

INDUSTRIAL AND SYSTEMS ENGINEERING

MID-YEAR UPDATE SPRING 2016

150
CELEBRATING LEHIGH
1865

Lehigh ISE Continues to Shine

Finalist for the
UPS George D. Smith Prize;
Leads the 2015 INFORMS
Philadelphia Conference





Chair's Message

Dear Friends,

Welcome to 2016! I trust that you and your families had a splendid holiday season. In the ISE Department, we're presently starting the Spring 2016 semester.

As you know, it was a very busy Fall semester. In the end of it, I had the honor of being the General Chair of the INFORMS 2015 Philadelphia Conference. We had an incredible turnout of over 5,600 participants. I couldn't have done it without the help of the Organizing Committee and Lehigh student volunteers (30 in total) and staff. You can read more about this in the following pages.

For the fourth year in a row, we were a finalist for the UPS George D. Smith Prize at the Institute for Operations Research and Management Sciences (INFORMS).

Interest in our degrees in classes are on the rise and with that means we need more space. As a result, over Winter break, rooms 451 and 453 in Mohler Lab have been expanded. Both classrooms now can hold 8 more students.

I am very excited to announce our Lehigh ISE Affinity Group. Alumni Anthony Hillman, Ray Glemser, Keith Krenz and Ray Hoving, along with Megan Casey, Director of Development, Abby Barlok, Communications

Specialist, and myself are the first members of this group. The purpose of this group is to network with alumni to reconnect to the ISE Department and to grow support for the department. We ask that those alumni wanting to stay connected in a larger way should contact our office at 610-758-4050. It's my honor to announce our first event for this affinity group in New York City! Invitations will be sent out soon, but I'd like for you to reserve the date of March 10, 2016. PwC has graciously allowed us to use their location on Madison Avenue in NYC. Please read the article below for more information on this group.

Finally, your support means a tremendous deal to us, whether it be by volunteering, participating in alumni connections or through a monetary donation. Your support, suggestions, or observations are critical for making informed decisions about our department. Please feel free to send me your memories, opinions, ideas, or anything else you may want to share.

I am looking forward to seeing and hearing from you soon!

All the best,

Tamás Terlaký
Terlaký@lehigh.edu

Lehigh Leads Annual INFORMS Conference

Tamás Terlaký, Chair of the Department of Industrial and Systems Engineering (ISE), served as the Institute for Operations Research and the Management Sciences (INFORMS) Conference General Chair at the 2015 INFORMS annual meeting in Philadelphia.

INFORMS serves the scientific and professional needs of analytics professionals, educators, scientists, researchers, managers, and students, as well as the institutions that employ them.

The conference, which ran from Nov. 1–4 in the Pennsylvania Convention Center and the adjacent Philadelphia Marriott Downtown Hotel, saw over 5,600 participants from across the globe, offering presentations which surveyed the analytics movement, panel discussions, tutorials, and thousands of oral and poster presentations from leading academics, industry experts, students, and representatives of government agencies.

Terlaký recruited an 18-member committee, including four Lehigh ISE faculty members: Larry Snyder, program co-chair; Katya Scheinberg, keynote co-chair; Ted Ralphs sponsored sessions co-chair; and Aurélie Thiele, tutorials co-chair. "Arguably the most important task of the general chair is to assemble an excellent organizing committee," he said.

To make sure that all ran smoothly, 60 student volunteers, including 30 Lehigh Ph.D. students and ISE's Communications Specialist, Abby Barlok, helped to guide participants at the conference.

ISE Department Mid-Year News

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Lehigh ISE Affinity Group

We are excited to unveil the all new Lehigh ISE Affinity Group! As you saw in the previous newsletter, there was a Q&A piece devoted to explaining the purpose of this group. If you missed it, but are still intrigued in learning about it, please visit ise.lehigh.edu to view the Fall 2015 newsletter.

Presently, we're launching this group with a core group of alumni volunteers from our present and previous ISE Advisory Council. Our goal is to build a large, strong ISE Affinity Group as quickly as possible.

The key mission of our group is to promote the relationship and involvement of Lehigh Industrial and Systems Engineering alumni, students and faculty through

meaningful events and programs that help advance the professional careers of its members and the academic endeavors of the ISE Department and Lehigh.

Our objectives are:

- Networking opportunities for alumni
- Reconnecting to the Industrial and Systems Engineering Department
- Growing support for the Industrial and Systems Engineering Department

During our first year, we will develop this group by engaging our alumni members through networking events, such as lecture luncheons, seminars, webinars, and workshops. We know how big of a role social

media plays, so we make it our duty to update our Facebook, LinkedIn, and Twitter pages frequently. Please be sure to visit our Contact Us page to learn how to follow us on Facebook, LinkedIn and Twitter. Our website, <https://ise.lehigh.edu>, is a great resource to catch up on current events, our present faculty, students, the ISE Advisory Council, and current curriculum. We welcome your attendance and input in all our activities.

Alumni Services is currently creating our ISE Affinity Group page. When this page is available, we will send out an official announcement! Until then, please email Abby Barlok if you are interested in becoming more involved in this group.

If you would like to make a gift to the ISE Department, please visit mylehigh.lehigh.edu/giveISE

Fall 2015 Spencer C. Schantz Lecture



Dr. Robert Bixby, Noah Harding Professor Emeritus of Computational and Applied Mathematics at Rice University, and visiting Professor in the Department of Mathematics at Universität Erlangen-Nürnberg, was the ISE Department's 2015 Fall Spencer C. Schantz Distinguished Lecturer.

Dr. Robert Bixby has a BS in Industrial Engineering and Operations Research from the University of California, Berkeley (1968), and a PhD in Operations Research from Cornell University (1972). During his schooling, Dr. Bixby's advisors suggested taking as many math courses as possible. Although Robert was not yet comfortable with

pure mathematics, he found he had a natural knack for it. He explains, "Taking those courses was one of the most important decisions in my academic career."

"As an undergrad, for my senior project, I was forced to write a computer program/punch cards. You would punch in and submit your deck and find out the next day whether or not you had a bug," says Dr. Bixby. Robert then decided to create his own linear programming code. He explains, "When we compared my code vs. one of the standard codes, we found out that mine was four times faster. It seemed that I was good at linear programming (LP) and I also thoroughly enjoyed it."

Without any available support for his LP research, Robert, along with a business student and her husband, Janet and Todd Lowe, created CPLEX Optimization in 1987. At CPLEX, Robert and his team created linear and mixed-integer programming codes for both academic and corporate use. Within just a few years CPLEX became the leading software in its space, taking over the dominant position in the market by the mid 90's. CPLEX was acquired by ILOG, Inc. in 1997, after which Dr. Bixby served on the ILOG Board of Directors, was manager of the ILOG CPLEX Development Team, President of the ILOG Technical Advisory Board, and General Manager of ILOG's Semiconductor Business Division. In 2008, Dr. Bixby co-founded GUROBI. He presently holds the position of Chief Strategy Officer.

Dr. Bixby says, "I'm lucky. My wife, who I met as a sophomore in high school, has always supported me. At one point, she thought I was crazy for tackling two full-time jobs; one in academia and one in the corporate world. I've been lucky across the board. On one hand, I have a great family and the support system of my wife, my three children and my five grandchildren. And on the other, I get to solve optimization problems for a living, which is something I really enjoy and happen to be pretty good at. What more could a person ask for?"

*Dr. and Mrs. Bixby will celebrate their 50th wedding anniversary this year.

Jefferson-IBX Health Hack

In November, Lehigh's Director of the Healthcare Systems Engineering Program, Ana Alexandrescu, and HSE Adjunct Professor Terry Theman volunteered as mentors for the Jefferson-IBX Health Hack in Philadelphia.

A healthcare hackathon, which is an event that thrives on collisions between different worlds, experiences, and cultures, is centered around bringing individuals together who may not interact otherwise—say, an experience designer, a programmer, and a triage nurse—to dream up scalable solutions to the most pressing issues in healthcare.

HSE students, Guanyu Liu, and Siyang Liu, along with HSE alum, Chase Yu Xin, also participated and their team, which also included several Temple MBA students, won 3rd place in a track looking to use drone technology to deliver healthcare solutions. HSE student, Madeleine Smith, also participated in the Hackathon with a solution.



Lehigh University Global Leadership Workshop

A recent program created by Lehigh's ISE Chair, Dr. Tamás Terlaky, Director of the Lehigh Enterprise Systems Center, ISE Professor Emory Zimmers and ISE Ph.D. candidate, Choat Inthawongse, gathered 21 Ph.D. students—many business professionals—from Thailand's Ramkhamhaeng University for a visit to Lehigh University. While at Lehigh, the participants participated in a three-day workshop devoted to leadership topics in industrial engineering and human resources.

The Thai students, who traveled with four faculty from Ramkhamhaeng University in Bangkok, are pursuing doctorate degrees in human resources. Speakers at the workshop, who have diverse experience in the field, shared their experiences within the field.

The Global Leadership Workshop, managed by the Enterprise Systems Center (Director Dr.

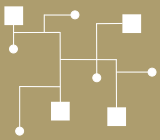
Emory Zimmers, along with Mythreyi Sekar and Mike MacDougall), handled conceptual design through operational logistics. Choat Inthawongse, Jill Helmer, Global Organization Development Consultant at Air Products, and Dr. Zimmers collaborated on learning objectives and specific course content. Dr. Zimmers explains, "As part of the workshop we were fortunate to have the participation of Lehigh alumni, many from the department, who have attained leadership positions in a variety of businesses. In particular, John McGlade, IE, '76, MBA '80, Dan Mulholland, Business '74, Ray Glemser, IE, '83, '84G, '91 Ph.D., Ray Hoving, IE, '69, '71G, Keith Krenz, IE, '79, and Charalambos Marangos, IE, '91, '93G, '03 Ph.D. contributed their insights and support to the workshop."

The international academic partner for program development was Dr. Khosit

Intawongse, Dean of the Faculty of Human Resources at Ramkhamhaeng University, assisted by Prote Setsuwan who was the academic lead for the initiative.

Dr. Zimmers stated that primary components of the workshop were: presentations on the body of knowledge of leadership, interactive presentations on organizational development and change management, potential impact of analytics on the human resource leaders, insights shared by executive leaders, and the development of a personal leadership strategic plan by each attendee.

ISE Department Chair Tamás Terlaky was extremely pleased with the overall outcome of the workshop. He explains, "Interest in the workshop has helped to rekindle alumni contacts and to develop stronger alumni ties with Lehigh University's Thai graduates."



Lehigh researchers enlisted for new center to protect US power grid

Researchers in Lehigh University's Integrated Networks for Electricity research cluster are part of a new center that aims to develop new technologies to protect the nation's power grid from cyber attacks.

The center is made possible by a \$12.2 million grant to Lehigh and four other universities from the U.S. Department of Energy (DOE). The award will be supplemented with \$3.3 million in matching funds from the participating schools.

The goal of the initiative is to develop and test new technologies to help modernize the U.S. electrical power grid—the network of generating stations and transmission lines that produce and distribute electricity to homes, businesses and other users across the nation.

Lehigh faculty members represent the largest number of investigators involved in the project. We are happy to announce that our very own, Larry Snyder, Associate Professor of Industrial and Systems Engineering, and Boris Defourny, Assistant Professor of Industrial and Systems Engineering, are two faculty members involved.



Larry Snyder



Boris Defourny



Mythreyi Sekar and Dr. Emory Zimmers

The National Society of Leadership and Success

The department is proud to announce the outstanding achievements of Dr. Emory Zimmers and Mythreyi Sekar, recognized by The National Society of Leadership and Success. Charles Knippen, President of The National Society and Success explains, "Through dedication and commitment, Mythreyi and Emory have effectively motivated Society members to attain individual goals, demonstrate leadership and continually strive for success. Both have promoted the Society's mission through support of its members on Lehigh University's campus and inspired students to serve as a powerful force of good by encouraging and organizing action that result in positive impacts to the community."

Lawrence E. White Fellowship

The Industrial and Systems Engineering Department is pleased to announce the Lawrence E. White '64, '65, '69 Fellowship for Master of Management Science and Engineering. The scholarship, made available through the generosity of Lehigh and department alumnus, Lawrence E. White ('64, '65G, '69 PhD) provides full tuition support toward 30 credits of master's degree study.

The chosen candidate will be announced in the Fall 2016 ISE Department newsletter.

Lawrence E. White earned a bachelor's degree in engineering from Lehigh in 1964, followed by a master's degree in Management Science in 1965 and a Ph.D. in Industrial Engineering in 1969. While a student, White was a member of the wrestling team and Theta Delta Chi. He has made his career in real estate and is currently a consultant with Red Jacket Development in Orlando, Fla.

White has long supported initiatives at Lehigh, and is a member of the Asa Packer Society and Tower Society. His generosity has supported the renovation of Grace Hall, Athletics Partnership, and the wrestling program.

Upcoming Events

Please be sure to join the ISE Department for these upcoming events!

To read more about these events, please visit
<http://ise.lehigh.edu/events>.

Spencer C. Schantz Lecture Series

Thursday, April 28, 2016

ISE Annual Banquet/Distinguished Alumni Award Ceremony

Thursday, April 28, 2016

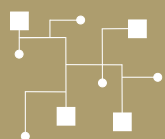
Honoring the recipients of the 2016 Distinguished Alumni Awards

Reunion Weekend

May 20-23, 2016

MOPTA 2016

August 17-19, 2016



NYC Alumni Reception

Thursday, March 10, 2016
300 Madison Avenue
New York City
6:00 p.m.–9:00 p.m.

