.

Prairie View teamed with Tennessee State University (TSU) under the Minority Leadership Program (MLP) component to compete head-to-head against similar student teams from The University of Texas at Austin and Texas A&M University at College Station.

Dr. Kendall T. Harris, Dean of the Roy G. Perry College of Engineering, was elated with the PVAMU team's ex-



ceptional showing in the head-to-head competition with UT and TAMU.

Faculty co- advisors, all from the Electrical Engineering and Computer Engineering Department of the Roy G. Perry College of Engineering, were Dr. A. Annamali, Dr. Penrose Cofie, Dr. Dhadesugoor Vaman, Dr. John Fuller and Dr. John Attia, Department Head.

The Prairie View A&M team, which received support from the Clarkson Air Force ROTC and the PVAMU ARO Center for Battlefield Communications Research, included Trevlyn White, Rachael Sims, Tenario Goodwin, Mark Ivey and Eric Lopez. Two Dean's Office team members assisting the student design group at the contest site were Chris Galvez and Riaz Kureshi.

Senior Design Team members are joined by their Tennessee State teammates. PVAMU members are Dr. Penrose Cofe, Co-Advisor; Dr. Warsame Ali, Project Advisor and Students Mark Ivey, Tenario Goodwin and Eric Lopez. At top right, Design Team Leader Breona King makes final adjustments

Our Mission . . .

The Roy G. Perry College of Engineering produces graduates who are equipped to exercise a competitive advantage in today's critical engineering disciplines. Our graduates are employed throughout the business and technological communities through Fortune 500 companies and as successful entrepreneurs.