

Christian Brothers University

SCHOOL OF ENGINEERING



Chemical



Civil



Electrical



Mechanical



Graduate Engineering

Engineering Newsletters

April 2005

LAB EQUIPMENT HIGHLIGHT

The CBU School of Engineering recently purchased and installed a Kongsberg XL22 made by Esko-Graphics, the world leader in sample-making tables. Thanks to the \$3M grant from the Assisi Foundation of Memphis!

This table is capable of making drawings and cutting samples of folded cartons, corrugated and plastic lined boards from the largest to the smallest sizes. It can also cut samples of complicated designs like an ant, a rocking chair, or anything that can be designed using the ArtioCAD software. Besides sample boxes, it can also be used as a dependable small-lot production unit of small cartons for computer and other electronic usages. Because of topnotch productivity, simple and time-optimized operation, excellent tooling flexibility and durability, the Kongsberg tables are the top choice of packaging professionals worldwide. The following are the special features of this table.

- Unobstructed tabletop access from all sides.
- Excellent safety features for preventing injury.
- Ideally suited for a mix of corrugated and folding carton jobs because of excellent versatility.
- Automatic identification of tool inserts, speeds up changeovers and prevents user errors.
- Laser pointer in tool head ensures fast and accurate registration.
- Powerful vacuum hold-down system with configurable on/off control.
- Can draw on Mylar, paper, and flat die boards.

- Low noise operation.



Kongsberg XL22 table and a few samples of what it can do

Dr. Asit Ray will undergo four days at an Artio-CAD software training course at Esco-Graphics, USA in Ludlow, MA during May 2005. He will then be able to design any type of boxes and figures using this software and then cut on the Kongsberg table. This state-of-the-art equipment can be used to support the Packaging Engineering Certificate at CBU and serve the packaging needs of local packaging companies as well.

HIGH SCHOOL COMPETITION WINNERS

Congratulations to the following winners at the 3rd Annual High School Competition held at CBU on April 7th:

Balsa Wood Bridge

1st Place - **Jessica Neagle**, Millington Central HS (11th)

2nd Place - **Alex S. Lawson**, Christian Brothers HS (11th)

3rd Place - **Evan Webster**, Christian Brothers HS (11th)

Electric Air Vehicle

1st Place Tie - **Nicholas Bland**, Christian Brothers HS (11th) &
Kristen Yates, Germantown HS (11th)

CO2 Car

1st Place - **Daniel C. Henry**, Bartlett HS (9th)

2nd Place - **Brenda Carrasco**, Kingsbury HS (11th)

3rd Place - **Charlie Wunderlich**, Christian Brothers HS (11th)

Egg Drop

1st Place - **Annie Brulatour**, Collierville HS (9th)

2nd Place - **Nicolas Eddy**, Collierville HS (9th)

3rd Place - **Chao Lin**, Craigmont HS (12th)

Special Mention for Best Engineering Design - **Tim Harmon**,
Ridgeway HS (12th)

Thanks to the following engineers who served as judges for these competitions:

- **Michael Belk** of International Paper
- **Bruce Burr** of Burr & Cole
- **Russell Darley** of Smith & Nephew
- **Juanita Ford** of MLGW
- **Tim Gentry** of Medtronic Sofamor Danek
- **Brian Marshall** of VP
- **Haston Timmons** of Smith & Nephew
- **Robin Turner** of Medtronic Sofamor Danek

The event would not be possible without the following sponsors:

- **Barnhart Crane & Rigging Co.**
- **Ellers, Oakley, Chester, & Rike, Inc.**
- **EnSafe, Inc.**
- **Medtronic Foundation**
- **Brother Louis Althaus**
- **Mr. and Mrs. John Ventura**

And many thanks to engineering faculty, staff, and students who helped make this event a successful one.





MAESC 2005 PRESENTATIONS

The 7th Annual MAESC 2005 Conference is around the corner on Wednesday, May 11, 2005, at CBU from 8 a.m. to 3:45 p.m. There will be a total of 4.5 tracks of technical paper presentation, with one full track devoted to the theme of the conference, Engineering Management: Leadership in Engineering Practice & Education. Besides engineering management sessions, there will be sessions on civil engineering, biomedical engineering, packaging engineering, forensic engineering, electrical engineering, engineering analysis, and engineering education. In addition, there will be a poster session and a keynote address at the conference luncheon. For registered professional engineers, you can earn up to six professional development hours for your PE license renewal.

Register by April 27th and take advantage of the discount early registration fee. Details and application forms can be found at the conference web site at: <http://www.cbu.edu/engineering/maesc>. You also can register on-line using your credit card.

If you have any questions, please contact either Dr. Neal Jackson, Conference Chair, at (901) 321-3283 / njackson@cbu.edu or Dr. Pong Malasri, Dean, at (901) 321-3419 / pong@cbu.edu.

ELECTRONICS LAB OPEN HOUSE

You are cordially invited to attend the Electronics Lab Open House to honor the generous gift from the Bodine Company. The Open House will be on Tuesday, April 26, 2005, from 3 p.m. - 5 p.m. and will include some demonstrations. The lab is located in Saint Benilde Hall. Please RSVP by calling Mrs. Glenda Emerick at 321-3410 or send an email to lemerick@cbu.edu by Tuesday, April 19.

SUMMER COURSES

There will be several engineering courses offered during the summer of 2005:

June Session (June 6 – July 8, 2005)

- CE 350 Construction Estimates/Cost (3 credits) MTWR 5:30 – 7:15. This course is counted toward the Construction Management Certificate requirements. For more information, please contact Mr. Gene McGinnis (CEE Chair and course instructor) at (901) 321-3279 or gmcginni@cbu.edu. For practicing engineers, you can take the certificate by enrolling as a CBU special student. More information about the certificate can be found at: http://www.cbu.edu/engineering/cm_certificate.html.
- ChE 231 Elementary Thermodynamics (3 credits) MTWR 10:30 – 12:15. This course is cross-listed with ME 305. For more information, please contact the instructor, Dr. Asit Ray, at (901) 321-3418 or aray@cbu.edu.

July Session (July 11 – August 12, 2005)

- ECE 221 Electric Circuits Analysis I (3 credits) MTWR 10:30 – 12:15. For more information, please contact Mr. John Ventura, the course instructor, at (901) 321-3429 or jventura@cbu.edu.

MEM Graduate Courses (May 31 – August 8, 2005)

- MEM 624 Knowledge Engineering (3 credits) M 5:20 – 9:20. For more information, please contact Dr. Siripong Malasri, the course instructor, at (901) 321-3419 or pong@cbu.edu.
- MEM 637 File Organization & Database Management (3 credits) T 5:20 – 9:20. This course is mostly on-line. For more information, please contact Dr. Juan Carlos Olabe at (901) 321-3413 or jolabe@cbu.edu.

Please note that both MEM courses above meet the requirements for the Information Technology Graduate Certificate. For more information about the certificate, please contact Dr. Neal Jackson, MEM Director, at (901)

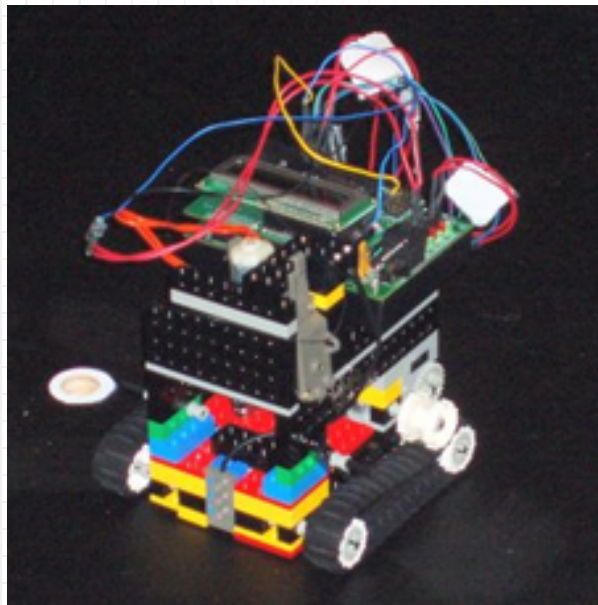
321-3283 / njackson@cbu.edu or the web site at: <http://www.cbu.edu/memp/certificate.html>.

Download a complete list of summer courses offered at CBU at: http://www.cbu.edu/engineering/summer_courses.pdf.

QUALITY SURVEY In September 2004, a survey was conducted to gauge interest in a program that Smith and Nephew Orthopaedics and Christian Brothers University are partnering to develop: A graduate-level course of study focused in the area of Quality, as part of CBU's Masters of Engineering Management (MEM) Program. Based on the positive results from the initial survey, we are moving forward to develop the curriculum for this Certification. Courses will be developed based on your input.

If you are interested, please take a few minutes to complete this on-line survey at <http://qualitysurvey.smithnephew.com>.

STUDENT NEWS Congratulation to **Denardo Crawford, Brad Keller, Lloyd Smith, and Roger Smith** for receiving the "Best Sportsmanship Award" at the Student Hardware Competition held at the IEEE SoutheastCon 05 Conference held in Fort Lauderdale, Florida on April 8-10, 2005. Over 40 engineering schools in the Southeast participated in the conference this year. **Josh Holtgrewe** did quite well in Paper Competition and was placed in the top twelve in the technical paper competition. **Mr. John Ventura**, IEEE Faculty Advisor, traveled with the group. Pictures of the conference can be viewed at: <http://sec05.nova.edu/images/index.html>.



CBU Robot "The Fred Terry" at the IEEE Hardware Competition

Congratulation to **Josh Holtgrewe** on his senior voice recital presented in Spain Auditorium on April 17. Josh is a graduating electrical engineering student and serves as chairperson of the student branch of IEEE. Josh's program included Pur Dicasti by Antonio Lotti, Ich Liebe Dich by Ludwig van Beethoven, Bright is the Ring of Words by Ralph Vaughan Williams, Maria (from West Wide story) by Leonard Bernstein, Warm as the Autumn Light (from the Ballad of Baby Doe) by Douglas Moore, God is My Shepherd by Antonin Dvorak, Some Enchanted Evening (from South Pacific by Richard Rogers, Danny Boy by Fred Weatherly, and Messiah by George Frederic Handel. In 2002, Josh placed 2nd in the National Association of Teaches of Singers (NATS) held at Rhodes and placed 3rd in the regional competition. Congratulations to Anthony Williams, Associate Professor of Music and Chair of the Fine Arts and Speech Department, for his contributions to Josh's recital, the CBU Chorale, the CB Singers, and his work in bringing music appreciation to the CBU community.

Congratulations to **Ella Thorsteinsdottir and Carol Dodge** for winning **First Place** in the Female Endurance Race at the concrete canoe race at the 2005 ASCE Deep South Conference. **Jittapong "JT" Malasri** also won **Second Place** in the Technical Paper Competition at the conference. The conference was held at the University of Louisiana at Lafayette on April 7-9, 2005. Other CBU civil engineering majors participating at the conference were **Joe Parker, Brad Loeffel, Jeff Higgins, Lee Schumann, Nick Marasa, Wes Templeton, Andrew Warren, Chris Popwell, Randy Scott, Ben Knoernchild, Cara O'Hern, Jonnye McElyea, Sam Vitale, Steven Wilkins, Juan Gutierrez, Lamar Lutland, and Justin Ernest.** Mr. **Gene McGinnis**, CEE Chair and ASCE Faculty Advisor, went along with the group.



CBU Concrete Canoe Team

From Left: Carol Dodge, Ella Thorsteinsdottir, Brad Loeffel, and JT Malasri

Lee Reynolds Allen, Jeffrey Guy Bodeen, Ian Gilmore, and Nathan Webb gave a talk on the design and construction of Alpha VI, the 2005 CBU Moonbuggy, at the CBU Board of Ambassadors Meeting on April 7th.

They also entered the NASA sponsored race at Marshall Space Center, Huntsville, AL, on Saturday, April 9th. Our vehicle performed quite well at the race even though it was not ranked in the top three. The Moonbuggy can be viewed in the Nolan Engineering Center. It is a real luxury edition with cushioned seats. You must see it to believe it! Also, we are looking for corporate sponsors for the next version Alpha VII. If your firm would like to be a corporate sponsor for next year's Moonbuggy, please contact Dr. Paul Shiue, Moonbuggy Faculty Advisory, at (901) 321-3424 or pshiue@cbu.edu.



Congratulations to the following engineering students who have recently been inducted to the Alpha Chi National Honor Scholarship Society on April 7th: **Jiexin Deng, Phuc Linh Nguyen, Chris Nielsen, Ella Thorsteinsdottir, Jason VanEvery, Andrew Warren, and Nathaniel Wellikoff.**

Attention Engineering Graduating Seniors! You are cordially invited to attend the School of Engineering Annual Graduating Seniors Picnic on Friday, April 29th, from 12 noon – 2 p.m. behind Nolan Engineering Building. Come and enjoy fried catfish, hushpuppies, french fries, drinks, and conversation with your favorite faculty/staff. MEM graduating graduate students are also welcome. Thanks to Mr. John Ventura (ECE) for putting this event together for our graduating seniors.

ALUMNI NEWS

Congratulations to **Patricia Raniszewski Swaney** (CE'00) and **David Swaney** (EE'01) on the birth of their son, Logan Allan Edward Swaney. Logan was born on Thursday, March 31, 2005, at 2:04 a.m. He weighed 5 lbs 4 oz and was 18.5 inches. Patricia has been working with EnSafe at their Nashville Branch Office. She is now working part-time from home for the firm. Patricia recently passed the exam to become a Certified Professional Erosion and Sediment Control (CPESC) expert. She mostly works on the Tennessee Department of Transportation storm water pollution prevention plans. David is working for the State of Tennessee as a Network Engineer at the office of Information Resources, which houses the major computer servers that run the state of Tennessee.



Congratulations to **Tom Needham** (EE'67) for being named the 2005 Outstanding Engineer of the Year by the Memphis Chapter of Tennessee Society of Professional Engineers during the Engineers Week on February 24th. Tom, a registered professional engineer, is currently senior project manager for Eilers, Oakley, Chester and Rike. Prior to joining EOCR, Mr. Needham was President of Allen & Hoshall. For the past 38 years, Mr. Needham has practiced engineering in the State of Tennessee as a design engineer, project manager, and construction manager. His engineering and management expertise

has improved not only the infrastructure, but also the cityscape of the Memphis community and surrounding area. Notable accomplishments include: Program Management for the Memphis Area Transit Authority where he was responsible for the Central Station renovation and the Medical Center rail extension; Project Management for the Tennessee Air National Guard on an Open End Contract as well as on a Master Plan for the relocation of the Memphis unit to a new site accommodating C-5 Aircraft; Program Management for the Memphis-Shelby County Airport Authority on the construction of the Third Parallel Runway at Memphis International Airport; and Project Management for Federal Express on design of their Air Operations Training Facility. His other contributions to the engineering profession include: Chairman of the Engineering Advisory Board for Christian Brothers University from 1993 to 1995, Engineering Advisory Board for the University of Memphis, Consulting Engineers of Tennessee Committee to review the practices of the State Board of Architectural and Engineering Examiners, State of Tennessee Architect/Engineering Board Blue Ribbon Task Force, Tennessee Society of Professional Engineers Political Action Committee, Panelist for the Memphis Area Engineering Conference in 2000, and nominated for the A/

E Board 2004. He is a veteran who served in the Army Signal Corps and earned the Army Commendation Medal and Oak Leaf Cluster for outstanding military accomplishments during his service in Vietnam.

FACULTY NEWS

Dr. Asit Ray (ChE), **Dr. Neal Jackson** (MEM), and **Dr. Siripong Malasri** (Dean) performed at the 1st CBU Faculty/Staff Talent Show on the 2005 April Fool Day. Faculty and staff across campus shared their talents at the event. A total of \$1,361.82 was raised for Holy Names Catholic School from donations, book sales, silent auction, and sale of pizza and drinks. Pictures of the event can be found at: <http://www.cbu.edu/%7Eaross/biodept/Talent-2005/index.htm>.



Dr. Asit Ray at the
2005 Faculty/Staff Talent Show

Dr. Bernard Beard (ME Chair) recently had an article entitled “Simulations of CP(N-1) Models for Large N” published in Nuclear Physics B (Proceedings Supplements), Elsevier, Vol. 140, pp. 802-804, 2005. The article discusses simulations of CP(N-1) models via dimensional reduction of discrete SU(N) quantum spin models. Dr. Louie Lin (CEE) presented a paper entitled “Summer Program at Christian Brothers University for Female High School Students Interested in Civil and Environmental Engineering” at the Southeast Regional Meeting of the American Society for Engineering Education in Chattanooga, TN, on April 3-5, 2005. Other CEE professors, Dr. K. Madhavan, Dr. S. Malasri, Mr. G. McGinnis, and Mr. F. Sock coauthored the paper. The paper describes the ASCE funded summer program held at CBU in June 2004.

Mr. John Ventura (ECE) presented two papers entitled “Embodied Conversational Agents: Developing Usable Agents” and “NI ELVIS Has Entered the Lab” at the IEEE SoutheastCon 05 Conference in Fort

Lauderdale, FL, April 8-10, 2005. The first paper was co-authored by Matthew Ventura and Dr. Juan Carlos Olabe (ECE). The second paper was co-authored by Dr. Robert Drake (ECE) and Joan McGrory (ECE'88 and former ECE instructor).

Dr. Siripong Malasri (Dean) and **Dr. Neal Jackson** (MEM Director) were guest speakers at a weekly meeting of the Engineers Club of Memphis on March 14, 2005. They updated the club's members on new engineering lab facility/equipment, degree and certificate program offering, and other outreach activities.

Dr. Eric Welch (ECE Chair and Incoming Dean) attended the Engineering Deans Institute in Tucson, AZ, on April 10-13, 2005. The trip was supported by the CBU Academic Affairs Office as part of dean development.

Dr. Fred Terry (Former Dean and ECE professor) has been named Interim Chair of the Electrical & Computer Engineering Department for the 2005-2006 Academic Year. Also, Mr. Gene McGinnis and Dr. Bernard Beard have been reappointed as chairs for the Civil & Environmental Engineering Department and Mechanical Engineering Department, respectively.

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