

DEPARTMENT OF ENGINEERING TECHNOLOGIES

Chair: David Olowokere Ph.D.,P.E.

SIGNIFICANT DEPARTMENTAL ACTIVITIES.

9/2005 – 10/2007

Memorandum of Agreement with Transportation Department.

On September 9 2005, the department of engineering technology (ENGT) signed an agreement of cooperation with the Department of Transportation Studies (DTS). The agreement aims at fostering sound linkages between the two departments, leading to sound pedagogical and research collaboration. Main content of the agreement are:

- DTS shall offer certain undergraduate classes through the Civil Engineering Technology Division of the Engineering Technology Department. The classes which shall be included in the course offering of the Civil Engineering Technology department shall include Urban Transportation Planning and Traffic Engineering. These classes shall be offered at the junior level and shall be taught by DTS faculty.
- Names of DTS faculty involved in teaching classes through the Civil Engineering Technology Division shall be listed as part of ENGT staff.
- ENGT staff shall also participate in DTS activities in the area of Bridge Engineering and Pavement Management.

Implementation of this agreement has since commenced. This coming Fall, Dr. Yu will be teaching the Traffic Engineering class in the Civil Engineering Technology Division of the department. Likewise, Dr. Olowokere will begin a new class offering, Transportation Infrastructure Management in the Transportation Studies department. This takes off fall 2007.

Peer Tutoring Program

The department embarked on a major program that identifies more highly motivated students that have capabilities to tutor other students in a number of classes. These student tutors are hired by the department as student assistants. As much as we do not yet have sufficient data to assess the efficacy of this effort, we are able to see signs of improved student performances based on this peer tutoring initiatives.

Civil Engineering Technology Computer Laboratory.

TECH 141 has been converted to a computer laboratory for civil engineering technology students. 18 computer workstations are already in place in this room, and they have significantly enhanced The capability of Civil Engineering students for stronger computer integration into their work.

New Equipment

To supplement existing stock of an array of state-of-the-art modern equipment available in the department, a new set of testing equipment and components valued over \$150,000.00 is expected for delivery to the civil and electronics engineering laboratory in June 2007. This set of equipment will greatly strengthen and enhance the capability of our students to conduct experimental work simulating real-life scenario, and meeting industry standard.

Recent funding

- The department houses the newly awarded TSU-SAIC/NASA contract to provide engineering support for NASA Safety and Mission Assurance program. This is the outcome of a subcontract agreement between Science Applications International Corporation and Texas Southern University. Funding is in the amount of \$1,375,203.00.
- The department has been selected as one of 8 sites nationwide to provide pre-college summer engineering program to 30 high school students annually. Funding is from the Army Research Office (ARO) and it is in the amount of \$30,000.00 yearly.
- The department has received seed funding to conduct study entitled 'New Secure Communication Scheme Based on Adaptive Observers for Delayed Uncertain Neural Networks'.
- The department has recently been placed in the final list of Team Members of the Energy and Environment Cluster of the United Negro College Fund Special Program of NASA Science & Technology Institute. In this capacity, the department will share funding to facilitate studies on energy issues. This is the outcome of a competitive proposal from the department to UNCFSP-NSTI. Project takes off Fall 2007.
- The US Nuclear Regulatory Commission has recently provided the department a seed money to facilitate the preparation of a proposal for them on renewable energy.
- The Texas Higher Education Coordinating Board has funded the department in the amount of \$61,000.00 to support the department's pre-college engineering program.
- A new Title III funding for \$51,000.00 has been approved for the department. this supports the purchase of certain essential equipment stock for both the Electronics Engineering Technology Program and Civil Engineering Technology Program.
- The Office of Civil Right (OCR) has approved funding of our Computer Engineering Technology Program. This includes funding of one tenure-track faculty, one visiting faculty and a laboratory Technician.

Visitors

- Dr. Fowler of the US Corp of Engineers in Vicksburg, Mississippi paid a visit to the department in January 2006. He was taken on a tour of our civil engineering technology facilities. A feedback from him is a comprehensive report identifying areas of improvements for our civil engineering program. His report has been found extremely useful as we begin the process of preparing the Civil Engineering Technology program for ABET accreditation.
- Dr. George Adebiyi, Professor of Mechanical Engineering at Mississippi State University has visited the department in April 2007 to conduct a preliminary condition assessment of the solar energy facilities prior to commencement of our energy studies experimental activities beginning fall 2007. Full report of findings has been submitted.
- Electronics Engineering Technology Industrial Advisory Board visited the department on November 8 2006.
- Civil Engineering Technology Advisory board visited department, December 8th 2006.

Collaboration with Enrolment Services.

The department has lately worked with the TSU Enrolment Management division in reviewing and assessing various TSU strategies for enhancing and promoting better understanding between TSU international students and their domestic American counterparts. This effort has resulted in a publication entitled: *Promoting cohesion and enhancing international understanding between international and domestic students at Texas Southern University* co-authored by Dr. Olowokere and Ms. Shoyombo, of the Engineering Technologies Department and Enrollment Management Services respectively..

Additional faculty

During the 2006/2007 academic year, the department added new faculty members. These are

- Dr. X. Chen --- Computer Engineering
- Dr. G. Thomas ---Electronic Engineering
- Dr. E. Kamel --- Electronic Engineering

We expect two additional faculty for Civil engineering sometime by the next academic year.

Selected faculty activities

- Dr. Olowokere was in attendance at the 85th Annual transportation Research Board meeting in Washington DC. – January 23 2006. The conference attracts large number of participants from all over the world. Dr. Olowokere made a presentation of his paper to the marine and environmental division of the event.
- Dr. Olowokere and Ms. Lattimore made a presentation on behalf of the department to Siemens for funding of activities related to renewable energy. Siemens had earlier made an invitation to us to make this presentation. Our activities in the proposed Siemens center for renewable energy will include research related to solar energy, wind and fuel cell technology.
- Dr. Olowokere's Academic Support proposal for the project "Subcontract Agreement between Science Application International Corporation and Texas southern university was approved for funding in the amount of \$1,375,203.00. This is for the NASA Safety and Mission Assurance program.
- Earlier in the year, Dr. Olowokere was funded by the engineering firm of Gallet International on a trip to Mauritius to deliver a key note speech on shore protection using geotube technology.
- Dr. Olowokere and Dr. Ford (of Research and Contracts) have been invited as panelists to select research and development industries that are eligible for the Texas Emerging Technology Fund.
- Dr. Olowokere and Dr. Darayan were invited to present a paper entitled "Peer Tutoring at TSU Engineering Technology Program: Assessing its Outcome and Impact on Retention and Academic Achievement" at the HBCU FDN Conference, Houston, Texas. Oct. 2006.
- Dr. Olowokere and Dr. Thomas will participate in the forthcoming 5th Latin American and Carribean Conference for Engineering and Technology. Their paper entitled " Embracing the Opportunities of Globalization and Technology for Sustainable Development: An Alternative Approach for the Organization of Eastern Caribbean States (OECS)" has been accepted for presentation at this conference holding May 29-June 1 2007.

- Dr. Shahryar Darayan, IEEE Branch Advisor, arranged for several students from Electronics Engineering Technology to participate in the Annual Galveston Bay section of the IEEE Pro-Am 2006 Day on March 16, 2006. This activity provides an opportunity to interact with students from other universities, visit with practicing engineers, and tour a typical work place in local industry. The following students will participate in this event through the IEEE Branch of Texas Southern University.
- Dr. Shahryar Darayan and Ms. Titlope Z. Alugan submitted a paper that has been accepted for publication in the Proceedings of 2006 American Society for Engineering Education Annual Conference. The article is entitled "Automated Prototype Egg Conveyor and Separator", and Dr. Darayan will present this paper in session F1A1 at the ASEE-GSW Gulf-Southwest Annual Conference in Southern University and A & M College located in Baton Rouge, Louisiana during March 15-17, 2006.
- Dr. Shahryar Darayan, along with two students Evelyne Ntsame and Nnomadi Kingsley, published an article entitled "An Automatic Security System for Swimming Pools" in the Proceedings of 2007 ASEE-GSW annual conference. Ms. Ntsame and Dr. Darayan presented this paper in session 8 (T2D1) in the University of Texas-Pan American at South Padre Island March 28-30 2007.
- Dr. Raymond Agbanobi of the Civil Engineering Technology program, participated in a conference themed 'Severe Storms: Impact and Disaster response in the Gulf Coast Communities.' The conference was held at Rice University, and sponsored by the Environmental and Energy Systems Institute.
- Dr. Agbanobi of the Department of Engineering Technology presented a paper on "Major Sources of Sediment Transport into Galveston Bay" at the 8th Biennial State of the Bay Symposium on January 23 2007. Dr. Agbanobi had earlier participated in the Civil Engineering Applications seminar on coastal structures and erosion control at a seminar organized by Tensar International Corporation on November 14 2006.
- Dr. Agina was in attendance at the International Transportation Engineers Spring Conference in San Antonio. Theme of conference is: Transportation Solution for the Real World. He participated in the session on improved electronic synchronization of traffic signals.
- Dr. Agina attended the Global Wireless Education Consortium (GWEC) in Dallas. GWEC is focused on expanding wireless technology curriculum in academic institutions worldwide. The seminar provided more information on the new trend in wireless technology. Prof Agina subsequently utilized the knowledge acquired in providing students with the core knowledge, language and practical skills necessary for them to excel in generic wireless work environments
- Dr. Agina participated in a workshop organized by Department of Energy – National Renewable Energy Laboratory. The workshop provided vital information on energy-related research funding, and student internships in the renewable energy industry.
- Dr. Thomas presented a paper entitled 'Student's perspective of the Value of Illustration in Teaching a Management Information Systems Course'. This was presented in San Diego, CA at the Southwest Decision Science Institute (SWDI) Conference on March 16th 2007.
- Dr. Thomas presented a paper entitled 'Balancing the Enrollment Scales: Exploring the Gender Divide in Engineering Studies at a Historically Black University'. at the Standing Conference of Management Inquiry in Las Vegas, NV. on March 30 2007.

- Dr. Saneifard has been successful in converting the digital control system in the electronics lab to PLC. The PLC System is amongst the more current control system in use today.
- Dr. Saniefard authored a paper entitled "Design and Implementation of a sampled-data controller" published in the Journal of Engineering Technology in Spring 2006.
- Dr. Saneifard has been made a senior member of IEEE.
- Dr. Saneifard supervised a group of students that won 1st place in the annual TSU Research Day competition.
- Dr. Chen secured a university seed grant to conduct a planning study on a 'New Secure Communication Scheme Based on Adaptive Observers for Delayed Uncertain Neural Networks.'
- Dr. Kamel and Dr. Thomas participated in the Hands-On Introduction to LabVIEW Graphical Development Environment Seminar, Houston, Texas. Nov. 2 2006