

Connectivity

Fall 2011

Meet Max

Max Yen, Dean of ETCS and Steel Dynamics Distinguished Professor of Engineering, is beginning his second year at IPFW. Previously he was Director of the Materials Technology Center and a professor in the Department of Environmental Engineering at Southern Illinois University Carbondale.

What brought you to IPFW?

Someone from within IPFW nominated me. I applied, went through an extensive interviewing process, and was offered the job.

What do you like about Fort Wayne? IPFW?

Fort Wayne is one of the best middle size cities for living, working, community engagement, and building partnerships with industry and

business. IPFW is like a big family; it also is young, vibrant, and growing. Therefore, there is a sense of opportunity for me to contribute toward building a prestigious university.

What do you enjoy about being Dean of the College of Engineering, Technology, and Computer Science?

I get a lot of satisfaction from helping students, staff, and faculty to realize their potential. I also have the opportunity to set the vision and to act so that ETCS fulfills its traditional mission of producing a skilled workforce. This also involves developing future leaders and problem solvers who will address the emerging issues related to energy, environment, information, infrastructure, safety, security, and sustainability.

What are the biggest challenges facing the college right now?

The scarcity of resources limits our ability to do more and make a bigger impact.

Describe your vision for the college.

I want future students to have IPFW as their top choice when choosing a college. I want ETCS to produce graduates that distinguish themselves in their chosen field. I want our faculty and students to make a positive impact on society.



Calendar of Events

ABET Accreditation Team Visit (Engineering)
October 2–4

ETCS Middle School Career Day
Friday, Oct. 7 and Oct. 28

Mastodon Roast and Alumni Center Dedication
October 11, 5:30–8 p.m.
Alumni Center
RSVP at ipfw.edu/offices/alumni/mastodon-roast/

FIRST® LEGO® League Indiana Championship Tournament
Saturday, December 10
Gates Sports Center
Open to the public 11:30 a.m.–4 p.m.

Indiana Regional Future City® Competition
Saturday, January 28, 2012
Walb Student Union Ballroom
Public viewing of models 9–11:15 a.m.

More information:

College of Engineering, Technology, and Computer Science
260-481-6839
etcs.ipfw.edu



Indiana University
Purdue University
Fort Wayne

Navigating the Data Flood

University of Southern California researchers estimated that Americans consumed 3.6 zettabytes of information in 2008. Just how big is a zettabyte? It's a one followed by 21 zeroes.

The flood of data that washes over us every day raises an increasingly important question: How do we make sense of it all?

At IPFW's Information Analytics and Visualization Center (IAVC) faculty members and students are looking at ways to sift through the data and present it in a way that's easily understood. Perhaps the most effective way to present a large amount of information is in 3-D.

Established last year through a \$500,000 grant from the Talent Initiative, a regional organization that supports science, technology, engineering, and math (STEM) education and training, the Center is comprised of eight laboratories. The labs focus on specific areas—such as human-computer interaction and visualization, data mining, virtual reality, semantic computing and machine learning.

"We are inundated with data from all sources," said associate professor of computer science Robert Sedlmeyer, who leads the software engineering lab. "Computing can help us analyze the

tremendous volume of data to extract information that can be useful in decision-making, for the learner and consumer."

The technology that serves as the Center's backbone is a 20-node parallel computing cluster, a high-end graphics workstation, and a 3-D projection system and accompanying workstations. Users don 3-D glasses outfitted with motion-tracking devices to view what's on the screen. A special computer mouse also helps the user interact with the 3-D environment.

Real world applications

During a recent open house, a demonstration video gave a hint of the Center's potential by showing how an elbow-replacement device moved inside a 3-D arm and how the military could use the technology to obtain a more accurate understanding of battlefield situations, with U.S. and enemy forces clearly identified within a 3-D terrain.

"The research center and its laboratory have become an enabling technology for ideas that can solve a lot of problems that we cannot solve at the current time," said Peter Ng, director of the Center and chair of the Department of Computer Science.

Of particular interest to IPFW is the Center's potential to assist the military and the region's defense contractors by using data analysis and 3-D visualization to make better command-and-control decisions.

Science becomes more comfortable

The technology is also being used to see whether 3-D visualization can help elementary school students better understand a subject. IPFW graduate student Dmytro Podgorniy built a smaller 3-D projection system that's being used for a monthlong second-grade astronomy unit at Study Elementary School in Fort Wayne. Wearing 3-D glasses, students can visualize how the Earth revolves around the sun and how the moon revolves around the Earth. "Science becomes more comfortable. Instead of looking at abstractions, you're looking at things you can manipulate," says Trudy Grafton, Study Elementary Principal. "Depending on the success that we see, it is very possible that this will be expanded on a much larger scale, particularly in math and science," Grafton said.

Center of Excellence

The IAVC is one of the college's Centers of Excellence. The ability to apply the Center's technology to solve problems—whether it's assisting orthopedic companies, helping students grasp complex concepts, or allowing people to make better decisions—is nearly limitless. Professor of computer science Beomjin Kim, executive associate director of the Center, said the IAVC would continue to look for ways to help others make sense of all the data.

Faculty and staff are available for presentations and workshops about the Center. For more information, visit ipfw.edu/departments/etcs/depts/cs/iav or call the Department of Computer Science at 260-481-6803.

Projects and students

Virtual IPFW Campus: Dmytro Podgorniy, Mi Lim Lee
Sea-Based Cargo Handling System: Julian Ross, John Scott
Elementary Science Education: Dmytro Podgorniy
3-D Computer Game: Tristan Hartzell, Wesley King
Medical Volume Visualization: Benjamin Aeschliman
Medical Volume Visualization: Sushant Basnet
Virtual Mobile Phone Assembly: Sushant Basnet
Industrial Robot Simulation: Dmytro Podgorniy
Command Control with 3-D Vision: Andrew Habegger



Professor Kim and his students in the Information Analytics and Visualization Center

Scholarships for Excellence

The annual ETCS Scholarships for Excellence luncheon was held April 21 at IPFW. This year, \$146,050 from 21 donors was distributed to 49 students. The guest speaker was Karl LaPan, president and CEO of Northeast Indiana Innovation Center Inc. (NIIC). To make a donation, see below.

Student recipients and donors:

Armed Forces Communications and Electronics Association IN Chapter

Michael Catanzano CEIT
Justin Gray ENGR
Joshua Hatfield CS
Jordan Jones CEIT
David Kimmey CS
John Scheurich ENGR
Bradley Sorensen CEIT
Brenton Weaver ENGR

Alfe Heat Treating

Ethan Hess ENGR

Attero Tech, LLC

Bradley Sorensen CEIT

Ross Caldwell-Architectural Engineering Technology

Justin Arnold MCET
Alexis Dancer MCET
Brady Gerig MCET
Lisa Greer MCET
Jacob Schwartz MCET
Daniel Shaw MCET
Beth Shutt MCET
Andrea Sowle MCET

CEIT Leadership

Patrick Maina CEIT

Fred Gideon Memorial Scholarship

Bradley Sorenson CEIT

Theodore F. Hagerman Memorial Scholarship

Brandon Davis MCET
Shaun Fry MCET
Christopher Watt MCET

Doris R. and David W. Harper Endowed Scholarship in Engineering

Gregory Short ENGR

Indiana Michigan Power

Jennifer Heck ENGR

ITT Corporation

Thomas Butts ENGR
Adam Frisby CEIT
Patrick Koepper CEIT

John W. Johnson Memorial Scholarship

Derek Rode ENGR

Dr. Maurice S.M. Lam Memorial Scholarship

Jordan Jones CEIT

Navistar Inc.

Mitchell Miller MCET

Northeastern Indiana Construction Advancement Foundation

Brandon Davis MCET
Jacob Schwartz MCET

Northrop Grumman Company

Eric Baker CEIT
Bryan Daugherty ENGR
James Elliott CS
Todd Welch CS

Raytheon Company

Jesse Cowles CS
Josiah Gerardot CS

A. W. Schenkel Memorial Scholarship

Shaun Fry MCET
Christopher Watt MCET

Professor Emeritus Lloyd W. Smith Memorial Scholarship

Brandon Davis MCET

Carl W. Steeg Jr. Memorial Scholarship

David Spaulding ENGR

David P. Swinehart Memorial Scholarship

Lauren Garber OLS

Fred Zollner Foundation

Eamonn Barry CS
Edison Bender MCET
Bruno Carvalho ENGR
Jonathan Clingan MCET
Dane Courney CS
Megan Flenniken ENGR
Wesley King CS
Kory Martin CEIT
Raihan Mir ENGR
Hiep Nguyen ENGR
Billie Saalfrank MCET
Afrid Sarker ENGR
Lucas Scott CEIT



Newly commissioned Second Lieutenant, Kenneth Lahrman shakes hands with SFC Corey Jenkins.

ROTC Commissioning Ceremony

The Army Reserve Officer Training Corps commissioning ceremony was held at IPFW on August 16. Cadets Anthony R. Enright and Kenneth A. Lahrman were commissioned into the United States Army with the rank of Second Lieutenant. At this ceremony five cadets were presented with the following awards:

Association of the United States Army Certificate of Appreciation:

Anthony R. Enright, Cadet

The Armed Forces Communications and Electronics Association Ribbon:

Alek M. Bouillon, Cadet

National Defense Transportation Association Medal:

Kenneth A. Lahrman, Cadet

Reserve Officers Association Medal:

Jillian R. Sears, Cadet

The Order of the Founders and Patriots of America Medal:

Miles T. North, Cadet

Make a Difference!

Yes, I want to make a difference in the quality of education at IPFW.

- ETCS Scholarship Fund—Please make your check payable to “IPFW Foundation” and reference ETCS Scholarships for Excellence
- Student and Faculty Needs—Please make your check payable to I-P Foundation, and specify purpose.

My gift of \$ _____ is enclosed.

Matching Gift Information

My company's name: _____

Please return to:

Development

Indiana University—Purdue University Fort Wayne
2101 East Coliseum Boulevard
Fort Wayne IN 46805-1499



IPFW Students Place 7th at ASCE Regional Conference

For the past three years, the American Society of Civil Engineers (ASCE) student chapter at IPFW has participated in the ASCE Great Lakes Conference. This year it was held in Milwaukee, Wis., with 18 universities including Purdue, Rose-Hulman, Notre Dame, Urbana-Champaign, UW Madison, and Northwestern in attendance. The IPFW chapter participated in seven competitions: Surveying, Environmental, Geotechnical, Mystery Design, Technical Papers, Steel Bridge, and Concrete Canoe. IPFW ranked seventh overall, winning second place in the Geochemical Competition and fifth place in the Technical Paper and Mystery Design Competition. For more information about the IPFW ASCE student chapter, go to ipfwasce.com.



Juniors Win Naval Surface Warfare Center Crane Competition



A team of three IPFW engineering junior students (T. Butts, D. McVay, and M. Kretschmer) won top honors at the inaugural undergraduate design competition held in spring 2011 at the Naval Surface Warfare Center (NSWC), Crane Division, located in southern Indiana. The team was advised by B. Kang and Z. Bi. The contest involved the design of a vibration isolation system to prevent a camera mounted to a widely used Naval weapon system from blanking-out during firing. The IPFW team was pitted against teams from four other universities. Jim Ernest, Crane Weapon System lead engineer and a judge at the competition, said "Overall, IPFW presented the best in each category. They did a very thorough engineering analysis, dampened the key vibration issues in the camera and performed well during the live-fire testing." The team received a \$1,000 prize from contest sponsors American Society of Naval Engineers (ASNE) and Access Technology Across Indiana (ATAIN.)