

INDUSTRIAL & SYSTEMS ENGINEERING

FALL 2008



UF UNIVERSITY *of*
FLORIDA

chairman's column



Dear Alumni and Friends,

Hello again from Gainesville. As we wind down the fall semester, one thing is clear: this has been an interesting year! When I interviewed for this position in January of 2007, the housing market and economy had

weakened, but the outlook was fairly bright. Now things appear a bit dour – with the exception that gas prices have eased a bit as of late.

These effects of the housing market and economy are being felt in Florida. For those of you that closely read the Florida Engineer, you are aware that we have already faced one round of budget cuts and more are likely. We are working closely with the dean to ensure that we can continue to thrive in these tough times.

The fact is, the Department is doing great. Our numbers continue to grow – with roughly 425 undergraduates, 100 master's students, and 50 PhD students on campus, our programs have never been more popular. Our programs at REEF (off Eglin Air Force Base) and the OEM program currently being held in Orlando also continue to grow.

Our faculty continue to produce high quality research in a variety of areas, from providing solutions in manufacturing and supply chain management to transportation and healthcare. I specifically want to congratulate Dr. Ravi Ahuja in being named a Fellow of the Institute for Operations Research and Management Science. He joins Dr. Panos Pardalos, along with Emeritus Professor Donald Hearn and Research Professor Tyrrell Rockafellar, from our Department with this tremendous honor. As of this time, only 260 people have been named INFORMS Fellows (12 in this year's class).

We are also very excited to welcome Dr. Jean-Phillipe Richard from Purdue University. Dr. Richard, an expert in discrete and combinatorial optimization, is a graduate of Georgia Tech and an NSF CAREER Award winner. We look forward to many great years with Dr. Richard on our faculty.

Unfortunately, I must announce that Dr. Edwin Romeijn has left our faculty for the University of Michigan. Dr. Romeijn had been a member of the faculty since 1999. We were grateful for his service and he will be missed. Fortunately, he still has a number of students on campus and will continue to travel down here for research purposes. We wish him the all the best.

As I mentioned to you in last semester's newsletter and to many of you in person, one of my goals is to better connect our Department with our alumni and industry. I believe that I have met, face to face, with over 100 alumni, from Miami to St. Pete to Tampa to Orlando to Jacksonville to Pensacola to Houston to Atlanta to Washington D.C. to Boston to Chicago and Seattle. Many of you have offered your time, contacts and resources. This is much obliged. While this seems like a great year, I've only scratched the surface. After all, there are thousands of you!

I believe we are also making headway with industry and government entities. I want to thank Disney, Hospital Corporation of America, Solicore, the United States Air Force, the Veterans Administration Hospital and Winn Dixie for supporting our senior design projects with time and resources. This is the first year in which we have solicited projects from companies, as opposed to having students find the projects themselves. This was to better assure consistency in depth across the projects while also providing an opportunity to better partner with industry.

It should be noted that we have a team working with the Child Advocacy Center in Gainesville. This entity provides support for children involved in abuse cases. They had approached our Department in hopes of improving their processes. We gladly accepted the offer and plan to complete at least one charitable project each semester. This is obviously a wonderful opportunity for our students, but it is also a great way in which to show the community how Industrial Engineering can be applied anywhere – and can do some good.

Also, thanks go out to Cameron, e-Tech Services, Otis Elevator, Siemens and Texas Instruments for time and resources in support of our Sales Engineering Seminar which is a part of the Sales Engineering Minor that is housed in our department.

There are numerous ways in which industry can get involved with our department, from recruiting and sponsorships to senior projects and Ph.D. research support. If your company might be interested in any of these collaborations, please feel free to contact me. There are a number of firms that hire our students, often in great numbers, that I would truly like to more fully engage

in our department. I believe that our students and industry stand to benefit from these collaborations.

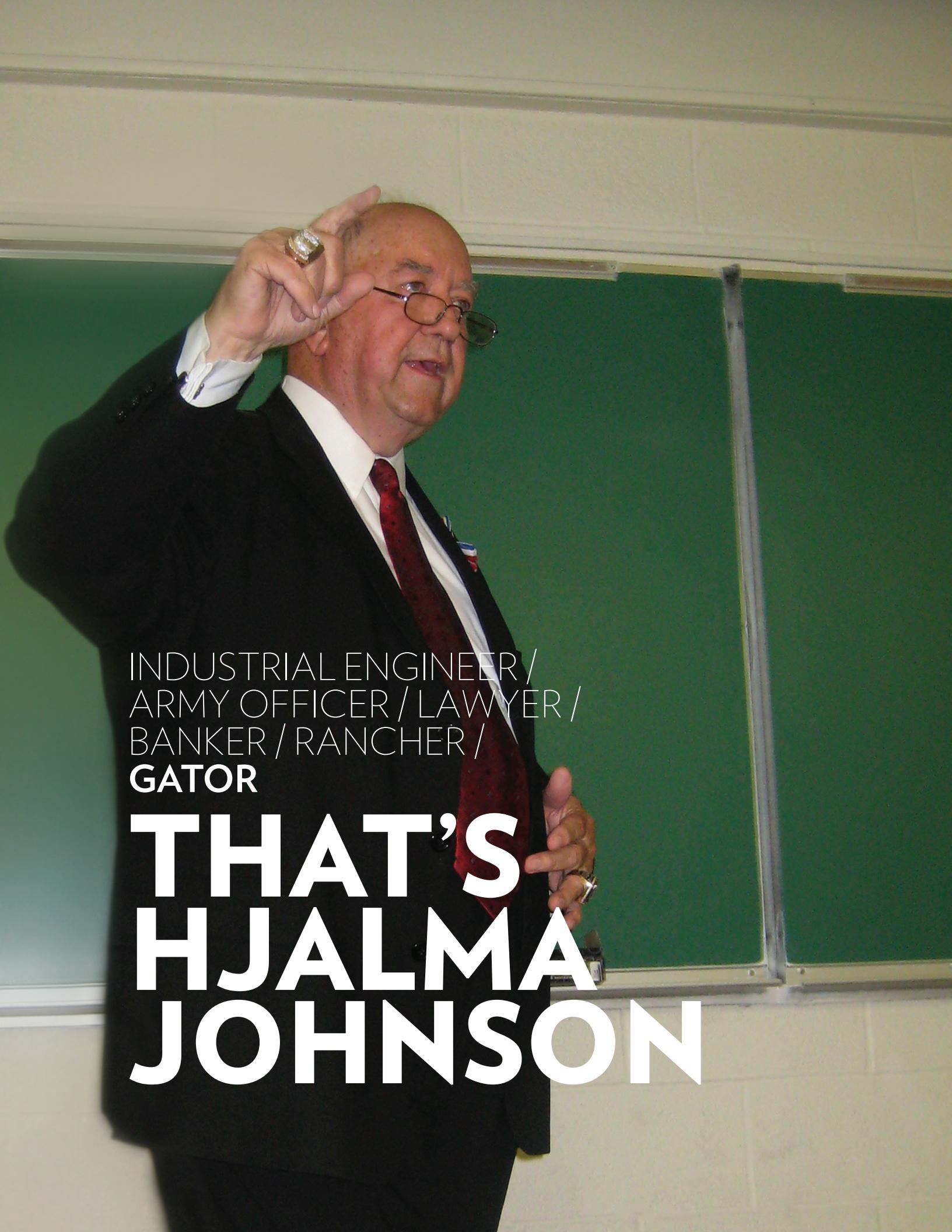
Keep a close eye on our newsletter next spring as it will highlight how we will celebrate our 75th anniversary next fall! If you can, make plans to get back to Gainesville.

As I strive to reach out to more of you, please feel free to drop me a note. I am truly amazed at the strength of the Gator Nation and enjoy hearing about your experiences. Feel free to contact me (392-352-1464; hartman@ise.ufl.edu) if you have something to share or want to get involved. I hope to hear from you. In the meantime, GO GATORS!

Sincerely,



Joseph C. Hartman
Professor & Chair
352-392-1464
hartman@ise.ufl.edu



INDUSTRIAL ENGINEER /
ARMY OFFICER / LAWYER /
BANKER / RANCHER /
GATOR

**THAT'S
HJALMA
JOHNSON**

TAKE A LOOK AT THE GOOD THINGS THAT HAPPEN IN YOUR LIFE, AND WHEN YOU DO, YOU WILL REALIZE THAT YOU DID NOT DO THESE THINGS BY YOURSELF

There truly are no limits with an Industrial and Systems Engineering degree. Hjalma Johnson (BS IE '58) is living proof. Recently retired from a career that included engineering, law, banking, army intelligence and cattle ranching, Johnson dazzled undergraduates in a lecture for the Introduction to Industrial and Systems Engineering course this past September.

"What I took away from the lecture," said junior ISE student Matt Freshcorn, "is how you do not have to limit yourself." Of course, it takes hard work, and, according to Johnson, passion. "It is the difference between average and outstanding," said Johnson, whose passion was evident in his talk. After all, "success comes from doing what you love," he said.

The fact is, Johnson always wanted to be an engineer. It was what his father, a sawmill worker and later, hardware store owner, had wanted. So he did it – becoming the first in his family to attend college. And with all that Johnson has done in life – he did it well.

Graduating with high honors in 1958, after spending three years on active duty in Germany as an intelligence officer for the Army, Johnson started on a "typical" Industrial Engineering career path holding positions of Chemical Loss Engineer and Wage Engineer for Buckeye Cellulose Corporation, a subsidiary of Proctor and Gamble in Memphis, Tennessee. He worked his way up to Bleach Plant Supervisor before moving over to a marketing position as a Sales Engineer.

Enjoying the sales role, Johnson moved over to IBM Corporation in Birmingham, Alabama as a Data Processing Account Representative with responsibility for all financial institution accounts in the Birmingham area. While holding the position at IBM, he completed his J.D. from the Birmingham School of Law in 1965.

Upon completion of his degree, one of his professors offered him a position in his company, either in the banking or law arm. Johnson tried his hand at law, but moved over to banking where he found his passion. He worked his way up to Vice President for Exchange Security Bank in Birmingham in 1970 before returning to Florida. He picked up a Master's degree from the Stonier School of Banking, Rutgers University, along the way.

While Johnson may have left the state of Florida as a newly married, poor, wide-eyed graduate, he returned with keys to the vault as President and CEO of The Bank of Pasco County in Dade City and CEO and Chairman of North Florida Bank Corporation in Madison. He held his position in Dade City until 1986 when it was acquired by First Union.

But Johnson did not limit his reach to the middle of Florida. He served as President of the Florida Bankers Association in 1984-85 and later went on to be President of the American Bankers Association from 1999-2000. In fact, he has personally met the last seven standing Presidents of the United States of America.

Johnson concluded his "active" banking career as the Manager of External Affairs for Regions Financial Corporation in Birmingham, Alabama, in 2004. Of course, Johnson is anything but inactive. In the midst of the recent banking crisis, he was on the phone to Washington, D.C. to provide input and guidance. (And no, there is no easy solution to the problem.)

When it comes to voluntary service, the Gator Nation has also been at the forefront. He served as President of the Gator Boosters in 2005-06. Johnson doesn't take credit

for the two basketball

and one football national championships captured during his reign, but he proudly displays his commemorative rings at all Gator functions. But he is not selfish, readily allowing any Gator to wear them and take a picture. A number of students took their opportunity after his lecture.

It is hard to convey a lifetime worth of experiences, stories, and advice in a 50-minute lecture. But the students absorbed plenty. They also learned that Johnson is a humble man that did not succeed alone. He advised the students to "take a look at the good things that happen in your life, and when you do, you will realize that you did not do these things by yourself." With this, Johnson thanked his wife of 52 years; his parents; his high school teacher Lucile Combs for inspiring him to apply for a scholarship and go to college; the Physics chair, Professor Sawyer, that let him into class, despite not following formal registration procedures; and Professor Neff of Mechanical Engineering, for taking time in his mechanical drawing class to get Johnson started on the right foot. Johnson recently donated \$50,000 for a lab to be named in Neff's honor.

Johnson kept the students on the edge of their seats with anecdotes and quotes from Albert Einstein to Jack Welch. He concluded by wishing them well and telling them to work hard, stating that "the extra mile has no traffic jams."

IIE STUDENT CHAPTER PRESIDENT NOT COASTING IN HER FINAL YEAR

Choosing a major was easy for Jessica Hinkle.

"I knew I wanted to be an industrial engineer because I have always loved math and have always tried to make everything I do more efficient; from the basketball drills we used to run at practice to doing my laundry."

Choosing a career may not be so easy. The fifth-year-senior is slated to graduate in the spring. With her 3.9 GPA, sparkling personality, active campus involvement, and experience from six internships (including ExxonMobil, General Electric, Intel and Sequoia) in four states, she is sitting on multiple job offers and will likely receive more.

Of course, with school being so much fun, the Sarasota native may just stay for graduate school. After all, she has helped out as an undergraduate teaching assistant

in the Visual Basic programming course and the Introduction to Industrial and Systems Engineering course.

"Since I have been in school here at UF, I've had a lot of great opportunities to get involved on campus," said Hinkle. And she has taken advantage of those opportunities.

Through the recruiting of Guillermo Moratorio (featured last issue), Hinkle became active in the IIE student chapter during her first semester at UF.

This involvement has led to various officer positions, including Membership Director, Social Chair, Treasurer, Travel Chair, culminating in the Presidency this semester.

"This semester I want to work to provide the same opportunities for other students that have been opened to me," said Hinkle about her new role.

Specifically, she is focusing her efforts on the following seven goals:

1. Increase membership, focusing at the underclassmen and grad student levels
2. Increase member involvement in social, networking and student-faculty events
3. Increase externally-sourced funding
4. Increase involvement with the College
5. Increase involvement with IIE national chapter
6. Increase faculty involvement
7. Increase alumni involvement

This has led to on campus visits this semester from companies such as Disney and Accenture and more social events with the faculty.

As the semester and her final year at UF come to a close, this is certain: one company is going to be extremely pleased to land Hinkle on its payroll — and we are certainly going to miss her!

RECENT GRADUATES

BACHELOR OF SCIENCE

Spring 2008:

Andres Acuna
Adedapo O. Ajayi
Victoria D. Alvarado
Jose L. Arias
Julie B. Barnas
Elyse B. Brown
Rachel L. Christner
Lisa D. Clarke
Bradley J. Clinger
Esteban Duque
Adrian R. Franco
Timothy K. Hawkins
Calvin K. Ho
David A. Kellogg
Steven M. Kennedy
Mauricio J. Lacayo
Crystal L. Lai
Alejandro M. Lopez
Kerri L. Marsh
Daniel R. Massey
Jordon O. McDonald
Christian Monahan

Summer 2008:

Brendt T. Montgomery
Todd A. Nanni
Jason M. Nobel
Paul P. Norris
Chelsea L. Owens
Jeffrey D. Payne
Andrew E. Peck, Jr.
Arman Pradhan
Laura M. Rhinesmith
Justin E. Richardson
Andrew N. Romich
Jinzhao Sheng
Eian J. Schnoor
Quentin D. Scott
Allison L. Shook
Andre K. Smith
Jonathan R. Smoak
Christian Thomas
Nick J. Trivunovich, Jr.
Jennifer L. White
Megan N. Wolfe
Jesse B. Wright

MASTER OF SCIENCE

Spring 2008:

Stephen Brown
Jonathan Eric Fernald
Edith Gonzalez
Jose Lobos
Michael A. Mokka
Nellymar Parejo
Danielle Smith
Jesse Summers
Jesus Urdaneta
Elizabeth Wilkenson
Gaia Serraino
Erika J. Short
Vitelio E. Silva
Paul J. Smith
Steven Strickland
Yi-Ni Su
Clint M. Thomas
Timofey Turko
Kyp D. Wetmore
Petros Xanthopoulos
David S. Wimberly
Crystal Lai
Cheok N. Lei
Danielle R. Mollman
Kevin D. Moser
Sang Eun Oh
Kristina K. Paige
Cory J. Phillips
Ryan D. Roberts
Tekisha R. Sampson
Brian S. Scheffman
Kwangsuk Seo

MASTER OF ENGINEERING

Spring 2008:

Joseph Daniel Bass
Melissa Carrie Brady
Lisa Danielle Clark
Robert John Fleming
Jose Ernesto Gonzalez
Jeffrey Grant Holmes
Kyle Kendall
Gary R. Koser
Gen Li
Rebecca Mejia
David M. Reno
Sharon E. Stockbridge
Summer 2008:
Benjamin Baird
Christopher Sharp

Summer 2008:
Benjamin Baird
Christopher Sharp

GIBSON'S ETERNAL ANSWER: I CAN DO THAT

Entrepreneur visits with ISE students

STUDENT AWARDS

Julie Barnas, Cum Laude
Elyse Brown, Magna Cum Laude
Rachel Christner, Summa Cum Laude
Lisa Clarke, Cum Laude
Bradley Clinger, Cum Laude
Julie Disparte was awarded the Leavenworth-McClaskey fellowship in the Spring of 2008.
Esteban Duque, Cum Laude
Manisha Goswami won a student speaker award at the Spring 2008 Society for Industrial and Applied Mathematics Southeastern Atlantic Section meeting held in Orlando.
David Kellogg, Summa Cum Laude
Steven Kennedy, Summa Cum Laude
Frank Kraemer, Homecoming King Runner-up
Crystal Lai was awarded the Patterson fellowship in the Spring of 2008 and named Cum Laude
Jose Lobos, Magna Cum Laude
Kerri Marsh, Summa Cum Laude
Daniel Massey, Magna Cum Laude
Jordon McDonald, Magna Cum Laude
Todd Nanni, Cum Laude
Chelsea Owens, Cum Laude
Jeffrey Payne, Cum Laude
Steffan Rebennack was awarded the Gilbreth Fellowship for the 2008-09 academic year from the Institute of Industrial Engineers.
Laura Rhinesmith, Cum Laude
Justin Richardson, Cum Laude
Andrew Romich, Summa Cum Laude
Jinzhao Sheng, Cum Laude
Nick Tivunovich, Jr., Cum Laude
Jennifer White, Cum Laude
Megan Wolfe, Cum Laude

STUDENTS MOVING ON

Despite a lagging economy, the job market looked fairly bright for the graduating classes of 2008. The Department conferred 44 B.S. degrees in spring of 2008 with a further 10 this past summer. Additionally, the Department graduated 61 master's degrees in this same time span, including M.S. and M.E. degrees in Industrial and Systems Engineering. The Department also awarded five Ph.D. degrees in the spring and summer of 2008. The Ph.D. graduates, along with their subsequent employer, are listed here:

Spring
Alla Kammerdiner / Arizona State University
Chin-I Lin

Summer
Suchandan Guha / Barclays Capital
Valeriy Ryabchenko / Teleos Asset Management
Thomas Sharkey / Rensselaer Polytechnic Institute

John T. Gibson (BS ISE '69 MBA '71) knows an opportunity when he sees one. He arrived on campus as a defensive back recruited to Gainesville from the Midwest. However, he soon realized that he would probably not make a living playing football in the NFL, so he took his studies seriously and chose his degree carefully. That landed him in Industrial and Systems Engineering as it would give

him a solid engineering base and allow him to explore business and entrepreneurship.

Upon graduation from ISE and an MBA from the business school, he landed a job with the management consulting arm of Arthur Andersen (now Accenture) in Atlanta, with some help from Mr. Al Warrington.

He was immediately immersed in interesting projects, such as evaluating production lines and evaluating mergers and acquisitions. Most notably, he was a developer of the first computerized billing process used by Georgia Power and Light.

His fourth assignment for Anderson, with Cousin's Property, introduced him to the field of real estate changed his career. After the assignment, he left Anderson and formed a real estate firm with two other Gators and was named Vice President of Finance and Operations. After all, he said "I could do that," addressing about 70 ISE students in the "Introduction to Industrial and Systems Engineering" course in September.

As the economy turned sour, Gibson decided to become a builder and build homes on a property he had acquired with his first entrepreneurial adventure. Hiring a local builder to teach him the ropes, Gibson learned to build homes. This budding business led him to a ranking of 6th largest builder in metro Atlanta in 1978 with roughly 350 homes built that year. His company focused on high-end homes and later, commercial buildings (including one that is now

home to the Georgia Tech Research Administration).

After nearly two decades, the market turned again, so Gibson turned too – this time, towards banking. After a short stint with a bank, he noted that "I can do this!" Having a deep understanding of the mortgage business as a builder and developer, he started Citizens Fidelity Mortgage in 1992 in Marietta, Georgia.

The firm is licensed in seven states and was recognized by the Atlanta Business Chronicle for seven consecutive years as one of the top five Residential Mortgage Brokers in Georgia.

Of course, the market has turned

again and the mortgage industry is in a bit of turmoil. As much of his competition is getting out of the business, Gibson sees more opportunities. After all, "timing is important and you have to be able to adjust," he said.

Gibson discussed various topics with the students, from working hard in school to going to graduate school to landing the first job. Weaving through his non-traditional engineering career, he noted that "you never know what you are going to do in the future. Make choices that best fit you." He also told the students to be well rounded, as it is not the engineer's job to just solve the problem, but to "sell the answer."

Describing his ISE degree as "money in the pocket," Gibson also stressed the value of networking – especially with the Gator Nation. "It's great to be a Florida Gator," he concluded, "but it's even greater to be a Florida Engineer."



ALUMNI ROLL CALL FALL 2008 GUEST SPEAKERS

Roger Broderick
Dave Corey
Randall Deane
John Gibson
Hjalma Johnson
Bruce Laval
Jose Smith
Carol Wideman

RICHARD MAKES THE JUMP FROM PURDUE

Dr. Jean-Philippe Richard (J.P.) has been named Associate Professor of Industrial and Systems Engineering at the University of Florida. He holds a B. Eng. in Applied Mathematics from Université Catholique de Louvain in Louvain-La-Neuve, Belgium and a Ph.D. in Algorithms, Combinatorics and Optimization (ACO) from the Department of Industrial and Systems Engineering at the Georgia Institute of Technology. He was previously an Assistant Professor of Industrial Engineering at Purdue University.

The native of Belgium moved his family to Gainesville this past July, including his wife Jennis and four children (with now 5-year old twins). Mrs. Richard, with degrees in Computer Science and Management Information Systems, formerly

worked for Verizon Communications, but is looking for other opportunities in the information technology field.

Richard's research focuses on the design and application of methods for the global solution of discrete and mixed-discrete optimization problems. On the theoretical side, Richard has designed new approaches for the solution of mixed integer linear and nonlinear programs, especially through the use of cutting planes and formulation improvement procedures. On the application side, Richard has developed models and solutions for railroad operations, infrastructure security, and radiation therapy planning. His work has appeared in a number of scholarly journals, including Mathematical Programming, Mathematics of Operations Research, IIE Transactions, INFORMS Journal on Computing, Naval Research Logistics, and Discrete Optimization.

Richard is the recipient of several awards including the National Science Foundation CAREER award in 2004, the Foundation's highest award for new scholars. This \$400,000 award has enabled him to focus on his research in discrete optimization and support students. He has already graduated five Ph.D. students, which have landed jobs at Georgia Tech, Purdue, the Masdar Institute of Science and Technology (in the United Arab Emirates), IBM and Nestle. He is currently advising four Ph.D. students.

His other awards include the Best Applications Paper in IIE Transactions in 2008; two Alan B. Pritsker outstanding undergraduate teaching awards from the School of Industrial Engineering at Purdue University in 2007 and 2008; two James H. Greene graduate educator awards (at Purdue) in 2005 and 2007; and the Sigma Xi best Ph.D. thesis award at Georgia Tech in 2003.

Needless to say, we are very excited to welcome Dr. Richard onboard!



FACULTY AWARDS

RAVI AHUJA was named a Fellow of INFORMS, the Institute for Operations Research and Management Science.

PANOS PARDALOS was awarded an Honorary Ph.D. from the V.N. Glushkov Institute of Cybernetics of the National Academy of Ukraine for recognizing his outstanding scientific achievements. He was always awarded a University of Florida Research Foundation Professorship.

J. COLE SMITH won the Best Applications Paper award from IIE Transactions for

MOORE: I'D RATHER BE RIDING A HORSE!

You would think that stepping into the role of Office Manager, filled by Sharon Crosby for the past 15 years, would be daunting for a relative newcomer to the University of Florida. But Terry Moore loves a challenge. She completed her B.S. in Journalism from Georgia Southern early by overloading, taking summer courses and working full time. She did the same with her M.B.A. from Troy University.

After different jobs including selling life insurance and teaching at Lake City Community College, she accepted the position of Grants Specialist in Computer and Information Science and Engineering at UF. She took the job to get her foot in the door at UF, but did not sit on her laurels. She wanted to be ready to move up. "I spent every free moment with the Coordinator in that department learning her job," said Moore, reflecting on her first position.

Then Crosby retired and the position in ISE was available. "When the opportunity came along to interview, I was looking for a position where I could advance, utilize my skills and experience, and be challenged," said Moore. "Industrial and Systems Engineering was a great move for me. The department is evolving and growing, despite budget cuts, and the new leadership has involved me in that process."

Of course, if you met Moore at her home in Lake City, which she and her husband built themselves recently, you probably would not guess that she keeps the books at a research university. That is because her house sits on a ranch with a barn and she spends weekends either caring for cattle; taking care of the horses in the barn; or is on the road showing horses. Her husband trains horses and is usually competing on a weekly basis. Moore competes herself and was once ranked 17th in the World by the National Cutting Horse Association.

So, Moore doesn't worry if the office gets a bit stuffy, or harried, or even dull. There's always the weekend.

MILCH BRINGS UNIQUE TALENTS TO IPPD SUPPORT ROLE

Maureen Milch was named Program Assistant of the Integrated Product and Process Design (IPPD) program this summer. With an M.S. in Architecture from the University of Florida and a B.A. in Theatre from Rollins College, Milch brings a unique set of talents to the program and Department.

Her enjoyment and experience with experiential team oriented projects in theater and architecture, professionally and personally, lends a different perspective to the IPPD program. "Being a part of the IPPD program is an excellent way to work with soon-to-be professionals and project team learning," said Milch of the opportunity.

The program, housed in the Department and run by Dr. Keith Stanfill, stands to benefit from Milch's unique talents. Stanfill hopes to work with Milch to further improve marketing materials and other forms of communication for the program.

BLUNT STEPS UP TO LEAD ADVISER

Ms. Cynthia Blunt was promoted from Program Assistant to Academic Coordinator for the Department this past spring as Michael Funk departed for graduate studies in Europe, as noted in our last newsletter. Blunt has been with the Department since 2001 and as may be expected, the Department did not miss a beat through her move – despite the fact that enrollments continue to grow in all programs.

"Becoming a part of Industrial and Systems Engineering has afforded me the opportunity to meet new people and develop life-altering skills and abilities," said Blunt. "I have always appreciated the experience, which is why I welcomed the prospect of advancing."

A native of Ocala and the youngest of five children, Blunt attended Santa Fe Community College before receiving her B.S. in Psychology from Florida A&M in 1999. After a stint as a Senior Clerk in the Department of Wildlife Ecology & Conservation, she joined ISE. She is currently pursuing her M.A. in Human Services from Liberty University in Lynchburg, Virginia via an online program.

The students have welcomed Blunt into her new role with open arms. "They have shown how much I'm appreciated through their smiles, handshakes, praise and encouragement," said Blunt.

Randall G. Deane (BS '63) is president of Lifetime Financial Services. He also received an MBA from the University of Tennessee. He has been selected as one of the top 100 financial planning firms by Barron's.

Guillermo J. Anton (BS '67, ME '69) works as a systems engineer for Florida Power and Light Company.

Jose (Joe) M. Otero (BS '69) retired from IBM in Jacksonville this summer after 32 years in Systems Engineering and Sales, most recently as a Consulting Sales Representative.

John Laszcz (BS '78) works for IBM as a sales executive in the server and technology group. He has been with IBM for 25 years. He earned a masters degree in manufacturing systems at Georgia Tech in 1984. His wife is an IE from Auburn.

Barbara Crain Looney (BS '81) is the global supply chain manager for Dow Chemical Co.

David Frauman (BS '88) is engineering manager for Pylon Manufacturing Corp., a windshield wiper manufacturer. He is married to Debra and has three boys; Stephen, Jason and Andrew. He has also played ultimate frisbee for the more than 25 years.

Tom Godowsky (MS '91) is a senior manufacturing engineer at Lutron Electronics, Coopersburg, Pa. He and his wife, Nancy, reside in Allentown, Pa. His daughter Jessica is a Senior at the University of Pittsburgh, his daughter Amber is a sophomore at Penn State, and his son, Jeff, is a Senior at Parkland High School.

John Michael Fernandes (BS '93, MS '96) is a product marketing manager at Intel Corp. in Santa Clara, California where his team drives marketing activities leading up to the introduction of new microprocessors and chipset products for notebook computers. He earned his MBA from UC Berkeley and has one child, Joshua.

Ravin Nawalrai (BS '94) owns several businesses: KWEST Communications, a retailer and wholesaler of cellular products and services, and TAX TIME, which provides instant tax services and refunds to the public. He was married this past September.

Elsa (Torres) Weeks (MS '95) supervises quality inspectors for Galt Medical Corporation in Garland, Texas. She had previously spent a little over 5 years with Ethicon Endo-Surgery, a Johnson and Johnson Company, and was previously with Sandia National Laboratories, working on a variety of projects, including the F-35Bs.

Leon Mandelbaum (BS '96) works for Capgemini as a senior consultant in the Oracle- CRM practice. He married Blythe Greenberg and has a daughter, Peyton Grace.

Jeffrey M. Rosenzweig (BS '98) is Director of Finance for the Inova Health System, the largest provider of hospital and other healthcare services in the Washington, D.C. metropolitan area.

Gabriel Alcantera (BS '01) is currently serving on an operations rotation with UPS in Chicago as a Preload Operations Supervisor, after having served as an Industrial Engineering Supervisor. He worked with AT&T broadband in Atlanta after graduating before moving to Chicago to take on the UPS opportunity.

Darren Levy (BS '02, MBA '02) started with IBM Corporation upon graduation as a Client Manager supporting AOL on the Time Warner account team. In Jan 2004, he joined IBM's Small & Medium business team, managing the commercial business in Washington, D.C. As of January of 2008, he is managing IBM's Mid-Market business for D.C., Maryland, and Northern Virginia.

Anup Pant (MS '03) is currently working for Deloitte Consulting as a Senior Consultant out of the Milwaukee office. He deals with the manufacturing module of SAP in the Aerospace and Defense sector.

Erik Hartmann (BS '03, MS '03), works as an Industrial Engineer 3 for Northrop Grumman Corp. in St. Augustine, Fla., and was recently appointed as the lead IE for Broad Area Maritime Surveillance. He set up a program working with UF Industrial Engineering students to perform student projects and has hosted more than 10 student teams (and will host a senior design project next spring). Hartmann married his wife, Lindsay, a finance major for UF, in 2005.

Joe Herdliska (BS '05) works for Lockheed Martin as a systems engineer for an Airborne Intelligence, Surveillance and Reconnaissance platform. He received Special Recognition Award for early delivery of artifacts critical to hitting the deadline for Critical Design Review.

Michael T. Vento (BS '06) has been working at Intel Corp. in California and Arizona since graduation. He was named manufacturing engineer in Intel's state-of-the-art Fab32 production facility in Chandler, Ariz.

Young-Ki Chang (BS '07) is working for the U.S. Congress.

ALUMNI PASSING ON

John W. Mueller (ISE '49) Miami FL
7/1/2008

William E. Hankins, Jr. (BS '51) Neffsville PA
11/01/2007

William R. Thompson III (BS '51) Atlantic Beach FL
02/04/2008

Robert L. Fairman (BS '53) Landrum SC
11/21/2006

Donald Herbert Wilson (BS '56) Gainesville FL
02/01/1990

M. Brown, Jr. (BS '59) Naples FL
03/06/2008

James G. Kidd (BS '60) Orlando FL
11/17/2004

Jerry D. Williams (BS '62) Reynolds IN
07/01/1966

OEM PROGRAM IS THRIVING

The Outreach Engineering Management Program recently began classes for its 12th group of students, and, by all indications, the program is stronger than ever.

Demand continues to increase, while student satisfaction levels consistently remain high. The last two classes began at full capacity (56 students), and a waitlist was created for the remaining qualified applicants. Nearly 450 students have enrolled since the program's inception in 1996.

As the number of alumni increases, so do alumni referrals, which is a major reason for the current level of demand. Twenty-five percent of the enrollees in the most recent entering class learned about the program from a previous OEM student. Another contributing factor for the increase in applications is that classes are now meeting in Orlando. A larger number of technically employed students can attend the one-weekend-per-month classes at this more centralized location than the previous sites of South Florida, West Palm Beach, Gainesville, and Cape Canaveral.

"Going through the program while I was still working was a huge benefit. There is a

lot of real world applicability — especially having that one weekend a month where you get together with your classmates and your professors," said Brian Lorenzetti, a current student in the OEM/MBA program and employee of Lockheed Martin. "You can think of something that you're going through that month and then either ask the professors right off the bat by yourself, or, when you get there, start a discussion in the class. In that regard, the program really exceeded my expectation and gave me that applicability that I wasn't necessarily expecting."

As noted in the last newsletter, Drs. Jack Elzinga and Donald Hearn retired in 2007, after many years of service to the ISE Department and the OEM Program. These individuals were re-

sponsible for the development of the program and contributed much to its success, both as administrators and as professors. Their involvement has been strongly missed, but fortunately, their courses are now taught by two professors that have also been well received by students. Dr. Cole Smith now teaches the Deterministic Methods in Operations Research course previously taught by Hearn, while Dr. Joseph Hartman teaches the Quality Management and Engineering course formerly taught by Elzinga. Dr. Joe Geunes is now the Director of OEM.

The program suffered a loss this year when Dr. Doug Snowball passed away after a long struggle with cancer. Dr. Snowball taught Accounting for the OEM Program for six years until he

had to step away from that role in 2005 because of his illness. He was well known for his Top 10 lists and his unique approach to teaching Accounting. There was an outpouring of support and concern from previous students when they learned of his death. Dr. Stephen Asare has been teaching Financial and Managerial Accounting for OEM since 2005.

The curriculum for this ISE Master's degree program includes five engineering courses and five business courses, and takes 20 months to complete. Classes meet for eight hours per day on both Saturday and Sunday on a selected weekend each month. OEM targets professionals seeking to enhance their careers by acquiring new technical and management skills. The next program begins in August 2009, when classes will again be held in Orlando. For more information, please visit the OEM Web site.

www.ise.ufl.edu/oemp



GOING THROUGH THE PROGRAM WHILE I WAS STILL WORKING WAS A HUGE BENEFIT. THERE IS A LOT OF REAL WORLD APPLICABILITY.

LEFT Brian Lorenzetti, a current OEM/MBA student and employee of Lockheed Martin, speaks to the newest OEM class about his experience in the OEM Program. **ABOVE** Misty Snopkowski, a NASA employee and a student in the OEM Class of 2009, gives her attention to a speaker during an OEM class session. Photos by David Blankenship.



PARETO-IMPROVING CONGESTION TOLLS



Although the concept has been around for more than 80 years and many have recognized it as an efficient method for regulating congestion, congestion pricing has become practical only recently due to the advent of electronic tolling.

When compared to the alternative of building more roads, congestion pricing, especially via electronic tolling, is more attractive and successful implementations (e.g., Singapore, Oslo, London, and Stockholm) exist worldwide.

In the United States, Congress established the Congestion Pricing Pilot Program in 1991, which authorized Federal Highway Administration to enter into cooperative agreements with up to 15 state/local governments, or other public authorities, to establish, maintain and monitor congestion pricing projects. Later, Congress reauthorized the program with a slightly broader scope under the name Value Pricing Pilot Program. In August 2007, the U.S. Department of Transportation entered into urban partnership agreements with five cities (Miami, Minneapolis/St. Paul, New York, San Francisco, and Seattle) under its new congestion initiative.

Despite the successes of congestion pricing projects in the United States and

abroad, governmental supports such as Value Pricing Pilot Program and U.S. Department of Transportation's Congestion Initiative, and the rapid increase in traffic congestion in areas of all sizes, getting the public to accept congestion pricing remains a major obstacle.

At the 2006 Transportation Research Board Summer Workshop on innovations in pricing, the former Secretary of Washington State Department of Transportation Douglas McDonald observed that "despite our best efforts, opinion research shows we face a skeptical public" and offered a \$1,000 reward to an individual or group that proposes the most effective communication tool for promoting road pricing. Elsewhere, road pricing schemes proposed for Hong Kong, Cambridge, England and Edinburgh, Scotland were not implemented. Anthony May from the Institute for Transport Studies, University of Leeds, reported in 2005 that ten or more pricing proposals were "largely abandoned" in United Kingdom.



To make congestion pricing more appealing the public, Drs. Lawphongpanich and Yin at University of Florida recently received funding from the National Science Foundation to explore a new class of Pareto-improving congestion pricing schemes. When compared to the situation without any pricing intervention, schemes in this class reduce congestion or improve social benefit without making anyone worse off. At the fundamental level, the two researchers contend that Pareto-improving pricing schemes are more appealing to public because these schemes make no one worse off or increase the travel cost beyond what the public has been paying in terms of travel time before any pricing intervention. At the same time, Pareto-improving schemes reduce congestion or increase social benefit, but not necessarily to minimum or maximum level possible. In fact, doing so is extreme and generally make some severely worse off. In his 2005 article, Hau points out that, in reducing congestion to its minimum level, traditional schemes such as those based on marginal social costs are “mostly likely doomed to be political failure.”

FIGURE 1: A FIVE-LINK NETWORK

To illustrate the unappealing aspect of traditional congestion pricing schemes, marginal cost (MC) pricing in particular, and the potentials of the Pareto-improving (PI) approach, consider the network in Figure 1 in which there is only one origin-destination pair (1, 4) with a demand of 3.6 travelers or users. (In practice, the demand can be measured in units of thousands or millions, e.g., 3.6 millions of travelers want to travel from node 1 to 4.) The function next to each link is the travel time or link performance function.

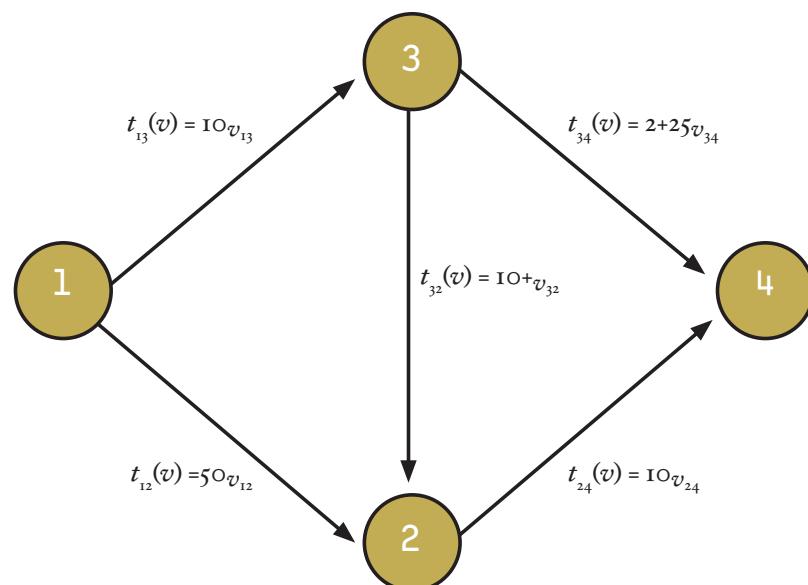


Table 1 displays the link and path flow distributions with and without MC pricing along with the associated costs. The flow distribution without any pricing is a user equilibrium (UE) traffic flow distribution. In the second and third columns, the table lists the amount of flow (or the number of users) on each link and path along with the travel time such flow induces. Without any pricing, travelers use only two routes, $1 - 3 - 4$ and $1 - 3 - 2 - 4$. Both take 71.06 time units to arrive at node 4, the destination. As such, the users of these two routes have no incentive to switch to route, $1 - 2 - 4$, a longer route with a travel time of 72.78. Thus, the total travel time or delay for the 3.6 users is $3.6 \times 71.06 - 255.82$, as reported at the bottom of the third column.

Under MC pricing, tolls are of the form $t'_a(v_a)v_a$, where $t'_a(v_a)$ is the derivative of the travel time function, and v_a is the flow on link a . As shown in Table 1, MC pricing charges a toll on every link and the total travel cost (time + tolls) to each user increases to 101.70. When examining the path flows, MC pricing forces 1.54 travelers to use path $1 - 2 - 4$. These travelers suffer twice, once for having to use a longer route (75.85 instead of 71.06) and the other for having to pay tolls (25.85 time units). Overall, the total cost to the 3.6 travelers under MC pricing is 366.13 which is more than the total cost (255.82) without any pricing, a cost consisting entirely of time or delay. However, MC pricing yields less total delay (227.11) and generates toll revenue (139.02) for the transportation authority. Thus, under MC pricing, every user is worse off and the only one better off is the transportation authority.

TABLE 1: FLOW DISTRIBUTIONS WITH AND WITHOUT MARGINAL COST PRICING

	Without Pricing		Marginal Cost Pricing			
	FLOW (UE)	TIME	FLOW	TIME	TOLL	TIME + TOLL
Link						
(1, 3)	3.60	36.00	2.06	20.64	20.64	41.28
(1, 2)	0.00	50.00	1.54	51.54	1.54	53.07
(3, 2)	2.28	12.28	0.90	10.90	0.90	11.79
(3, 4)	1.32	35.06	1.17	31.21	29.21	60.43
(2, 4)	2.28	22.78	2.43	24.32	24.32	48.63
Path						
1-3-4	1.32	71.06	1.17	51.85	49.85	101.70
1-3-2-4	2.28	71.06	0.90	55.85	45.85	101.70
1-2-4	0	72.78	1.54	75.85	25.85	101.70
COSTS TO USERS		255.82		227.11	139.02	366.13



Table 2 compares the flow distributions with and without PI pricing. Under PI pricing, there are tolls on two links, (3, 2) and (3, 4), and the total cost (time + tolls) for every traveler is 71.06, the same as that without pricing. In addition, the total delay under PI is 234.99, an amount less than the one without pricing (255.82). When compared to the absolute minimum (227.11, as shown in Table 1 under MC pricing), the delay under PI pricing is only 3.5% more. On the other hand, there is a toll revenue of 20.83 that can be used to, e.g., improve or subsidize the transit system to increase its ridership. Thus, PI pricing in this example is ideal—no user is worse off, there is less delay, and the transportation authority can improve or subsidize its transit system with the toll revenue generated.

In two recent reports (accessible from CMS Web site), Lawphongpanich and Yin formulate and develop a technique for solving the problem of finding PI tolls and provide results using transportation networks from Sioux Falls and Hull. In one of these reports, they indicate that PI tolls are relatively prevalent. When these tolls do not lead to, e.g., the desired level of congestion reduction, approximate Pareto-improving tolls often do so without making anyone severely worse off.

Dr. Siriphong (Toi) Lawphongpanich joined the Department of Industrial and Systems Engineering at the University of Florida in December 2001. His main research interests are in transportation science, large-scale optimization, and logistics. He has published widely in these areas. Recently, he is a co-editor of a book titled "Mathematical and Computational Models for Congestion Charging" published by Springer.

TABLE 2: FLOW DISTRIBUTIONS WITH AND WITHOUT PARETO-IMPROVING PRICING

	Without Pricing		Pareto-Improving Pricing			
	FLOW (UE)	TIME	FLOW	TIME	TOLL	TIME + TOLL
Link						
(1, 3)	3.60	36.00	2.24	22.40	0.00	22.40
(1, 2)	0.00	50.00	1.36	51.36	0.00	51.36
(3, 2)	2.28	12.28	0.61	10.61	18.35	28.96
(3, 4)	1.32	35.06	1.63	42.75	5.91	48.66
(2, 4)	2.28	22.78	1.97	19.70	0.00	19.70
Path						
1-3-4	1.32	71.06	1.63	65.15	5.91	71.06
1-3-2-4	2.28	71.06	0.61	52.71	18.35	71.06
1-2-4	0	72.78	1.36	71.06	0.00	71.06
COSTS TO USERS		255.82		234.99	20.83	255.82

PLAN TO COME TO CAMPUS IN FALL 2009

Did you know that our Department formed in 1934? That's right, we are turning 75 years old next fall and we are going to celebrate. Once the date is picked (yes, we are tracking down football tickets!), we will announce a schedule, but hope you can make it!

Also, to better stay in touch with you, please register on our newly developed alumni social network. Visit the Web site and register today!

www.ise.ufl.edu/alumni



UF UNIVERSITY *of*
FLORIDA

DEPARTMENT OF INDUSTRIAL
& SYSTEMS ENGINEERING
303 Weil Hall
P.O. Box 116595
Gainesville, FL 32611-6595

NON-PROFIT ORG
US POSTAGE
PAID
PERMIT NO. 94
GAINESVILLE, FL