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E-Dimensions: Issue 9, November 2009



Dean's Message

IUPUI has selected its third international strategic partner, Sun Yat-Sen University (SYSU) in China. The university is located in the city of Guangzhou, south of Hong Kong and is ranked seventh nationally in China in a number of fields. SYSU is creating 2+2 tracks in business, education, informatics, engineering, and science, where the students would transfer to IUPUI after two years of study at SYSU and then receive two degrees, one from each institution. SYSU joins Moi University in Kenya, and Universidad Autónoma del Estado de Hidalgo (UAEH) in Mexico as IUPUI's strategic academic partner of international distinction in China.



A group of 14 IUPUI faculty, staff, and administrators visited two campuses of SYSU September 18-22, 2009. Dr. Jie Chen, chair of the Department of Mechanical Engineering, Dr. Yaobin Chen, chair of the Department of Electrical and Computer Engineering, and I traveled to meet the administrators of the School of Physics and Engineering (where microelectronics engineering program is interested to start a 2+2 program) and the School of Engineering (where mechanical engineering is interested in initiating a 2+2 program).

The plan is to complete the 2+2 articulation details in business, education, engineering, informatics, and science areas by December 2009 with IUPUI Chancellor Charles Bantz visiting SYSU and signing the general agreement of collaboration.

Anticipated initial enrollment is 20-30 electrical and mechanical engineering students from SYSU. Currently, the Purdue School of Engineering and Technology, IUPUI enrolls 28 students from China, as well as 362 students from 59 other international countries of distinction including Columbia, Iran, Malaysia, Qatar, and Turkey to name a few. This brings international students to 12% of the School's total headcount - the highest of any school at IUPUI.

Warm Regards,

M. Ner Yulean

H. Öner Yurtseven, Ph.D. *Dean*

CNT Alumnus Helps Build First U.S. Manufacturing Facility for Cell-Based Influenza Vaccine

Don Briggs
A.A.S. Architectural Technology '72
B.S. Construction Technology '73

Don Briggs, project manager, safety officer, and project engineer at Cornerstone Industries, a Brownsburg based company specializing in industrial flooring and polymer flooring systems, has had an exciting recent job assignment causing him and many others to be working around the clock in a race against time. Briggs' company is supplying and installing the resinous flooring in the five buildings of Novartis



Pharmaceuticals' newest facility in Holly Springs, NC. The reason for the long hours that Briggs and others on the team are putting in day after day—this 430,000 square foot, \$600M facility, which is being developed in partnership with the U.S. Department of Health and Human Services (HHS), will be the first U.S. facility to manufacture cell-based vaccine for seasonal and pandemic flu. Novartis has already contracted for over \$700M with HHS, which includes the production of the H1N1 vaccine.

The new facility, designed and constructed solely for research, engineering, and fabrication of flu virus, is scheduled to open on November 24, 2009 and is expected to be fully functional by the end of 2010, making 50 million doses of the flu vaccine annually. This plant is unique in that it is being built around the machinery, with all of the components being shipped in from Germany and Switzerland. Briggs describes his daily 6:30AM meetings to discuss progress of the project and the schedule for the day similar to a meeting of the United Nations, with engineers from Germany, China, Switzerland, Cuba, Spain, and the U.S all present working on the project. He has been working in North Carolina on the project since June and expects to tentatively return home to Indiana later this month.

Briggs has over 35 years of experience in sales engineering and project management in the construction industry.

Longtime Faculty and Staff Members Announce Retirement
Three very well known members of the Engineering and Technology family will leave their
positions in the Purdue School of Engineering and Technology, IUPUI this December—two

longtime friends from their schools days in Turkey and one dynamic woman. We will say so long, but not goodbye, to Dr. Hasan Akay, chancellor's professor of mechanical engineering, Dr. Akin Ecer, professor of mechanical engineering, and Pam May, senior administrative secretary of engineering technology. These three individuals have spent the majority of their careers dedicated to the School and campus, illustrated through their exceptional teaching, research, and service.



Akay has been a faculty member in the School since 1980. During his tenure, he earned the prestigious title of Chancellor's Professor, served as chair of the Department of Mechanical Engineering for eight years from 2000-2008, and was a mentor and role model to countless students and colleagues. He founded the Multidisciplinary Undergraduate Research Institute (MURI) in 2005 and served at the first director of the program, which was originally housed in the School and expanded to a campus-wide initiative in 2008. Most recently during the 2008-2009 academic year, Akay served as the interim associate dean for academic programs and research. He has been actively involved in large-scale

computational and parallel grid computing research in the Computational Fluid Dynamics Laboratory, with over 170 publications.



In 1979, Ecer joined the School and specifically, the Department of Mechanical Engineering. A long-standing favorite professor of many, his research interests also lie in computational fluid dynamics, many of which have been directed towards the development of algorithms suitable for parallel computing and providing software tools for such an environment. He has been a global leader in his field by serving as one of the senior organizers of the Parallel CFD Conference since its inception in 1990, which has been held annually ever since, and is a co-editor of the proceedings of the same conference. Ecer has had over 150 publications

in various scientific journals and conference proceedings and consults with numerous industrial organizations in the U.S., Europe, and Asia on the applications of computational fluid dynamics to industrial problems.



May has been a friendly face to those students in the electrical engineering technology program and most recently in the entire Department of Engineering Technology since she began working at the School in 1977. Her loyalty to the School, especially in serving its students, has been depicted through her devotion and dedication to her work. She has been formally recognized twice in her tenure by colleagues as the 1992 recipient of the Lucille Payton Outstanding Staff Award and the 2009 recipient of the Staff Spirit Award. May's journey at IUPUI has not been alone—her twin sister, Pat, has also been working on campus for 32 years as well!

Sincere congratulations to all three of these individuals on their accomplishments and best wishes in their future endeavors!

Extreme Build Lead Architect Works with IUPUI Interior Design Students

One of the highlights of ABC's *Extreme Makeover:* Home Edition's visit to Indianapolis in March 2009 was the striking design of the home built in a week for local resident, Bernard McFarland and his family. Now the designer of that home is working with interior design students at IUPUI to help them understand the principles of great home design and gain insight into the desires of the next generation of homeowners.



Greg Cradick, lead architect for Estridge, who spearheaded the local home builder's design the *Extreme Makeover* home in the 2300 block of Oxford Street in Indianapolis's Martindale-Brightwood neighborhood, is donating his time to mentor students in a class here at the Purdue School of Engineering and Technology, IUPUI. ...MORE

Student Spotlight

Baihaqi Ismail

Major: Mechanical Engineering Technology

Degree: Bachelor of Science

Anticipated Graduation Date: December 2009

Baihaqi Ismail has been fascinated with Formula1 (F1) racing since he was a little boy. Living in Malaysia, Ismail grew up watching races on TV. "I started watching the F1 races when I was about three years old. I've always loved Formula1, and my dream job is to work for an F1 team," said Ismail.

Ismail transferred to IUPUI from the Universiti Tenaga Nasional (UNITEN), one of the first private universities in

Malaysia. UNITEN is a unique institution, providing both academic programs and engineering technology skills training within the same campus. IUPUI has a strong partnership with UNITEN and students often transfer between these two institutions.

Today Ismail is a senior at IUPUI and will graduate in December 2009 with a degree in mechanical engineering technology (MET). His love for motorsports is still present, and his hope is to work for a F1 team or pursue a career in the field of renewable energy after graduation.

Ismail appreciates the experiences he's had at IUPUI, including the exposure to many different aspects of engineering through the MET program. "I love the academic experience. I feel like I learn a lot every day, and that's a good feeling," said Ismail. In addition to being in the classroom, he enjoys volunteering at the IUPUI Office of International Affairs and the Indianapolis Senior Center.

IUPUI's Newest Tradition

Over four dozen teams comprised of students, faculty and staff, and alumni battled for first place in the Inaugural IUPUI Regatta, which was held on September 19, 2009 on the Downtown Canal. The Student Organization for Alumni Relations (SOAR), the Central Indiana Chapter of the IU Alumni Association, and the IUPUI Alumni Council sponsored the half-mile relay canoe race to benefit campus scholarship funds.



Each team consisted of four paddlers, two of which were in the canoe at one time for a fourth-mile stretch from the Admiral Spruance Basin to the USS Indianapolis Basin. An additional four members could be added to each team to assist paddlers with getting in and out of the canoes. The event featured a community carnival with live music and food from vendors such as Buggs Temple, Zing Restaurant, and Mary Beth Poe Catering that

surrounded the start/finish line area.

The Purdue School of Engineering and Technology, IUPUI had three teams in the Top 10—

the Engineering Dual Degree Program team, "BUPUI", which finished third, the E&T Alumni Association team which finished fourth, and the Motorsports Engineering Program team, "Regatta Racers", which finished sixth. Mark your calendars for the 2010 Regatta, which takes place on September 25, 2010.

Faculty Spotlight Debra Burns, Ph.D., MT-BC Assistant Professor, Music and Arts Technology

Originally from Avon, Indiana, Dr. Debra Burns returned to her home state of Indiana 10 years ago after finishing her studies in music therapy, including a B.A. in Music Education from Glenville State College, a M.M. in Music Therapy from Illinois State University, and a Ph.D. in Music Education and Music Therapy from the University of Kansas. With little opportunity in the music therapy field available in Indianapolis at the time, Burns was determined to continue research that she was so passionate about—using music to ease the experience of cancer therapy.



Through postdoctoral work funded through the Walther Cancer Institute and the National Center for Complementary and Alternative Medicine at NIH and co-mentored by IU School of Nursing Associate Dean for Research, Dr. Victoria Champion, and Associate Professor, Dr. Larry Cripe, in the IU School of Medicine, Division of Hematology and Oncology, Burns was able to continue her research focusing on ways to make the cancer experience less traumatic, while building ties with colleagues in both schools. As a result of her own educational and research experiences, Burns desired to establish a Master of Science in music therapy degree program on the IUPUI campus, which would incorporate all of the critical aspects she saw necessary for a successful program.

After proposing the original drafts for the graduate program in music therapy, her dream became a reality, as the program is currently in its fifth year. Burns serves as coordinator of the completely online program, which provides opportunities to music therapists who do not have easy access to a university. Exchanging photographs and frequent online conversations help provide professional connections that these therapists often miss because of location. In addition to the graduate program, an on-campus post-baccalaureate certificate equivalency program offers individuals with undergraduate degrees in music the opportunity to attain the competencies needed to become music therapists. As a part of the equivalency program, students must complete four practicums and one internship, in which students provide music therapy in a variety of settings—such as Riley Hospital for Children, the Indiana University Cancer Center, St. Vincent Hospital, Indianapolis Public Schools' elementary schools, and hospice and nursing home facilities.

Music therapy students learn how to use individually designed music sessions for each patient based on an assessment and treatment plan to address physical, emotional, mental, and social needs. Music therapy, which Burns explains, "buffers some of the chaos and brings normalization to something that is not normal," can help patients in a variety of ways including relaxation, improvement of mood, expression of feelings, including grief, reduction of pain, blood pressure, and anxiety, enhancement of memory, and improved sleep through increased melatonin. Patients do not have to sing or play an instrument to experience some of these benefits of therapy, simply listening to well-chosen music can yield beneficial results.

Dr. Burns current research focuses include improving the cognitive function in breast cancer patients, which can often be impaired during treatments, and using music imagery to reduce anxiety, improve mood, and help leukemia patients gain a sense of control while receiving an arduous course of chemotherapy.

EDDP Affinity Reunion

The Purdue School of Engineering and Technology, IUPUI and Butler University co-hosted an affinity reunion for the Engineering Dual Degree Program (EDDP). Students enrolled in EDDP receive an engineering degree from the Purdue School of Engineering and Technology, IUPUI and a degree from Butler in a discipline such as mathematics, chemistry,

biology, or economics. Alumni, faculty, and staff from the program gathered at Butler for a tailgate lunch as part of Butler's Homecoming festivities followed by the homecoming football game against the University of San Diego.

In the evening, the group enjoyed great food and company at Zing Restaurant in downtown Indianapolis. The day provided a wonderful

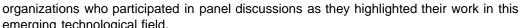


opportunity for alumni to reconnect with former classmates, as well as catch up with faculty and staff in a causal atmosphere, while celebrating 10 full years of the program.

Lugar Speaks at Energy Security as National and Economic Security Forum

The Lugar Center for Renewable Energy hosted the Energy Security as National and Economic Security Forum as part of the Indiana Renewable Energy Forum Series. The event was sponsored by the Pew Charitable Trusts, Indiana Office of Energy, IPL, Duke Energy, and Krieg DeVault. Remarks from Greg Ballard, mayor of the City of Indianapolis, and Richard Lugar, United States Senator for Indiana, kicked off the halfday event that highlighted challenges and opportunities associated with our nation's efforts to secure and protect national security, increase our energy independence, and mitigate the impact of climate change.

Dennis McGinn, retired vice admiral, United States Navy, delivered the keynote address. Participants also heard from representatives of National Laboratories, Crane NSWC, the Center for Naval Analysis, and a variety of other



emerging technological field.

Text from Senator Lugar's speech Video feed from the event





Marvin and Priscilla Needler have spent most of their lives affiliated with the Purdue School of Engineering and Technology, IUPUI. After receiving his BSEE in 1963 and MSEE in 1964 from Purdue University, Marv began a distinguished teaching career with the School even before the formation of IUPUI and retired in 2004. Alumni often share wonderful stories about the personal interest he took in their educational pursuits and career

development. As a couple, they have been very generous and loyal donors to the School,

establishing the Marvin and Priscilla Needler Scholarship for the benefit of the Electrical and Computer Engineering Technology Program. Since its inception in 2005, 15 students have been the recipients of their admirable philanthropy. Marv and Priscilla have been married over 40 years and have two daughters, Veronica and Elizabeth, and one grandson, Justin.

Year End Gifts

The Purdue School of Engineering and Technology, IUPUI is truly fortunate to have so many loyal and generous donors and other friends. As we often mention, private support is vital to keeping the School on the cutting edge of innovation, maintaining technology in our labs, providing scholarships for our students, and attracting the very best students and faculty members possible to our School and campus.

For assistance with your year-end gift planning, please feel free to contact me at (317) 407-6746 during the holiday season. Please note that although the School will be officially closed the week of December 25 through January 4, I am available for your convenience during this time, or you may make a gift online at http://www.engr.iupui.edu/alumni/support.

~Happy Holidays!

Paula J. Jenkins, CFRE Assistant Dean for Development and External Relations (317) 407-6746 mobile pj@iupui.edu

Golf Classic Raises Record Amount for Student Scholarships



The Engineering and Technology Alumni Association hosted the 7th Annual Purdue School of Engineering & Technology Student Scholarship Golf Classic on Friday, September 18, 2009 at Saddlebrook Golf Course. This year's Golf Classic had a record number of players and raised more money than ever before! Over \$7,500 in scholarships will be awarded to several deserving students in the spring semester.

Click here for more pictures from this year's event.

President Obama Honors Mechanical Engineering Alumnus
Jacob Jones, MSME '01, was honored by President Obama as a 2009 recipient of the
Presidential Early Career Award for Scientists and Engineers (PECASE), which is the
highest honor bestowed by the U.S. Government on young professionals in the early stages
of their independent research careers. The Assistant Professor of Materials Science and
Engineering at the University of Florida will be honored at a White House ceremony this fall
and will receive a five-year, \$1M research grant. Congratulations to Dr. Jones on this
remarkable honor!

Annual Freshman Pumpkin Drop Challenge Nine freshman ENGR 19500 classes participated in the annual pumpkin drop challenge during the week of October 26. Students were divided into groups and given the task of designing, constructing, and demonstrating a device that would protect a pumpkin from being dropped off a wall of the Michael A. Carroll Track and Soccer Stadium.

The winning team of the challenge yielded not only a perfectly intact pumpkin, but also utilized the most innovative design in compliance with the challenge guidelines and dropped their pumpkin closest a target on the ground. Each year students and instructors look forward to this hands-on learning experience.



Fan Us on Facebook

The Purdue School of Engineering and Technology, IUPUI now has a Facebook Page and Group! These are informal online gathering places to find out information about upcoming events, view pictures, reconnect with lost classmates, network, and much more. If you have a Facebook profile, you can become our "fan" today by visiting the Engineering and Technology Facebook Page and also join the Engineering and Technology Facebook Group.

Save the Date for our Upcoming Events!

Concerts and Recitals Presented by the Department of Music and Arts Technology

Various Dates • 7:30 PM - 9:00 PM

Information & Communication Technology Complex (IT) Room 152, 535 W. Michigan Street

Tickets are \$5 at the door.

For additional information, contact Michele King at 317-278-3264 or nmthomps@iupui.edu.

Monday, November 16, 2009 - Pianist John Glennon

Thursday, November 19, 2009 - IUPUI Jazz Band Ensemble

Monday, November 23, 2009 - IUPUI Guitar Ensemble

Monday, November 30, 2009 - Graduate Students Recital - begins at 7:00pm (free to all)

Thursday, December 3, 2009 - IUPUI Percussion Ensemble

Monday, December 7, 2009 - IUPUI University Choir

Thursday, December 10, 2009 - IUPUI Jazz Combo

IUPUI Holiday Night

Wednesday, December 9, 2009 • 6:30 PM – 9:00 PM Children's Museum of Indianapolis, 3000 N. Meridian Street

Come and enjoy holiday cheer, good food, great times, and festive holiday music. You will be able to visit all five floors of The Children's Museum of Indianapolis and enjoy the Yule Slide, Jolly Days, and the Carousel. For more information, please contact Yvonne Owens at 317-274-5063 or wowens@iupui.edu.

Additional details and online registration!



Bepko Honors Convocation

Friday, April 23, 2010 • 5:30 PM - 9:00 PM

Crowne Plaza Hotel at Historic Union Station, 123 West Louisiana Street

The Purdue School of Engineering and Technology, IUPUI will host its 36th Annual Bepko Honors Convocation to honor the recipients of student scholarships, as well as faculty and staff awards. Be sure to mark your calendar for this exceptional event!

Class Notes

Anything new since graduation? Let us know about your outstanding accomplishments by sending your updated information to Paula Jenkins, assistant dean for development and external relations, at pi@iupui.edu or 317-274-8807.

Missed an issue? Visit our E-Dimensions archive.

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