

ENGINEERING

TECHNOLOGY



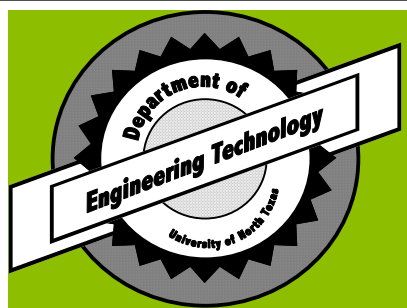
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Engineering Technology Newsletter

Department of Engineering Technology

University of North Texas



Chair's Message



Dr. Albert B. Grubbs, Jr.

Once again it is a pleasure to welcome you to our newsletter. The past year has been especially busy. After a search that started May 2002, the appointment of a new Dean is complete. (*See details elsewhere in this newsletter.*) In addition, the Research Park Campus planning is well underway. Once complete, part of the approximately 45,000 square feet has been designated and designed to accommodate the Engineering Technology Department.

New undergraduate curriculums are being implemented in the fall that reduce the required number of hours for the baccalaureate degree to 128 SCH. In addition, the graduate program has been changed to allow for a non-thesis option requiring 36 credit hours of classes. The thesis option has been reduced to 24 credit hours of classes and 6 credit hours of thesis.

We have several new faculty that are introduced elsewhere in the newsletter. They have already made tremendous impact in the department's research and scholarly activities. With the recently announced hiring freeze due to state budget shortfalls, it may be a while before we gain any additional faculty. With increasing enrollments and stagnating faculty lines, it may be necessary to implement enrollment management policies beginning this fall. We want to ensure that quality wins over quantity. Your continued support is especially critical for our continued development.

Please bookmark our website, www.etc.unt.edu, and check it periodically for announcements and changes that may be of interest. If there is anyway I can be of service, please be sure to call.

Albert B. Grubbs Jr., Ph.D.

Chair and Professor

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Editor: Michael R. Kozak

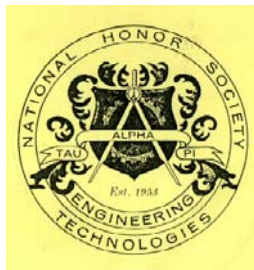
A Newsletter for and about Alumni. Family. Friends and Faculty

Radio Frequency Propagation Differences Through Various Transmissive Materials

The purpose of **Patrick L. Ryan's** research was to determine which of the commonly used wireless telecommunication site concealment materials has the least effect on signal potency. The tested materials were Tuff Span[®] fiberglass panels manufactured by Enduro Composite Systems, Lexan[®] XL-1 polycarbonate plastic manufactured by GE Corporation and Styrofoam[®] polystyrene board manufactured by Dow Chemical Company. Testing was conducted in a double electrically isolated copper mesh screen technology building in Denton, Texas. LabVIEW[®] software was used to create instrument drivers for the signal generators and spectrum analyzers.

Analysis of the data found no differences exist between the radio frequency transmissiveness of these products at broadband personal communication service frequencies. However, differences in the signal do exist with regards to the angle of incidence between the material and the transmitting antenna. Dr. Perry McNeill was major advisor.

Tau Alpha Pi



Tau Alpha Pi is the national honor society for engineering technology, founded in 1953. Managed by the American Society for Engineering Education it has 93 active chapters.

The Texas Iota Chapter of Tau Alpha Pi, established in 1996, nominated one student for membership from Manufacturing, four from Mechanical and six from Electronics Engineering Technology. The initiation ceremony was on April 18 2002. Additional inductees will be announced at his year's banquet.

According to its charter, each chapter may select one individual each year as an honorary member. The student members selected, for 2002, **Mr. Charles Bittle**, an electronics instructor in the department.

Officers for 2002 - 2003 are:

President ı ı ı ı Ali Assad
 Vice President ı ı Jeffrey Jendel
 Secretary ı ı ı ı Lance Sandman

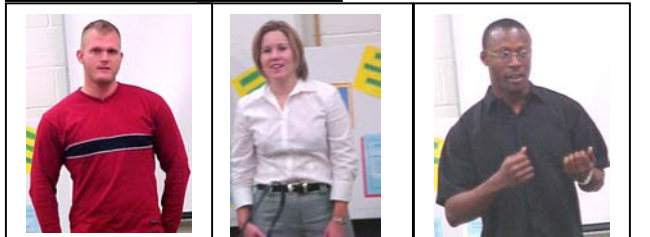
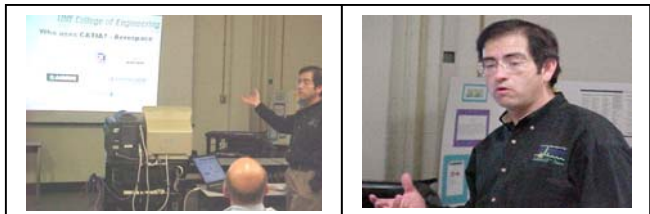
Michael R. Kozak
 Faculty Advisor

Student Societies of the Mechanical, Manufacturing & Nuclear Division

This Division currently hosts three premier professional societies: American Society of Heating, Refrigeration and Air-conditioning Engineers, American Society of Mechanical Engineers, and Society of Manufacturing Engineers. Students are actively involved in activities throughout the year.



A well attended presentation was convened on November 21, 2002 when Mr. Jeffery Maestas gave an impressive presentation to Engineering Technology students and faculty on applications of CATIA.



The latest meeting of these societies took place on January 30, 2003 when new officers of ASHRAE student chapter were elected. Mr. Nathan Hart, ASHRAE Dallas Chapter representative, distributed scholarships to officers of the UNT chapter. Students will be participating in an ASHRAE sponsored design project under the supervision of Drs. Nasrazadani and Plummer. Plans are underway to observe Engineering Week, February 16-22.

Dr. Seifollah Nasrazadani
 Faculty Advisor



IEEE Student Chapter



The Institute of Electrical and Electronics Engineers (IEEE) is a non-profit, technical professional association with more than 375,000 individual members in 150 countries. The students of Electronics Engineering Technology are proud to be associated with IEEE.

The UNT student branch is 20 members strong who hope to improve this number with an ongoing membership drive. Fall 2002 saw the onset of higher levels of activity. Guest speakers from CoServ, Verizon and L3 Communications spoke at the weekly meetings and Mr. Phillip Havens of Teccor Electronics is scheduled as a future speaker. IEEE is collaborating with SME, ASME and ASHRAE to assemble exciting activities during Engineering Week.

IEEE is in charge of this year's departmental banquet at the new College of Engineering Research Park. Ms. Janet Denny, Career Student Services Center, is working with the IEEE chapter in hosting an Engineering Technology Job Fair next fall. Finally, chapter members are participating in the Web Site design competition organized by Region 5.

Students can contact the local chapter at unt@iecc.org.

Office Bearers:

President - Josh Stohl
 Vice-President - Ramya Pinapati
 Secretary - Mehul Baxi
 Treasurer - Jeffrey Jendel
 Ambassador - Cara Perales

Albert B. Grubbs, Jr.
 Faculty Advisor

Using Motor Electrical Signature Analysis to Determine the Mechanical condition of Vane-Axial Fans

Donald Doan, Vibration Analyst for Smart Team 2 of TXU's Comanche Peak Steam Electric Station, completed his thesis in Spring 2002. Don's work is significant to those in the machinery health monitoring business in that Mr. Doan showed that the analysis of motor current could be used to more sensitively detect faults on axial van fans than the traditional vibration analysis. Don has submitted a manuscript for publication in Sound and Vibration journal.

Scholarships Awarded



A total of 9 scholarships have been awarded at the Departmental level to Engineering Technology majors.

The following scholarships were awarded during Fall 2002 for the Spring 2003 Semester:

William J. Bell - Virek Jain; **Boeing Electronics** - Ahmad El-Rifai; **Fritz Roberson** - Padma Parakata; **Jude Thaddeus** - Haritha Namduri; **President's Council** - Thomas Ford; **President's Excellence** - Padma Parakata; **Departmental** - Thomas Ford, Haritha Namduri & Padma Parakata

Service Recognition

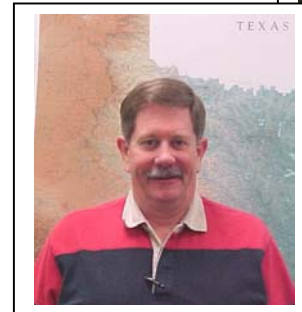
The UNT Service Recognition Awards Ceremony was held on December 12, 2002. Dr. Phillip Foster and Ms. Rebecca Wright were recognized for 20+ years dedication and continuing service to the University. Dr. Mitty Plummer was cited for 10 years.



Ms. Rebecca Wright



Dr. Phillip Foster



Dr. Mitty Plummer

2002 - 2003 Outstanding Students



Each year the Engineering Technology Department faculty select one outstanding student from each program who qualifies according to UNT guidelines. The following undergraduate students were selected by the Engineering Technology faculty as the best of 2002-2003. Electronics - **John Sinnott**; Mechanical - **Thomas Ford**; and Manufacturing - **Randall Kelton**. The Outstanding Graduate Student for 2002-2003 is **Brian Urban**.

Who's Who Among Students in American Universities and Colleges



The following students were nominated for 2003.

Electronics Engineering Technology

Lucas Baker Burns	Abel Casanova
Raelyna Antionette Catalon	Ahmad El-Rifai
Adam Wilson Hobson	Jeffrey Jacob Jendel
Victor K. Karani	Jacob Michael McKean
Samuel Lannore Okate	Cara Nicole Perales
George Akis Pulcherios	Lance Joseph Sandmann
Daniel Xavier Silva	John Michael Sinnott
Michael Ray Stearns	Joshua Simeon Stohl
Sean Michael Vreeland	Bradley R. Way
Osama Zatar	

Manufacturing Engineering Technology

Mechanical Engineering Technology

Frank Odell Armstrong	Charles Curtis Boyd
Steven Brian Cook	Tyler Ray Delacerda
Thomas Joe Ford	Rene' deJesus Guia
Scott Lyle Hall	Joey Randell Horn
Randall Dee Kelton	Scott Andrew Mancino
Adam Daniel McCall	Daniel Chase McIlroy
Khanh Van Nguyen	Jeffrey Gordon Plato
Ansel O'mar Reid	Adam Joseph Reiman
Luis M. Reyes	William John Rose
Michael David Siggins	Christopher Troxtell
Scott Justin Wray	

Master's Degree Candidates

Anand Kumar Ale	Mehul Bidhin Baxi
Jagadesh Cheruku	Swathi Dhoopati
Lakshmikanth Gorrepati	Srikala Kambhampati
Haritha Namduri	Thang Duc Nguyen
Padma Lakshmi Parakala	Gustavo Perez
Ramya Pinapati	Sunil Kumar Putta
Sriteja Tarigopula	Dinesh Tummala
Brian Urban	Sunitha Vegerla

Liquid Nitrogen Automobile



Dr. Mitty Plummer

UNT researchers from Physics and Engineering Technology received a second grant to develop a Liquid Nitrogen Powered Automobile. The grant was awarded in August 2002 for \$70,000 to both the University of North Texas and The Kharkov National Automobile and Highway University of Ukraine. The grant supports the exchange of visitors and development of a pollution free form of transportation.

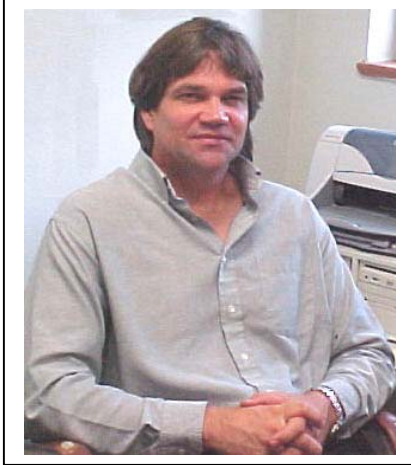
Software Donation



Dr. **Vijay Vaidyanathan** obtained a donation of state-of-the-art Product Lifecycle Management (PLM) software worth \$6.25 million from EDS, Inc. The software bundles include: Unigraphics, design software, and TeamCenter. PLM is a vital component of a company's function from idea conception to development and to product transition. Unigraphics provides total product engineering solutions relevant to electronics and consumer products. TeamCenter permits the capture, management, access, integration, and leverage of product information in a web-native environment.

PLM will be incorporated into the undergraduate and graduate Electronics Engineering Technology programs. For example, an instrumentation design course is required for ELET graduate students. PLM concepts of product portfolio planning, understanding product requirements, project plan development, task scheduling task hierarchy, and product transition will enhance the course content.

New Faculty Member



Dr. Monty Smith, Assistant Professor, is a member of the Mechanical Engineering Technology faculty. Dr. Smith has a Ph.D. and M.S. from Purdue University and a B.S.M.E. from Texas A&M.

He has five years industrial experience with Southwest Research Institute and Phillips Laboratory. His expertise includes real time code development, hardware development with emphasis in hydraulic systems, electro-hydraulic actuation, hybrid vehicles control techniques, and active nonlinear feedback control systems.

Dr. Smith has nine publications and six presentations. His current research interests includes control system synthesis for optimizing performance of a controlled event.

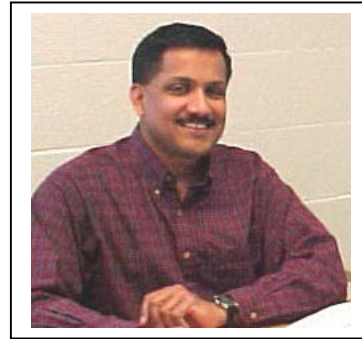
New Adjunct Faculty Member



Mr. **Ali Nouri**, a graduate of the Engineering Technology Department, is teaching in the Manufacturing Engineering Technology program. He earned his Masters degree from the department in 1987.

His industrial experience includes aluminum rolling and smelting, high conductive cables manufacturing, and automobile A/C & HVAC systems. His experience will be beneficial to the students in our undergraduate programs.

Optical Diagnostic Techniques to Detect Oral Cancer in Canines



Dr. Vijay Vaidyanathan

The American Cancer Society funded a proposal submitted by **Dr. Vijay Vaidyanathan**. Fluorescence spectroscopy has emerged as a potential non-invasive diagnostic tool to detect pre-malignant and malignant changes in oral tissues. Thus, there is a need for a photosensitizer that could enhance the spectroscopic contrast between normal and neoplastic tissue, while allowing for selective photosensitization of pre-malignant and malignant lesions in the oral cavity. It is proposed to extend earlier findings, initiate research on dogs with naturally occurring neoplasia, and determine if margins between neoplastic and normal tissue can be accurately determined using fluorescence spectroscopy.

NSF Grant Supports North Texas Regional Technology Consortium



Dr. Vijay Vaidyanathan

Dr. Vijay Vaidyanathan is Co-PI on this \$600,000 grant from the National Science Foundation. The Principal Investigator is Collin County Community College. The Consortium includes Collin County Community College District, Richland College, Grayson County College, North Central Texas College, UNT and Texas Instruments.

The purpose of the NTRTC is to pull the strengths of regional educational institutions with business and industry to improve Information Technology Programs at community colleges. NTRTC will focus on technical education that meets the needs of the region for highly skilled, adaptable and cross-trained workers.

TXU NUET Update



Dr. Mitty Plummer

TXU renewed its contract with UNT in December 2002 to deliver educational materials to Engineers and Operators of the Comanche Peak Steam Electric Station for the 14th time.

The work includes the delivery of courses leading to a Bachelors degree in Nuclear Engineering Technology. An option makes it possible for plant operators and technicians to obtain a Masters degree at night as an after-hours program.

Dr. Plummer has also been instrumental in the establishment of an undergraduate program in conjunction with the College of Business Administration of the University of North Texas.

ALCATEL Supports Materials Research Lab



Dr. Seifollah Nasrazadani received a donation from ALCATEL during the fall 2002 semester that included a scanning electron microscope, tensile tester, Rockwell hardness tester, micro hardness tester, a complete set of sample preparations for metallographic analysis of

metals, XRF film thickness measuring system, Perkin Elmer Fourier Transform and an Infrared Spectrophotometer, thermo-gravimetric analyzer. The lab is capable of doing physical and chemical characterization of solid matter using a variety of techniques.

In addition to Dr. Nasrazadani, lab personnel include two graduate students (**Haritha Namduri** and **Jorge Diaz**) and an undergraduate student (**Ansel Reed**). They are involved in the characterization of iron oxides formed in steam generators and heat exchangers. This activity is being supported with a \$110,000 grant from Texas Utilities.



Experimental Thermal Sciences Laboratory Established



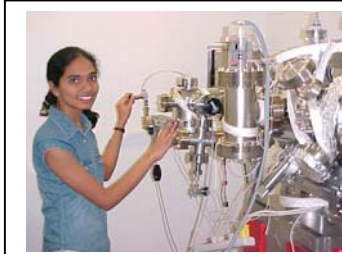
Several state-of-the-art pieces of equipment have been purchased. A wind tunnel and a pilot plant that converts gaseous and liquid fuel to electricity are being installed. Home made heat transfer experiment modules were designed and built under the guidance of **Dr. Seifollah Nasrazadani**. Five Mechanical Engineering Technology undergraduate students are designing and building a heat exchanger.

Dr. Mitty Plummer is teaching a course that utilizes this lab. It is hoped that this additional hands-on experience will be beneficial for the manufacturing engineering technology students.

Progress in Field Emission Laboratory

A state-of-the-art e-beam evaporator from Oxford Research of UK was purchased and is currently installed on an ultrahigh vacuum system. With this new capability, our research group is capable of depositing thin solid films containing up to four different elements. These films can be formed as an alloy of a single layer structure or multi pure layers. Application of this instrument is in development of different types of sensors involving thin film materials. **Dr. Seifollah Nasrazadani's** group is currently looking at deposition of Cubic Boron Nitride (cBN) that is a material with many characteristics similar to a diamond. These materials possess excellent mechanical properties, thermal conductivity, and chemical stability. Cubic Boron Nitride coatings can be used for their tribological characteristics for tooling application as well as improved electron emission with chemical stability in electronic industries.

Ms. Prasanna Vemuri is currently calibrating the e-beam evaporator and is starting to deposit BN films. The group's hope is to deposit novel thin films and characterize them for their mechanical and electronic properties to be suitable for microelectromechanical systems (MEMS).



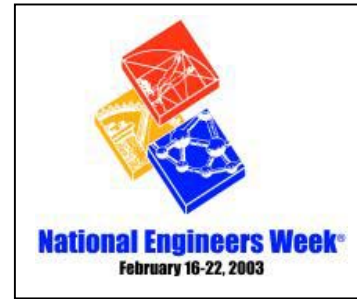
MEET, MFET & NUET Division Industrial Advisory Committees Meet



The Committees met on April 5, 2002 and recommended addition of a non-thesis option for the Engineering Technology graduate program. The Committee also suggested additional plant visits and field trips be included in the programs to provide students with familiarity, capabilities and facilities of various area industries. The Committee reviewed the new 128-hour programs.

The Committee members include: Dr. William Graver, Lockheed Martin Aeronautics Co.; Mr. Calvin Burgins, Peterbilt; Mr. Pat Bancroft, KONE Elevators, Escalators Manufacturing; and Mr. Mike Grast, Lennox.

Engineer's Week Festivities at UNT



The Department of Engineering Technology feasts Engineer's Week on February 19 & 20, 2003. The student chapters of ASHRAE, ASME, SME and IEEE are cooperating to sponsor games and contests that include building towers of single pieces of paper, paper airplane flights, and a protected egg drop contest. (The last egg standing belongs to the winner.) Prizes and trophies are awarded to the winners. More importantly for the development of students, guest speakers from IEEE, ASHRAE and SME are making presentations while everyone enjoys a pizza lunch.

Wednesday, February 19:

- 9:30 - Open House Tours
- 10:00 - Paper Airplane Contest
- 10:30 - Paper Tower Contest
- 11:00 - Drinking Straw Towers Contest
- 1:30 - Best Engineer Contest

Thursday, February 20:

- 9:00 - Egg Drop Contest
- 12:30 - Awards & Conclusion

Dr. Mitty Plummer & Ms. Leticia Anaya indicated that all contests are free and open to any student desiring to participate.

10th Anniversary



Cake

The Engineering Technology Department celebrated its tenth year of existence after being created from the former Industrial Technology Department. Representatives from the Departments of Computer Science and Materials Science joined the faculty and staff of Engineering Technology in the celebration. The cake pictured above was part of the refreshments that were enjoyed after a presentation by **Dr. Albert B. Grubbs**, Department Chair. Dr. John Richards, former Chair of the Department, also provided commentary..

Outstanding Alumni



**Dale and Julie
Martin at 2002
Dean's Reception**

Beginning in 1984, recognition has been accorded to outstanding alumni of UNT. The following individuals have graduated from what is now the Engineering Technology Department and have been so recognized.

Education

Dave Pullias	Ron Foy	John Richards
David Greer	Ralph Schultz	David Duncan
Floyd Trimble	Roger McSween	Jerry Drennan
Dale Lemons	James C. Cooke	M. D. Williamson
Brent Payne		

Business or Industry

Lionel Sweeny	Guy Laney	Robert Lange
T. W. King, Jr.	Dwight Lowery	Robert Swanson
Robert Mitchell	Bennie Snyder	Alan Calvert
David Meinsinger	Hurles Scales	David C. Orf
Sean L. Mayes	Daniel Dickey, Jr.	Lee Palmer
Claudia Heinrich- Barna	Randall Reed	Robert Starrett
Toby Malone	Alan Triggs	Charles Cotton
Troy Wolf	J. Lee Natzic	Kevin K. Poole
Richard Brabec	Keith Zimmerer	Stephen Spurgin
	John J. Balzer	Dale Martin

For 2003, the Outstanding Alumni of the Engineering Technology Department are

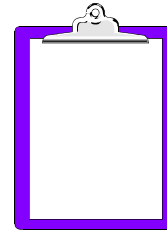
Brian Pavelek representing **Mechanical Engineering Technology**. Mr. Pavelek received his Bachelor of Science degree in MEET from UNT in 1998. He is Engineering Manager for The Infinity Partners custom aircraft interiors where he supervises the engineering design department, allocates resources, designs specialized applications, and checks drawings for FAA requirements. Brian's previous work history includes stints with American Trim & Glass, and Autozone. For fun, he restores cars that include a '65 Mustang, '86 Fiero, '81 Cutlass, and a '68 Chevy truck.

Kit Wilson representing **Nuclear Engineering Technology**. Mr. Wilson received his Bachelor of Science degree in NUET from UNT in 1998. He maintains his Senior Reactor Operator Certification and is employed at the Comanche Peak Steam Electric Station in System Engineering and Operations Support. He is responsible for the development and maintenance of normal, abnormal and emergency operating procedures. Mr. Wilson works directly with plant engineering and communicates directly with the Nuclear Regulatory Commission as part of the Emergency Organization duties.

Donald Boston representing **Manufacturing Engineering Technology**. Mr. Boston received his Bachelor's degree in 1993 from UNT. He is currently employed by Siemens of Grand Prairie where Donald is a Product Design Engineer who designs new and standard products for electrical transmission equipment. His design recommendations have saved the company hundreds of thousands of dollars during the past 3 years. Mr. Boston's previous experience includes Lead Design Engineer for Koch-Glitsch of Dallas.

Ewell Condron representing **Electronics Engineering Technology**. Mr. Condron received his Bachelor's degree in 1996 from UNT and hopes to receive his MS in Engineering Technology from UNT this summer. He is employed by MEMC Southwest as a Facilities Engineer where he designs and installs capital projects to achieve cost savings. Ewell states that: "UNT's ET program taught me the engineering problem solving methodologies needed for an engineer in a high-tech semiconductor manufacturing facility."

Alumni Update Your Assistance is Needed



Are you recently married? Do you have any new additions to your family? Have you been recently promoted? Have you moved? Let us know what is happening in your life. News of alumni will be published in future issues of this newsletter. So, please keep us informed.

Along with your news, include your name, address, phone, date of graduation and degree. If possible also include a fax number, a recent photo of yourself and an e-mail address. Mail to: "At a Glance", Engineering Technology Department, P.O. Box 310679, University of North Texas, Denton, Texas, 76203-0679. Or you may fax us at (940) 565-2666 or email to <ctec@unt.edu>.

Alumni Update:

Todd Bishop, BS, ELET, class of 98, is currently an electrical engineer in Dallas as part of a research and development group, designing microelectronic devices. He is pursuing an MS in electrical engineering at UT-Dallas.

Alumni We Will Miss:

Francis B. Self, class of 47, served in the US Air Force during World War II.

Thomas E. Jarrett, class of 52, was a World War II veteran who served in Germany, France and Austria.

Marcus Ely Bailey, class of 74, was employed by Whip Industries as a computer numerical control programmer.

Research Partnership with Baylor Research Institute



Dr. Vijay Vaidyanathan

Dr. Vijay Vaidyanathan has established this research partnership to investigate innovations in the design of pulse oximeters. A research lab has been made available at Baylor for a UNT graduate student, researchers and medical technologists. The features of pulse oximetry which make the technology attractive to clinical staff are: ease of use, no warm-up time, no need for calibration, non-invasiveness, and low likelihood of harm to the skin.

New Home



The former Denton Texas Instruments facility was purchased by the University of North Texas.



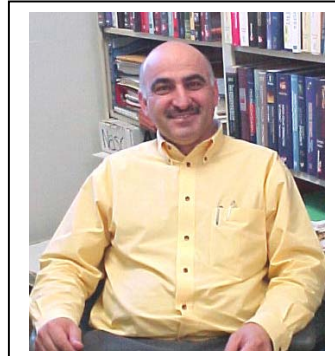
Renamed the University of North Texas Research Park, the Engineering Technology Department will be one of the campus units relocating to this site.

Future location on the Manufacturing Engineering Technology lab.



Corrosion Product Analysis of CPSES

Dr. Seifollah Nasrazadani received a \$90,000 grant from TXU to study and characterize corrosion products formed in the Comanche Peak power plant. The goal of Dr. Nasrazadani's research group is to be able to identify iron oxides formed inside different components of the power plant and study the mechanism of their formation. This group will also study the interaction of different amines used as part of water treatment chemistry with iron oxides. An additional \$20,000 was recently received from TXU for this project.



Featured MEET Graduate Assistant

Jorge Diaz is from Bucaramanga, Columbia. Mr. Diaz graduated in 1999 from the Universidad Industrial de Santander with a degree in Mechanical Engineering. He taught Reliability Centered Maintenance in the Mechanical Vibration Laboratory at the same institution. He co-designed and co-wrote an information system for managing inset tools and working materials as a thesis-project for his undergraduate degree.



This research project, intended for manufacturing companies, was in conjunction with the Universidade Federal do Santa Catarina in Brasil. Jorge has a second degree from North Lake College, Irving Texas in UNIX System Administration.

Determination of the Shelf Life of Aluminum Electrolytic Capacitors

Ed Wynne, Senior Procurement Engineer for TXU's Comanche Peak Steam Electric Station, completed his Master Thesis in Spring 2002. Ed's research on the storage and regeneration of capacitors has the potential of saving millions of dollars per year for the nuclear industry. He studied methods for increasing the time that electrical capacitors could safely be stored on shelves before being discarded because irreversible degeneration had made the capacitors unusable. Ed applied established methods for regeneration to increase shelf life. Note: Ed was selected Outstanding Engineering Technology Graduate Student for 2002.

ELET Industrial Advisory Committee Meeting



The Industrial Advisory Committee meeting for the electronics program was held in the Engineering Technology Conference Room on December 12 and was attended by the following industry representatives: Ezra Penermon of Texas Instruments, Peter Dickson of Ericsson, and James Polozcek retired from Raytheon. Dr. Albert B. Grubbs, Jr., Dr. Roman Stempok, Dr. Robert Hayes, Dr. Vijay Vaidyanathan, Mr. Charles Bittle and Mr. Enkhbat Baatarjav represented the ELET program.

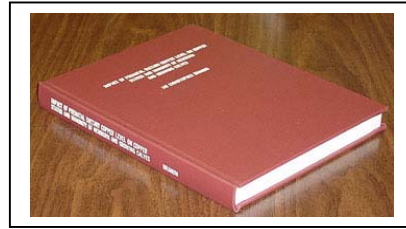
The industry representatives were enthusiastic about the acquisition of EDS software and its potential use in the ELET curriculum. They stressed that students must be well versed in soft skills such as oral and written communication and were appreciative that the electronics program has begun incorporating projects and presentations in sophomore and junior level classes. Dr. Grubbs provided a progress report on the College of Engineering. Dr. Hayes made a presentation on the TXU Electronics program. The meeting concluded with a tour of facilities conducted by Dr. Stempok, Dr. Vaidyanathan, Mr. Bittle and Mr. Bataarjav.

Featured ELET Graduate Assistant



Ms. Preethi Nagarajan is a graduate student in the electronics program who is pursuing a dual degree (Master of Science in Engineering Technology & Master of Business Administration) option. Ms. Nagarajan is a published author and a teaching assistant for Dr. Vaidyanathan and Dr. Stempok. They agree she is an outstanding graduate student who is respected and a popular TA in the electronics program.

Completed Theses



In addition to the three theses reviewed in this Newsletter, the following have been completed in the Engineering Technology Department since the 1995 inception of the thesis track.

Abdulraouf Al-Shantaf: *A Computer-based Control System for a Target Station in a LINAC Facility.* Major Professor - Dr. Perry McNeill

Wayne C. Arendsee: *Development of a Coaxiality Indicator.* Major Professor - Dr. Phillip Foster

Enkhbat Baatarjav: *A Model for Designing a New Telecommunication System in Mongolia.* Major Professor - Dr. Perry McNeill

Charles C. Bittle: *Linearity and Monotonicity of a 10-bit, 125 MHZ, Segmented Current Steering Digital to Analog Converter.* Major Professor - Dr. Perry McNeill

Terry Fooks: *Design of a Monitoring System for a Plazma Cleaning Machine.* Major Professor - Dr. Perry McNeill

Sze Sang Lui: *A Data Acquisition System Experiment for Temperature and Pressure Measurements on a Liquid-Nitrogen-Powered Vehicle.* Major Professor - Dr. Mitty Plummer

Patrick Joseph Marnock: *Development of a Simplified Fracture Toughness Tool for Polymers.* Major Professor - Dr. Phillip Foster

Dwarakish R. Nagaraja: *Laser Cutting Machine: Justification of Initial Costs.* Major Professor - Dr. Ratan Kumar

Larry Glen Pope: *Effect of Engineered Surfaces on Valve Performance.* Major Professor - Dr. Mitty Plummer

Paul Christopher Schlesselman: *Feasibility of Using X-ray Diffraction Linewidth for Non-destructive Evaluation: A Study of Brass.* Major Professors - Dr. George Watt & Dr. Dennis Mueller

John A. Taylor: *Effects of a Surface Engineered Metallic Coating on Elastometric Valve Stem Seal Leakage.* Major Professor - Dr. Mitty Plummer

Seshagirirao Velpuri: *Fracture Toughness Testing of Plastics Under Various Environmental Conditions.* Major Professor - Dr. George Watt

Founding Dean



The University of North Texas has selected Dr. Oscar N. Garcia as the founding dean of the College of Engineering. UNT President Pohl said: "The UNT campus community is delighted to welcome Dr. Garcia as the founding dean of the new College of Engineering. I have high hopes for the role that engineering programs will play in advancing our institution. ...our new college will expand UNT's role in regional economic development, increase extramural funding and anchor operations at our new Research Park facilities."

Dr. Garcia is leaving his position as NCR Distinguished Professor and Chair of the Department of Computer Science and Engineering at Wright State University in Dayton, Ohio, in July, to launch the University's new College. His challenges include the renovation of the UNT Research Park facilities, which will be the home of the new College, faculty and student recruitment, and fund raising.

Dean Garcia has served as Program Director for Interactive Systems in the Information, Robotics and Intelligent Systems Division of the Computer and Information Science and Engineering Directorate, and for Engineering in the Directorate for Education and Human Resources, at the National Science Foundation. In addition to serving as founding Chair of the Department of Computer Science and Engineering at the University of South Florida, Dean Garcia has been on the faculty of The George Washington University, University of Maryland Institute for Advanced Computer Studies and Center for Automation and Robotics, and Old Dominion University.

The Texas Higher Education Coordinating Board authorized the establishment of a College of Engineering at UNT in April 2002. Initial departments are Computer Science and Engineering, Engineering Technology, and Materials Science and Engineering. Additional departments are expected to be added within the next few years.

When contacted, Dean Garcia had the following comments. "I feel honored and humbled to be chosen as the first Dean of Engineering of the newest college within

the UNT System. The engineering faculty and I will strive to provide the people and industries of the North Texas region with educational and research opportunities for traditional and nontraditional computer science and engineering students. We look forward to fostering a technological environment of job creation and improvement, of industrial interaction and enhancement for greater competitiveness and producing relevant advanced research for regional economic growth.

Dean Garcia's research focuses on bioinformatics, human-computer interaction, artificial intelligence, expert systems and software engineering. Past research includes robust speech recognition, computer architecture and parallel processing, circuit testing, and arithmetic coding theory.

Dean Garcia is an Institute of Electrical and Electronics Engineers Life Fellow, former President of the IEEE Computer Society, IEEE Third Millennium Medal recipient, recipient of the American Society for Engineering Education Centennial Certificate, the IEEE Rechar E. Merwin Distinguished Service Award and a Fellow of the American Association for the Advancement of Science.

TXU ELET Update



Dr. Albert B. Grubbs, Jr.



Dr. Robert Hayes

The ELET program is in its third year of providing educational services to employees at TXU. Flexible schedules that are not consistent with regularly offered campus courses are required due to extended periods on maintenance shutdowns at the facility. The services are being provided in two modes.

First, a special update program was designed to provide non-credit training to employees during working hours to better prepare them for upcoming upgrades to the facilities' electronic control and monitoring systems. A full time instructor is employed to provide onsite services that include designing the technical content, hands-on laboratory activities, and delivery of the instruction.

Employees desiring to obtain a baccalaureate degree are provided credit classes. Both lecture and laboratory classes are conducted on-site to minimize travel. Interactive video, on-site instructors, and professors from the main campus provide advising and instruction. TXU onsite computers and laboratory equipment are used in the instruction.

Mike Kozak & ANTEC



Dr. Michael Kozak participated, as a proxy international counselor, at the 2002 Annual Technical Conference of the Society of Plastics Engineers in San Francisco. He attended his first ANTEC in 1988 and volunteered to be in charge of students coming to the

1990 ANTEC in Dallas. Mike was elected international counselor for the next seven ANTECs. He attended the 1998 ANTEC as an international Vice-President and the 1999 ANTEC as the Society's Treasurer. Dr. Kozak was the General Chair of the 2001 ANTEC in Dallas. After 15 years, it appears that the 2002 ANTEC will be his last.

Happy Trails!



Dr. Ronald Jones completed his 5 years of modified service with the Engineering Technology Department. Dr. Jones was instrumental in initiating two courses (Technological Systems

& Technical Presentations) that are part of the University core curriculum. Thank you Ron for many years of dedicated service to the Department. Ron and his wife Sandy can be contacted in their RV somewhere in the Western United States.

MEMS Invited Lecture Series

A series of five lectures on Materials and Mechanics in MEMS Devices was presented in conjunction with MEET 5240 & MTSC 5550. Topics included the following.

Design and Manufacturing Issues in MEMS for Microassembly, George D. Skidmore, Ph.D., Zyvex Corporation.

MUMPs Multi User MEMS Process, Ed Kolesar, W. A. Moncrief Professor of Engineering, TCU.

MicroJet Printing Technology and Application to MEMS Fabrication, W. Royall Cox, Ph.D., Principal Scientist, MicroFab Technologies, Inc.

MEMS Lecture on DLP(tm) Technology, Rick Oden, Lissa Magel & Sohrab Habibi-Goudarzi, Texas Instruments.

RF MEMS, Brandon Pillans, Principal Scientist, Raytheon, Inc.

ETEC Web Site

www.etc.unt.edu

The Secret is Excellent Technical Support

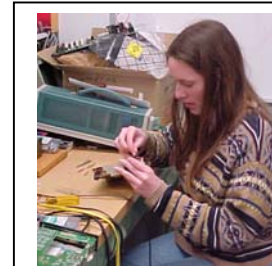
Technical support for the Department of Engineering Technology is responsible for maintaining all student laboratory equipment: four computer-based labs and three mechanical/manufacturing labs. Supported software includes AutoCAD, Algor FEA, Labview, Altera Elanix System View & Microsoft products. Almost half the department computers were replaced last year.

Brian Urban, Lab Manger has overall responsibility for all equipment and services. With extensive industrial experience, Mr. Urban is the "go to" person for all technical questions.



Jeff Jendel is Network Administrator in charge of the Windows server, network computer access and student accounts. Mr. Jendel installs new software, maintains software licenses, upgrades existing software and troubleshoots network problems.

Cheryl-Annette Kincaid provides maintenance support for all lab computers and devotes the major of her time to changing floppy drives, installing operating systems, and changing the occasional defective mouse. Ms. Kincaid also builds power supplies for the Electronics Labs



Sean Daly is also responsible for maintaining lab PCs. He performs routine maintenance, changes hard drives, network interface cards, processors and motherboards. Mr. Daily is training to step into the duties of the network administrator.

One of the biggest challenges of the technical support staff is keeping the computers upgraded to the newest technology. Even so, technical support was cited during the last ABET accreditation visit as one of the major strengths of the department - a fact that speaks to the quality of our part time students.