

Christian Brothers University

SCHOOL OF ENGINEERING



Chemical



Civil



Electrical



Mechanical



Graduate Engineering

Engineering Newsletters

March 2004

IN MEMORY:
ROLAND REGOLO RAFFANTI
(1930 - 2004)



Mr. Roland Raffanti (3rd from Left) in Engineering Development Shop

Mr. Roland Raffanti, a long-time mechanical technician at CBU Engineering, passed away on Thursday, March 18th. He had decided to

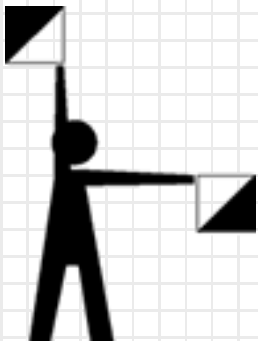
retire from CBU effective on March 16th due to health reasons.

Mr. Raffanti was born on June 25, 1930, in Memphis, TN. He was an Army veteran. He joined CBU in 1986. During his 18 years at CBU, Roland was very dedicated to our students and the mission of CBU. If he had to stay late or come in on holidays to help students on their design projects, he was always glad to be there for them. Our Moonbuggies, the renovation of Saint Benilde Hall, and many other projects would not be possible without him. He received much recognition for his dedication, including Brother Dominic Dunn Service Award and Featured Engineering Faculty Award.

Many of our lives have been touched by him and he will be missed by all.

(Note: If you would like to share your thoughts or stories about Roland, please send it to pong@cbu.edu and we will share it with other readers in future issues of our Engineering Newsletter.)

VOLUNTEERS NEEDED



VOLUNTEERS NEEDED FOR HIGH SCHOOL COMPETITION ON APRIL 6th

The 2nd Annual **High School Competition** is set for April 6th. There will be four competitions this year: Egg Drop Contest, Balsa Wood Bridge Construction, Human Reaction Time Competition, and CO2 Car Competition. They were designed for 10th, 11th, and 12th graders. There will be about 100 entrants. All activities will be in Saint Benilde Hall and surrounding areas. Barnhart Crane & Rigging Co. are donating a crane for use in the Egg Drop Contest. This will be an exciting and fun event.

Engineering students, faculty, and alumni: We need many volunteers to judge the competition and direct traffic/give directions. In case you cannot help on these two tasks, we still need you to mingle around with high school students. This is a great opportunity to talk to them about engineering. Please contact Dr. Randel Price at rprice@cbu.edu or 321-3412 if you plan to help.

HIGHLIGHTS OF NEW LAB EQUIPMENT

Thanks to **Mr. John Kanne** for his recent donation of many pieces of equipment for our new Composite Materials Lab. Mr. Kanne is a recognized expert on the subject area. He contributed a chapter in the Handbook of Composites (published by Chapman & Hall). The handbook is considered by many as the bible of composite materials. The equipment he donated to CBU Engineering include:

- Rolling Table with Flexible Lower Platen 6 ft
- Filament Winder
- Cellophane Wrapper (2 pieces)
- Assembly Table
- Mandrel Puller
- Paint Pot & Stand
- Blast Cabinet



New Composite Materials Lab



A new steel sculpture was erected between Nolan Engineering Center and Sciences Center on February 27th. It is not only a new piece of campus art, but also a teaching tool. Students get a true visual understanding of steel framing and steel connections from the sculptures, now installed at 122 colleges and universities across the United States. Only four campuses in Tennessee have the piece. These steel sculptures are valuable teaching aids that show the many methods of steel framing and their corresponding connections. The piece shows various types of connections found in buildings,

bridges and other structures. The original steel sculpture was designed in 1986 by Professor Duane Ellifritt, Ph.D., P.E., at the University of Florida. The sculpture was presented to CBU by Providential Fabricators, Inc., of Memphis and designed by the American Institute of Steel Construction, which has made them available to colleges and universities with engineering programs.

Providential Fabricators, Inc., is a structural and miscellaneous steel fabricator located in Memphis, TN. PFI was established in May 1, 2001. Since its inception, PFI has sold, fabricated, and erected more than \$25 million of structural and miscellaneous steel for schools, churches, distribution warehouses, retail centers, multi-story office buildings, and industrial projects.

Also thanks to **Mr. John Curran** (EE'88), Director Design & Construction, and Mr. Greg Short, Project Coordinator Materials Management at St. Jude Children's Research Hospital for recent donation of the following biotech-related lab equipment to CBU Engineering:

- Refrigerator
- Sorvatt Centrifuge
- Forma Incubator

**2004
ENGINEERS
WEEK
RECOGNITIONS**

Mr. Erik A. Weghorst (CEE Senior) was recognized by the Memphis Joint Engineers Council and CBU Engineering as a Featured Engineering Student at the 2004 Engineers Week Banquet on February 26th. Currently, Erik interns at the Transportation Department at Pickering Firms, Inc., and serves as a tutor for the CBU English Department. He worked for Malco Theatres over the years and rose from Department Supervisor to Theatre Manager. He has been on the Dean's List, Who's Who in American Colleges, and a member of Tau Bet Pi. He attends CBU on a Trustee Scholarship. His leadership activities include President of the CBU Student Chapter of the American Society of Civil Engineers, Youth Leadership Training, and LaSallian Collegians Leadership.



Dr. Asit Ray, Professor of Chemical & Biochemical Engineering, was recognized by the Memphis Joint Engineers Council and CBU Engineering as a Featured Engineer at the 2004 Kickoff Luncheon on February 23rd. Dr. Ray got his B.S. in Chemistry from Calcutta University, India, and his M.S. and Ph.D. in Chemical Engineering from Lehigh University, Bethlehem, PA. He then worked for DuPont, Cyanamid and Olin Corporation (8 years) before switching to academics. He taught six years at Auburn University before joining the engineering faculty at CBU in 1985. Dr.

Ray's specialty is polymers. He established a new course in polymer engineering including a hands-on laboratory. He is the coordinator of the newly established Packaging Engineering Certificate program and teaches the materials and processing parts of the several courses offered. Dr. Ray has been active in research since 1990 and has published or presented several papers. His research specialty is polymer processing, characterization, structure-property relationship and polymer selection. He spent the summers of 1990 and 1995 at NASA Langley Research Center, Virginia, as a NASA-ASEE Summer Research Faculty Fellow. He spent the summers of 1991 and 1992 at Kennedy Space Center as NASA-ASEE Summer Research Faculty Fellow. In 1996 Dr. Ray expanded his field of polymer research to include biomaterials in cooperation with local

biomedical companies. He is currently involved in a joint research program on biomaterials with the University of Memphis and a local biomedical company. With the expanded Polymer Lab and the new Packaging laboratory facilities in Saint Benilde Hall, he intends to expand his research to plastics used for medical packaging.

Michael C. LaMountain (EE'00) was recognized by the Memphis Chapter of the Tennessee Professional Engineers (TSPE) as the 2004 Young Engineer of the Year at the Engineers Week Banquet on February 26th. Michael is owner and master electrician of Urban Electric. His firm has worked on various projects on power, lighting, and intercom systems for residential and commercial clients. Before starting his own business, he worked for Electrical Controls, Inc., Allen & Hoshall, Davis Electric, and Pyramid Electric. In addition to his EE degree from CBU, he is also a registered Unlimited Master Electrician and a registered EIT with the State of Tennessee.



Dr. Loretta T. Dale, a member of our MEM Advisory Board, was recognized as a Featured Engineer by the Memphis Joint Engineers Council and the local chapter of the American Society for Quality (ASQ) at the 2004 Kickoff Luncheon. She is Director of Training for MSQPC-The Quality Center. MSQPC is a partnership of the Memphis Regional Chamber and Southwest Tennessee Community College. The Quality Center is a resource for Organizational Assessments based upon the Malcolm Baldrige Criteria, ISO 9000 and 14000 initiatives, Six Sigma, and innovative quality-productivity training, consulting, and public programs. Loretta has a BA in Business Education from Harding University, a Masters in School Administration from Arkansas State University, and a Doctor of Education in Leadership from the University of Memphis. Loretta is a veteran of the Tennessee Quality Award Board of Examiners, a member of the American Society for Training and Development, American Society for Quality, the Greater Memphis Association for Quality Board of Directors, Kappa Delta Pi, and CBU MEM Advisory Board. She is the Process Chair for the Greater Memphis Association for Quality Award and guides the Baldrige process. Loretta has extensive experience writing applications for various Baldrige awards. Loretta assists Dr. Donald Fisher with Baldrige assessment clients and has direct oversight of all ISO 9000, ISO 14000 and Six Sigma clients. Loretta and her husband, Lyndal, who is a minister, have three children and five grandchildren.

(Note: There are more members of our CBU Engineering Family recognized at this year's Engineers Week Celebration. They will be profiled in the April issue.)

SUMMER PROGRAMS FOR HIGH SCHOOL STUDENTS

Packaging Engineering Summer Program:

The summer program has been scheduled on June 14-18, 2004. If you are currently a high school student, you are eligible to apply for the program. Students will be introduced to various aspects of packaging engineering, including: historical development, materials, distribution systems, design/testing/evaluation methods, and economic/environmental impacts. Field trips to local packaging operations will be part of the program. Visit http://www.cbu.edu/engineering/summer_program.html for more information and application form. The program is made possible by a grant from International Paper Foundation.

Civil Engineering Summer Program for Female High School Students:

This program has been set for June 7-18, 2004. More information will be available soon. Please check the CBU Engineering website: <http://www.cbu.edu/engineering> for it. This program is made possible by a grant from the American Society of Civil Engineers.

STUDENT NEWS



Civil Engineering: The environmental team **Jonnye Keith, Lee Schumann, J.T. Malasri, and Andrew Warren** won **First Place** in the environmental competition at the ASCE Deep South Regional Conference in Oxford, MS (March 25-27, 2004). Congratulations to the CBU ASCE Student Chapter and the CEE Department. **Mr. Gene McGinnis** (CEE Chair and ASCE Faculty Advisor) accompanied the students to the competition. This is the first year that our Student Chapter competed in the Deep South Regional Conference. ASCE National has asked us to move from the Southeast Regional Conference to Deep South Regional Conference due to the many schools in the Southeast Conference.

Electrical and Computer Engineering: "Senior **Tequilla Clayton** (ECE) returned March 28 from the Institute of Electrical and Electronic Engineers' Southeast Conference 2004 held in Greensboro, North Carolina. Tequilla won First Place and \$800 in the student paper contest with her paper "Network Protector Monitoring System for the Downtown Memphis Electric Network." Engineering students representing over 40 colleges and universities from across the Southeast and the Caribbean presented papers at the conference. **Mr. John Ventura** (IEEE Faculty Advisor) accompanied the students to the competition.

Tequilla was also awarded the 2004 Featured Electrical Engineering Student at CBU. She attends CBU on a Christian Brothers Lasallian Academic Scholarship. She also interned with Cummins Diesel Recon Company, Memphis, TN, assisting in the implementation of quality systems from QS9000 to ISO/TS 16949. Congratulations, Tequilla!"





Ms. Tequilla Clayton at the IEEE Southeast Conference 2004

Also congratulations to the following engineering majors who were recently inducted to the Alpha Chi Honor Society: **Jeffrey King** (ME), **George DeJean** (ME), **Zachary Wilkinson** (ME), and **Benjamin Reves** (ChE). Students must be in the top 10% of their class to be eligible for membership.

The electrical/computer engineering seniors presented their senior design projects on February 28, 2004. Here is a list of their project titles and sponsors:

- “Online Student Directory” by **Jonathan Thomas Allen** and **Josh Brewer** (Sponsored by CBU ITS and Student Life)
- “Video/Music Inventory System” by **Jeremiah Michael Beisner** and **Dat T. Tran** (Sponsored by Hoa Tuyet Video Store)
- “Sales Order Log” by **Eric Forte** (Sponsored by Kele)
- “Reducing Backorders” by **Reginald Jamel Clayton** (Sponsored by Cummins, Inc.)
- “Upgrade of the Flaking Packaging Line” by **Khyati J. Shastri** (Sponsored by ACH Food Companies, Inc.)
- “Design and Implementation of a Conveyor Control System” by **Gieselle Melisa Mendonca** (Sponsored by Cummins, Inc.)
- “Portable Restroom Lighting System” by **Favian E. de Lima** (Sponsored by The Bodine Company)
- “Network Protector Monitoring System for the Downtown Memphis Electrical Network” by **Tequilla Nicole Clayton** (Sponsored by Memphis Light Gas and Water)

- “Hemostatix Scalpel Data Acquisition System” by **Eugene Fayne II** and **Leonard Jerome Mills** (Sponsored by Gyrus ENT)
- “Solar Powered Pool Lighting” by **Joseph Lee Clements** and **Ben Brooks Bondurant** (Sponsored by Mr. Tony Capodiferro)
- “CCD Camera and Imaging System” by **John Matthew Swatek** (Sponsored by CBU Physics Department)

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