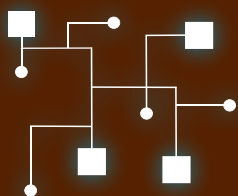


INDUSTRIAL AND SYSTEMS ENGINEERING

SPRING NEWSLETTER 2025



Lehigh ISE Launches Alumni Directory!



LEHIGH
UNIVERSITY

P.C. Rossin College
of Engineering and
Applied Science



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READER FEEDBACK:

Please send comments to the editor,
Sheila Dorney at
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Dear Lehigh ISE Community,

As we close another vibrant and productive academic year, I am filled with pride and excitement at the momentum we are building together. This spring marks a season of milestones for our department, as we continue to grow in excellence, research, leadership, and community.

We are especially honored to welcome **Dr. Andrew V. Goldberg**, an internationally renowned leader in network algorithms, as the inaugural ISE Endowed Chair Professor. Dr. Goldberg's appointment not only strengthens our research impact in optimization but also marks a historic step forward for our department's endowment initiative. We also welcome **Dr. Meng Zhao**, whose expertise in data analytics and AI for healthcare systems will expand our strength in interdisciplinary, data-driven research. Additionally, **Mr. Keith Dow** joins us as our new Business Manager, bringing fresh energy and experience to support our operational success.

This semester also brought major recognitions to our faculty and students. Professors **Ana Alexandrescu** and **Gregory Tonkay** received the university's top advising honors—a true testament to their dedication to our students' growth. Our postdoctoral researcher **Mohammad Mohammadisiahroudi** received national distinction by winning the prestigious **2025 Pritsker Doctoral Dissertation Award** and was selected as the **Graduate Commencement Speaker** for Lehigh's

May 2025 ceremony. PhD students **Shannon Kelly** and **Lara Zebiane** were honored with Lehigh's highest awards in teaching and leadership, respectively—reflecting the academic excellence and service culture we strive to foster.

We also take great pride in the achievements of our faculty in advancing research. Assistant Professor **Akwum Onwunta**, alongside colleagues in CSE and Physics, secured a competitive **\$800K U.S. Department of Energy grant** to drive innovation in computational materials modeling—an exciting example of cross-disciplinary collaboration.

This spring also marked a major step forward in our alumni engagement strategy. We officially launched the **Lehigh ISE Alumni Directory**, a comprehensive and searchable resource that connects alumni across decades and degrees. This initiative is part of our broader **ISE Alumni Academy**, designed to bring alumni back into the classroom as mentors, guest speakers, and role models. We believe that strengthening our alumni ties not only honors the legacy of our graduates but also enhances the experience and networks available to our current students.

The department also continued its long tradition of intellectual exchange through the **Spencer C. Schantz Lecture Series**. We hosted renowned scholars **Nick Sahinidis** and **Katya Scheinberg** from Georgia Tech, whose talks drew impressive participation from students and faculty alike. We were especially pleased to host a joint luncheon with Professor Scheinberg to honor our graduating undergraduate and master's students—a joyful and meaningful way to mark the transition to the next chapter of their journeys. In April, **Professor Emory W. Zimmers** also gave a Distinguished Public Lecture on the evolving role of the Enterprise Systems Center, further affirming our commitment to industry-relevant education and applied research, culminating in our department's annual **Awards Ceremony and Banquet**.

Finally, I would like to extend warm congratulations to **Amy Nyberg**, ISE Adjunct Faculty and President of Ambulatory Services and Growth at Jefferson Health, for being named one of the **2025 Lehigh Valley Women of Influence**. Her career and contributions embody the kind of leadership we hope to inspire in all our students.

Thank you for being part of this incredible community. Whether you are a student, alumnus, faculty member, or friend of Lehigh ISE, your support continues to shape the bright future of our department. We look forward to an even more impactful year ahead.

Warm regards,



LUIS NUNES VICENTE

Timothy J. Wilmott Endowed Chair Professor and Department Chair
Department of Industrial and Systems Engineering, Lehigh University

ISE FACULTY & STAFF NEWS

news



ANDREW V. GOLDBERG

Lehigh ISE hires Dr. Andrew Goldberg, a leading scientist in network routing, as ISE Endowed Chair Professor, to advance optimization algorithms for navigation systems

Lehigh ISE is extremely proud to welcome **Dr. Andrew V. Goldberg**, a highly accomplished and internationally recognized operations research and algorithm scientist, as endowed chair Full Professor starting July 1, 2025. This is the first of the 3 endowed chairs of the department's endowment to be filled.

Over his distinguished career, Dr. Goldberg has held research positions at leading institutions, including Stanford University, Microsoft Research, and Amazon. He earned a PhD in Computer Science from MIT, where he also obtained a BS in Mathematics, and later received an MS in Computer Science from UC Berkeley. His list of research accomplishments, industry innovations, and accolades is truly impressive. His citation count on Google Scholar exceeds 26,000, with an h-index of 74. In addition to his academic publications, he is the (co-)inventor of 17 patents.

Goldberg's research includes several fundamental contributions, particularly in network flow and shortest path problems. He co-developed the push-relabel algorithm, a highly efficient method for solving the maximum flow problem in network optimization. This approach optimizes flow distribution and has become a cornerstone in operations research, computational science, and real-world applications such as transportation and network routing. Additionally, his average-case linear-time algorithm for solving the single-source shortest path problem in graphs with nonnegative edge weights is considered a classic, improving upon the celebrated Dijkstra's algorithm, which is taught in undergraduate ISE courses. Many of his algorithms are widely used in both industry and academia and are integral to basic and advanced courses in operations research, graph theory, and computer science.

Early in his career, Andrew Goldberg received an NSF Presidential Young Investigator Award (1988) and an ONR Young Investigator Award (1991), and his Ph.D. thesis was honored with the prestigious 1988 Mathematical Optimization Society A.W. Tucker Prize. Later, he was awarded the 2011 Farkas Prize by the INFORMS Optimization Society, recognizing outstanding contributions to optimization research. Two of his papers received the European Symposium on Algorithms Test of Time awards. He is also a Fellow of the Association for Computing Machinery (ACM, Class of 2009) and the Society for Industrial and Applied Mathematics (SIAM, Class of 2013).

Andrew is a rare scientist who excels in both the theoretical and practical aspects of algorithm design, ensuring their seamless application to complex operations research challenges. He brings to Lehigh ISE extensive industrial research experience while maintaining deep academic ties worldwide. Lehigh ISE is poised to lead in optimization algorithms for navigation systems under his expertise.

Andrew says: "Optimization algorithms play an important role in industry and affect our everyday life. As applications grow and get more sophisticated, we need more efficient algorithms. I am excited to join the ISE department at Lehigh as this gives me an opportunity to build a quality program in theory and engineering of algorithms that will produce solutions the world needs."

ISE FACULTY & STAFF NEWS

news

**MENG ZHAO**

Lehigh ISE hires Dr. Meng Zhao, from Columbia University Irving Medical Center, as Assistant Professor, to advance analytics and AI in system modeling

We are pleased to announce that, through an engineering faculty search on data science for health, Lehigh ISE has hired Dr. **Meng Zhao**, who will start on July 1 as a tenure-track Assistant Professor in our department.

Dr. Meng Zhao is currently a postdoc at Columbia University Irving Medical Center. She earned her PhD from the Department of Industrial and Systems Engineering at the University of Florida in 2023. Her research has focused on developing high-dimensional data analytics and machine learning algorithms for complex system monitoring and modeling. Her current work centers on leveraging computational methods for phenotyping and genotyping in the health domain. Her research findings have been published in both ISE and clinical journals, such as IISE Transactions on Healthcare Systems Engineering (where her work was recognized as a feature article) and IEEE Transactions on Intelligent Transportation Systems.

Meng's research effectively expands the core areas of ISE, striking the right balance between methodological and applied work. On the methodological side, her expertise includes (deep) tensor decomposition, tensor networks, federated data analytics, and large-scale data fusion. On the applied side, she brings valuable contributions in multi-modal health data analysis, computational phenotyping and the monitoring of complex transportation and manufacturing systems.

Meng says, "I am passionate about translating high-dimensional data into actionable insights, particularly in healthcare and transportation, where they can create a real impact on people's lives. Interdisciplinary collaboration has always driven my research—some of the most meaningful advancements happen at the intersection of fields. I'm thrilled to join Lehigh ISE and contribute to this vibrant community!"

ISE FACULTY & STAFF NEWS

news



KEITH DOW

Lehigh ISE welcomes experienced new business manager Keith Dow to drive departmental success

Lehigh ISE is pleased to announce that **Keith Dow** was hired as Business Manager as the result of a competitive search opened in August 2024. He started his term October 16, 2024, during a busy Fall 2024 semester. Our former Business Manager, Christina Reiss, recently took the position of Director of Finance at the Rossin College of Engineering & Applied Science.

Keith Dow earned his BA in International Business and Management from Dickinson College in 2006. He supplemented his degree with international study at Franklin University Switzerland with a focus on banking and economics of the European Union.

Keith Dow began his career working in finance at JP Morgan in New York City as a portfolio manager. As Vice President at BNY Mellon, he managed several economic stabilization programs on behalf of the US Treasury and Federal Reserve Bank of New York, including the TALF and Maiden Lane funds.

Upon pursuing an entrepreneurial venture, Keith Dow founded Digital Markets LLC, an online marketplace for buying and selling businesses. In this capacity, Keith managed the daily operations of the company, including platform development, business development, financing, advertising, and overall digital strategy.

Keith is delighted to join Lehigh University with a mandate to help further the educational and professional mission of Lehigh ISE saying, “As a Bethlehem native, Lehigh University always shone as beacon of excellence on the proverbial—and literal—hill. In returning to my hometown, I’m thrilled to be part of such an illustrious institution and to contribute to the continued success of its ISE Department.”



ANA I. ALEXANDRESCU



GREGORY L. TONKAY

ISE FACULTY & STAFF NEWS

news

Lehigh honors ISE student advising with top recognition—two Lehigh ISE faculty members received the 2024 Hillman Advising Awards

Professor of Practice **Ana I. Alexandrescu** won the 2024 Lehigh University Hillman Award for Excellence in Graduate Advising. Associate Professor **Gregory L. Tonkay** won the 2024 Lehigh University Hillman Award for Excellence in Undergraduate Advising. Lehigh reserves these two awards for faculty who have demonstrated long-term excellence in undergraduate and graduate advising. Nominations are submitted exclusively by students, adding to the awards' significance.

Professor Alexandrescu has transformed the Health Systems Engineering (HSE) Program at Lehigh University through her dedication to experiential learning and personalized education. From 2015 to 2024 she has advised more than 100 real-world capstone projects addressing critical healthcare challenges, including hospital efficiency and patient care optimization. Ana's strong industry connections brought real-world mentorship to students and established seminars, workshops, and site visits to enhance learning. Her ability to support students from diverse backgrounds ensured they graduated equipped to apply engineering solutions in healthcare. Ana's leadership has elevated the HSE Program's impact and visibility in the healthcare field. HSE master's students said Ana is "100% supportive and student oriented", "the ideal graduate adviser you would want in any university", and a "fantastic professional".

Professor Tonkay served as Associate Dean for Undergraduate Studies for a decade, providing consistent leadership through changing administrations. He successfully managed operations and accreditation for undergraduate programs, including two ABET visits for both engineering and computer science. Greg championed international experiences, expanding student participation in global programs like the "Engineers Made in Germany" initiative. He mentored diverse student groups, including Lehigh's Posse Three cohort and the Greer Scholars program, significantly improving outcomes for underrepresented students. Greg also developed foundational programs, including the Engineering Minor and first-year engineering curricula, while mentoring countless students and continuing to teach with dedication and excellence. ISE undergrads said Greg "has gone above and beyond in providing all the support, love, care and inspiration", "shows brilliant energy to everyone", and "helps students reaching their potential".

ISE FACULTY & STAFF NEWS

news



AMY NYBERG

Lehigh ISE adjunct faculty Amy Nyberg honored as one of 2025 Lehigh Valley's Women of Influence

Lehigh ISE Adjunct Faculty member and President of Ambulatory Services and Growth for Jefferson Health, **Amy Nyberg**, was honored as one of the 2025 Lehigh Valley Women of Influence. This recognition celebrates high-achieving women for their outstanding career accomplishments, with selection based on professional experience, community involvement, leadership, and a sustained commitment to mentoring.

Previously, Amy Nyberg served as Senior Vice President of Ambulatory Services for Lehigh Valley Health Network and President of Coordinated Health. Earlier in her career, she was Coordinated Health's Chief Integration Officer, where she led the organization's expansion into Northeast Pennsylvania and Western New Jersey and introduced innovative care coordination strategies that improved patient outcomes and significantly reduced costs.

Her career has been focused on strategy and process innovation, with a passion for transforming health care delivery to simplify processes, improve quality, and reduce costs. She began her career as a consultant at Phase 2, a health care economics and management firm, where she worked with numerous health systems on strategy, practice management, analytics, and IT implementation.

She later served as Vice President of Strategy and Innovation for Centura Health in Colorado, where she led a \$1 billion expansion that included the development of three new hospitals, the replacement of the system's flagship facility, and the expansion of six additional hospitals. In parallel, she directed the organization's process improvement strategy, which shaped the design of the new facilities. She also worked with Allina Health in Minnesota to redesign its Epic implementation and subsequently returned to consulting, supporting health systems in building large physician groups through strategy and analytics.

Ms. Nyberg holds a Bachelor of Arts in English Literature from Arizona State University and an MBA in Health Administration from the University of Colorado. She is also actively involved in the community, having volunteered with the American Heart Association and served on the board—and as chair—of two independent schools.

research grants



AKWUM ONWUNTA

Lehigh awarded \$800K DOE grant for advanced computational materials modeling

Lehigh ISE Assistant Professor **Akwum Onwunta** is part of a team of four faculty researchers who secured a \$800K grant from the U.S. Department of Energy (DOE) for their project titled “Harnessing Nonnegative Matrix Factorization for Advanced Computational Materials Modeling”. The grant was awarded through a competitive call promoted by DOE’s Office of Advanced Scientific Computing Research (ASCR).

The team comprises faculty members Akwum Onwunta (Lehigh ISE), Lifang He (Lehigh CSE), and Bao Wang (University of Utah) as co-Principal Investigators, with Chinedu Ekuma (Lehigh Physics) serving as the Principal Investigator. Each of the four researchers will support their respective research groups with \$200K from the grant.

As conventional materials are near their performance limits, this pioneering research project will advance the discovery of novel materials for energy, sustainability, and advance advanced manufacturing. By developing innovative scientific machine learning (SciML) algorithms the project will address the challenges of analyzing complex, high dimensional materials data.

Leveraging deep learning-assisted nonnegative matrix factorization (NMF) and diffusion models, the team will build scalable frameworks to uncover structure-property relationships and enable precise predictions of material behaviors. The project’s physics-informed approach enhances interpretability while addressing data scarcity, transforming “black-box” models into transparent tools for broad applications.

An open-source platform will consolidate these advancements, democratizing access to cutting-edge tools and empowering scientists across disciplines. This work supports the U.S. Department of Energy’s mission by driving breakthroughs in energy, environmental sustainability, and beyond.

Akwum says “This grant provides a crucial opportunity to elevate my research by employing advanced computational techniques, specifically low-rank matrix factorization, to analyze high-dimensional data in materials modeling. I’m thrilled to be part of this pioneering interdisciplinary initiative and excited about the significant impact it will have.”



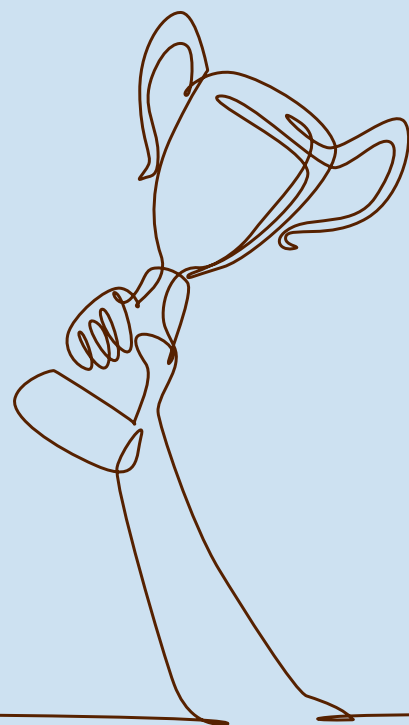
Lehigh ISE Postdoc Mohammad Mohammadisiahroudi won first place in the 2025 Pritsker Doctoral Dissertation Award

Lehigh ISE postdoctoral researcher **Mohammad Mohammadisiahroudi** won first place in the 2025 edition of the Pritsker Doctoral Dissertation Award. Mohammad defended his thesis last July under the supervision of Tamás Terlaky and is now a postdoctoral researcher in our department.

His PhD thesis is titled “Quantum Computing and Optimization Methods”.

The Pritsker Award recognizes outstanding research in industrial engineering and is given annually by the Institute for Industrial and Systems Engineers (IISE).

Mohammadhossein Mohammadisiahroudi is a Postdoctoral Research Associate in the Industrial and Systems Engineering Department at Lehigh University, working in the Quantum Computing and Optimization Lab. He received his Ph.D. in Industrial and Systems Engineering from Lehigh University in August 2024 under the supervision of Prof. Tamás Terlaky. Before joining Lehigh, he earned his master's degree from Sharif University of Technology and his bachelor's degree from Iran University of Science and Technology, both in Industrial Engineering. His research focuses on developing, analyzing, and implementing efficient quantum and classical algorithms for solving large-scale optimization problems, particularly conic and linear optimization. His work has been recognized with the 2023 INFORMS Computing Society Best Student Paper Prize (runner-up) and the 2023 Van Hoesen Family Best Publication Award.



Shannon Kelly

Lehigh ISE PhD student **Shannon Kelly** won the 2025 Lehigh Teaching Assistant of the Year Award. The Lehigh Teaching Assistant of the Year Award recognizes outstanding performance by graduate student teaching assistants at Lehigh University. This award is given in recognition of the exceptional contributions that TA's make to the learning experience of undergraduate students.



SHANNON KELLY

Mohammad Mohammadisiahroudi

Former Lehigh ISE Ph.D. student **Mohammad Mohammadisiahroudi** was selected as the Graduate Commencement Speaker for Lehigh's May 2025 Commencement. Chosen for his excellence in research and embodiment of the graduate experience, he was recognized by the selection committee—based on faculty and student nominations—as an outstanding representative of doctoral education at Lehigh.



**MOHAMMAD
MOHAMMADISIAHROUDI**

Lara Zebiane

Lehigh ISE PhD student **Lara Zebiane** won the 2025 Rossin College of Engineering & Applied Science Graduate Student Leadership and Service Award, which honors students who improve graduate student life through leadership and service. The award highlights the value of student contributions to university, college, and program initiatives, as well as informal peer mentoring that fosters a supportive, collaborative environment.



LARA ZEBIANE



Lehigh ISE Launches comprehensive alumni directory to strengthen connections

We are thrilled to introduce the **Lehigh ISE Alumni** directory, a new online repository that showcases all our alumni—Undergraduate, Master's, and Ph.D. graduates—currently including those who graduated since 1982. This comprehensive listing provides links to alumni LinkedIn profiles, making it easier than ever to reconnect, network, and celebrate the achievements of our graduates.

We thank all the students who developed the project (Cara Chiappinelli, Sara Menand, Hayley Pham, Miki Sakai, and Emma Tsujimoto) and our IT Specialist (Mark Motsko). Lehigh ISE has a proud tradition of academic and professional excellence, with alumni excelling in diverse fields across industry, academia, and entrepreneurship. Our alumni network is one of our greatest strengths, and this project provides a valuable tool to leverage those connections. Whether you are looking to engage with fellow alumni, explore professional opportunities, or seek career guidance, this resource is designed to strengthen the bonds within our Lehigh ISE community.

The Lehigh ISE Alumni directory is part of the **Lehigh ISE Alumni Academy** whose goals also include bringing our alumni into the classroom and providing our current undergraduate students with the opportunity to have an industry mentor from our alumni network.



SPENCER C. SCHANTZ

lecture series

NICK SAHINIDIS

Lehigh ISE was pleased to have Nick Sahinidis, Georgia Institute of Technology, give a Spencer C. Schantz Technical Talk

The Lehigh ISE Department was pleased to have **Nick Sahinidis**, the Butler Family Chair and Professor of Industrial & Systems Engineering and Chemical & Biomolecular Engineering at the Georgia Institute of Technology, give a **Spencer C. Schantz Distinguished Technical Talk** titled “**Convexification and Optimization of Problems Involving the Euclidean Norm**,” on Tuesday, December 3, 2024, from 11:00 a.m. to 12:00 p.m. in Mohler Laboratory room 453, 200 West Packer Avenue, Bethlehem, PA.

Please read below to learn more about Professor Sahinidis’s lecture and outstanding career.

Abstract: The field of mixed-integer nonlinear optimization has advanced significantly over the past three decades. However, even small instances of many nonconvex optimization problems involving the Euclidean norm are beyond the capabilities of existing algorithms. These problems stem from applications such as molecular energy minimization, object packing, and facility location, and often share specific features that make them challenging. In this presentation, we identify these features, introduce new algorithms to address them, and present numerical results that demonstrate the impact of our techniques. Furthermore, we identify several related open problems and opportunities for analytical and computational advances.

Bio: Nick Sahinidis is Butler Family Chair and Professor of Industrial & Systems Engineering and Chemical & Biomolecular Engineering at the Georgia Institute of Technology. Dr. Sahinidis previously taught at the University of Illinois at Urbana-Champaign (1991-2007) and Carnegie Mellon University (2007-2020). He has pioneered algorithms and developed widely used software for optimization and machine learning. He received the INFORMS Computing Society Prize in 2004, the Beale-Orchard-Hays Prize from the Mathematical Programming Society in 2006, the Computing in Chemical Engineering Award in 2010, the Constantin Carathéodory Prize in 2015, and the National Award and Gold Medal from the Hellenic Operational Research Society in 2016. He is a member of the US National Academy of Engineering, a fellow of INFORMS, a fellow of AIChE, a fellow of the Asia-Pacific Artificial Intelligence Association, and past Editor-in-Chief of Optimization and Engineering.

Spencer C. Schantz Distinguished Lecture Series:

This lecture series is endowed in the name of the late Spencer C. Schantz, who graduated from Lehigh in 1955 with a B.S. in Industrial Engineering. Following progressive responsibilities with several electrical manufacturing companies, in 1969 he founded U.S. Controls Corporation and became its first CEO and President. **The Spencer C. Schantz Distinguished Lecture Series** was established by his wife Jerelyn as a valuable educational experience for faculty, students, and friends of Lehigh’s Industrial and Systems Engineering department.

SPENCER C. SCHANTZ

lecture series



KATYA SCHEINBERG

Lehigh ISE was pleased to have Katya Scheinberg, Georgia Institute of Technology, give a Spencer C. Schantz Technical Talk

The Lehigh ISE Department was pleased to have **Katya Scheinberg**, Coca-Cola Foundation Chair and Professor at the H. Milton Stewart School of Industrial and Systems Engineering at Georgia Institute of Technology give a **Spencer C. Schantz Technical Talk** titled “**Stochastic Oracles and Where to Find Them**,” on Thursday, April 10, 2025, from 11:00 a.m. – 12:00 p.m. in Mohler Laboratory room 453, 200 West Packer Avenue, Bethlehem, PA.

A luncheon welcoming Prof. Scheinberg and celebrating the graduation of the Lehigh ISE UG and Master’s students (Spring, Summer, and Fall of 2025) was hosted for faculty and students on the same day, Thursday, April 10, 2025, at Zoellner Arts Center, Butz Lobby (2nd Floor), 420 E. Packer Avenue, Bethlehem, PA 18015 from 12:15 p.m. to 1:45 p.m.

The luncheon honored Professor Scheinberg and offered students time to mingle with classmates and faculty, and proudly acknowledge the culmination of their academic journey before they embark on the next exciting chapter of life.

Please read below to learn more about Professor Scheinberg’s lecture and outstanding career.

Abstract: Continuous optimization is a mature field, which has recently undergone major expansion and change. One of the key new directions is the development of methods that do not require exact information about the objective function. Nevertheless, the majority of these methods, from stochastic gradient descent to “zero-th order” methods use some kind of approximate first order information. We will overview different methods of obtaining this information, including simple stochastic gradient via sampling, robust gradient estimation in adversarial settings, traditional and randomized finite difference methods and more. We will discuss what key properties of these inexact, stochastic first order oracles are useful for convergence analysis of optimization methods that use them.

Bio: Katya Scheinberg is a Coca-Cola Foundation Chair and Professor at the H. Milton Stewart School of Industrial and Systems Engineering Georgia Institute of Technology. Prior to joining Georgia Tech, she held positions at Cornell and Lehigh Universities and at IBM T.J. Watson Research Center. She attended Moscow University for her undergraduate studies and received her PhD degree from Columbia University.

Katya’s main research areas are related to developing practical algorithms (and their theoretical analysis) for various problems in continuous optimization, such as convex optimization, derivative free optimization, machine learning, quadratic programming, etc.

She is an INFORMS Fellow, a recipient of the Lagrange Prize from SIAM and MOS, the Farkas Prize from INFORMS Optimization Society and the Outstanding Simulation Publication award from INFORMS Simulation Society. Katya is currently the editor-in-chief of Mathematics of Operations Research, and co-editor of Mathematical Programming. She is a Chair-Elect of the Mathematical Optimization Society.

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SPENCER C. SCHANTZ

lecture series

Lehigh ISE was honored to have Emory W. Zimmers, ESC Director, give a Spencer C. Schantz Distinguished Public Lecture

EMORY W. ZIMMERS



The Lehigh ISE Department was honored to have Professor and Director of Enterprise Systems Center, **Emory W. Zimmers**, give a **Spencer C. Schantz Distinguished Public Lecture** titled “**Evolving Role of the Enterprise Systems Center**” on Thursday, April 24, 2025, from 4:15 p.m. to 5:00 p.m. in Mohler Laboratory room 355, 200 West Packer Avenue, Bethlehem, PA.

The **Lehigh ISE Award Ceremony** honoring ISE students, faculty, and staff followed immediately after the lecture (5:00 p.m. to 5:45 p.m.).

The evening concluded with the **Lehigh ISE Banquet Dinner** held at Zoellner Arts Center, Butz Lobby (2nd Floor) 420 East Packer Avenue, Bethlehem, PA 18015 from 6:15 p.m. to 8:45 p.m.

Please read below to learn more about Professor Zimmers lecture and distinguished career.

Abstract: The presentation will generally follow a timeline based on the history of the Enterprise System Center. Selected events will be presented such as the first establishment of the Computer-aided Manufacturing (CAM) laboratory in Packard Lab, as well as the early years in Mohler Lab with the Computer-integrated Manufacturing (CIM) lab and the University-wide CAD/CAM program. In the current operating model, the ESC mission has evolved to include strong support of student experiential learning as well as providing measurable value to industry while staying at the forefront of the ISE field. Successful program efforts, in which the Enterprise Systems Center participated and including those sponsored by the National Science Foundation, Ben Franklin Technology Program, and PA Infrastructure Technology Program, will also be presented. The presentation will include a future program currently under development to utilize AI-enabled search technologies to facilitate alumni and student access to non-proprietary reports, covering in many cases, the analysis, design, and implementation of system improvements for a wide range of manufacturing and service sector businesses. This will be drawn from our work done on more than 1,300 projects with over 475 partner companies. Finally, some of the alumni and associated personnel who support the growth and success of the Center will be recognized along with their contributions.

Bio: Dr. Emory W. Zimmers, Jr. is a Professor of Industrial and Systems Engineering (ISE) and Director of the Enterprise Systems Center (ESC) at Lehigh University. He holds four degrees from Lehigh University: BSIE, BSME, MSIE, and PhD. He spent several years as a corporate level industry consultant before embarking on his academic career. He has developed and taught courses in industrial systems, leadership, and is responsible for the industry-based senior capstone course emphasizing experiential learning. During his time as Director the Center he has been responsible for more than 1,300 projects with over 475 partner companies across industrial, governmental, and service sectors. Over 4,400 students have worked with the Enterprise Systems Center.

Dr. Zimmers previously served as Deputy Director of the Iacocca Institute and co-authored the textbook "CAD/CAM: Computer Aided Design and Manufacturing". His formal recognition includes Lehigh University's Robinson Award for service, the 2011 Lindback Award for Distinguished Teaching, and the 2018 Student Club/Organization Advisor of the Year Award for his work with the National Society of Leadership and Success. He is a Fellow of both the Institute of Industrial Engineers and the Society of Manufacturing Engineers. In addition, he supports alumni events in a variety of ways such as Faculty Advisor for Lehigh's Delta Chi Fraternity, the developing of methods for alumni participation in Center planning and activities, and most recently addressing the Lehigh Class of 1974 at their 50th reunion.

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The Spencer C. Schantz Distinguished Lecture Series was established by his wife Jerelyn as a valuable educational experience for faculty, students, and friends of Lehigh's Industrial and Systems Engineering department.



ISE Seminar Series

ISE enjoyed an impressive lineup of guest speakers during the 2024–2025 academic year

FALL 2024

NOVEMBER 21, 2024

Yu Ma, MIT

“Advancing Precision Medicine: Knowledge-Informed Methods with Data and Computational Efficiency”

NOVEMBER 20, 2024

Hairong Wang, Georgia Institute of Technology

“Integrative Artificial Intelligence for Healthcare”

NOVEMBER 12, 2024

Yingbin Liang, Ohio State University (OSU)

“Demystifying In-Context Learning of Transformers: A Theoretical Perspective”

OCTOBER 29, 2024

Yunan Yang, Cornell University

“Optimal Transport-Based Learning for Inverse Problems”

OCTOBER 15, 2024

Leena Ghayeb, University of Michigan

“Right-Sizing” Prenatal Care with Operations Research”

SEPTEMBER 24, 2024

INFORMS Chapter Distinguished Speaker Series -

Güzin Bayraksan, Ohio State University

“Bounds for Multistage Mixed-Integer Distributionally Robust Optimization”

SEPTEMBER 10, 2024

Luana Ruiz, Johns Hopkins University

“A Poincaré Inequality and Consistency Results for Signal Sampling on Large Graphs”

SPRING 2025

APRIL 22, 2025

Jose L. Walteros, University of Buffalo

“Recent Developments for Solving a General Class of Interdependent Multistage Interdiction Games”

APRIL 15, 2025

Christian Haas, University of Nebraska at Omaha

“Exploring the many facets of fairness in decision-making: Two case studies on computational Redistricting and high school graduation prediction”

APRIL 8, 2025

Susan Hunter, Purdue University

“Two-Stage Stochastic Multi-Objective Linear Programming”

APRIL 1, 2025

INFORMS Chapter Distinguished Speaker Series - Johannes Royset, University of Southern California

“Theory and Algorithms for Optimization using Rockafellians”

MARCH 25, 2025

Yongjia Song, Clemson University

“Multi-stage Stochastic Programming for Hurricane Relief Logistics Planning”

MARCH 18, 2025

Raghu Bollapragada, University of Texas at Austin

“Flexible, Adaptive, and Efficient Algorithms for Decentralized Optimization”

FEBRUARY 25, 2025

Harlin Lee, University of North Carolina at Chapel Hill

“Optimal Transport for Trajectory Inference”

FEBRUARY 11, 2025

David Bernal, Purdue University

“Reformulations and Decomposition for Quantum Discrete Optimization: applications in optimal power flow”

JANUARY 28, 2025

Meng Zhao, Columbia University

“Tensor Analytics for High-dimensional Health Data Modeling with Applications in Computational Phenotyping”

JANUARY 21, 2025

Aysenur Karagoz, Rice University

“Temporally Feathered Radiation Therapy Planning”

On Thursday, April 24, 2025, the Lehigh Industrial and Systems Engineering (ISE) Department held its annual Awards Ceremony in Mohler Laboratory. It is our pleasure to announce and celebrate the achievements of our students, alumni, and faculty.



EMORY W. ZIMMERS

2025 Lehigh ISE Distinguished Alumni Award

Professor **Emory W. Zimmers** is the recipient of the **2025 Lehigh ISE Distinguished Alumni Award** in Academia. Dr. Emory Zimmers Jr is a Professor of Industrial and Systems Engineering and Director of the Enterprise Systems Center at Lehigh University, where he holds four degrees. He transitioned from industry consulting to academia, developing courses in industrial systems, leadership, and experiential capstone projects. Under his leadership, the Enterprise Systems Center has completed over 1300 projects, engaging over 4400 students. He has served as Deputy Director of the Iacocca Institute, co-authored a CAD/CAM textbook, and earned multiple teaching and service awards. He is a Fellow of both the Institute of Industrial and Systems Engineers and the Society of Manufacturing Engineers. Congratulations Emory!



GEORGE PSARROS

2025 Lawrence E. White Fellowship

George Psarros is the recipient of the **2025 Lawrence E. White Fellowship for a Master of Science** at Lehigh's ISE Department. This fellowship is made available through the generosity of Lehigh ISE alumnus Lawrence E. White ('64, '65, '69) for a full tuition towards 30 credits of master's degree study. George is a student at the University of Miami studying industrial and systems engineering with a strong interest in data analytics, linear programming, and stochastic modeling. He is excited to build on his engineering foundation here at Lehigh University. Congratulations George!



SHUTIAN LI

2025 Van Hoesen Family Best Publication Competition

Shutian Li is the Award Winner of the **2025 Van Hoesen Family Best Publication Competition**. This award inspires students to publish influential research, software tools, and applications, and was made available through a generous gift of Everett Van Hoesen '55. Shutian will receive a \$1,500 monetary prize for her paper titled "Equity-Promoting Integer Programming Approaches for Medical Resident Rotation Scheduling," co-authored with Shutian's adviser, Professor Karmel S. Shehadeh, Professor Frank E. Curtis, and Dr. Beth Hochman, from the Department of Surgery of Columbia University Irving Medical Center. Shutian is a fourth year PhD student in ISE. Congratulations Shutian!



XIAOYI QU

Xiaoyi Qu received a **Van Hoesen Family Best Publication Competition Honorable Mention** for his paper titled "Proximal-Gradient Method for Equality Constrained Optimization," co-authored with Dr. Yutong Dai and Xiaoyi's advisor, Professor Daniel P. Robinson. Xiaoyi is a third year PhD student in ISE. Congratulations Xiaoyi!

2025 Lehigh ISE Community and Culture Award

The Culture and Community Award recognizes members of the Lehigh ISE Community who actively cultivate a strong and connected community within the ISE department and beyond. Deserving nominees bring people together, create meaningful engagement opportunities, and inspire a culture of support and shared purpose. Through their efforts—such as mentoring, organizing initiatives that enhance connection, and championing a welcoming environment—they help shape a vibrant and engaged academic community. Our 2025 awardees are:

Lara Zebiane is a second-year PhD student and president of the Lehigh INFORMS Student Chapter, has shown exceptional leadership and dedication to fostering community within the ISE department. From organizing diverse events—such as social gatherings, academic seminars, and cross-institutional collaborations—to advocating for student well-being and inclusivity, she has built strong connections across cultures and backgrounds. Her warmth, initiative, and tireless efforts to support and uplift others have made a lasting impact on the ISE community, earning her recognition as a true team builder and an outstanding leader. Congratulations Lara!



LARA ZEBIANE

Professor **Frank E. Curtis** is a dedicated and deeply supportive member of the Lehigh ISE community, known for his outstanding mentorship, leadership, and tireless commitment to both students and faculty. He actively participates in departmental discussions, social events, and academic initiatives, consistently offering his time, energy, and expertise. Frank has played a pivotal role in redesigning the ISE PhD Program, launching the FACET initiative, and mentoring numerous faculty and students. His collaborative spirit, generous mentorship, and unwavering support make him a true community builder and a cornerstone of the ISE department's culture. Congratulations Frank!



FRANK E. CURTIS

2025 MIT Supply Chain Excellence Award

Each year MIT presents its Supply Chain Excellence Award to outstanding graduating seniors from Lehigh. The awards recognize students' potential for leadership in supply chain management and provide tuition scholarships to the MIT Supply Chain Management Master's Program after a minimum of two years' work experience in the supply chain sector. Winners were selected based on personal statements and on their academic excellence at Lehigh.

This year Lehigh ISE seniors **Olivia Harrison** and **George Pentz** were recognized as the **2025 MIT Supply Chain Qualified Nominee**. Qualified Nominees receive 10% tuition fellowship at any of the sister centers in the MIT SCALE Global Network. Congratulations Olivia and George!



OLIVIA HARRISON



GEORGE PENTZ

2025 Lehigh ISE Student and Faculty of the Year Awards

Lehigh ISE is honored to announce the following awards in recognition and appreciation of students and faculty, for their achievements throughout the 2024-2025 academic year. The department congratulates these students and faculty and thanks them for their contributions and dedication to the ISE Department.

Industrial and Systems Engineering Sophomore of the Year: **Emma Tsujimoto**

IBE Industrial and Systems Engineering Sophomore of the Year: **Benjamin Erickson**

IBE Financial Engineering Sophomore of the Year: **Derek Walasavage**

Industrial and Systems Engineering Junior of the Year: **Connor McDowell**

IBE Industrial and Systems Engineering Junior of the Year: **Ruhi Tawde**

Financial Engineering Junior of the Year: **Cecy Benitez**

Industrial and Systems Engineering Senior of the Year: **Sara Menand**

IBE Industrial and Systems Engineering Senior of the Year: **Cooper Nelson**

IBE Financial Engineering Senior of the Year: **Michael Jamesley**

Industrial and Systems Engineering Master's Student of the Year: **Harshitha Chandrakant Bhagaje**

Health Systems Engineering Master's Student of the Year: **Evelyn Galarza**

Financial Engineering Master's Student of the Year: **Andrew Le**

Industrial and Systems Engineering Ph.D. Student of the Year: **Lara Zebiane**

Undergraduate Faculty Member of the Year: **Professor Ana-Iulia Alexandrescu-Anselm**

Master's Faculty Member of the Year: **Professor Luis F. Zuluaga**

Ph.D. Faculty Member of the Year: **Professor Frank E. Curtis**



DEGREES AWARDED SPRING 2025

PH.D. INDUSTRIAL AND SYSTEMS ENGINEERING

- Griffin Kent
- Qi Wang
- Man Yiu Tsang

M.S. HEALTH SYSTEMS ENGINEERING

- Amanda Curry
- Grant Geiger
- Evelyn Galarza

M.ENG INDUSTRIAL AND SYSTEMS ENGINEERING

- Vidhi Bidkar
- Natalie Woods

M.S. FINANCIAL ENGINEERING

- Fathmat Samira Bakayoko
- Michael Miller
- Gregory Colonescu
- Amit Rajendra Patil
- Kushal Gowda Venugopal Guruvnamata
- Giovanni Sanchez
- FNU Johanan Anton Pranesh
- Tolulope Shoaga
- Andrew Le
- Matt Slaski
- Bach Le
- Junrong Zhang
- Sisheng Liang
- Nianguang Zhao
- Besa Masaiti

M.S. INDUSTRIAL ENGINEERING AND OPERATIONS RESEARCH

- Harshitha Chandrakant Bhagaje
- Lauren Schultz
- Abby Freed
- Andre Verduzco

B.S. INTEGRATED BUSINESS AND ENGINEERING HONORS PROGRAM (ISE MAJOR)

- Sara Menand

B.S. INTEGRATED BUSINESS AND ENGINEERING HONORS PROGRAM (FINANCIAL ENGINEERING MAJOR)

- Pj. Allen
- Timothy Kirlin
- Mat Botran Johannis
- Samuel Rosen
- Michael Jamesley
- John Walters

B.S. INDUSTRIAL AND SYSTEMS ENGINEERING

- Melissa Caracciolo
- Abby Mahar
- Pedro Cerilla
- Renzo Medina
- Jeremy Cohen
- Ryan Mock
- Jack Davis
- Kaitlyn Moore
- Caroline Dobens
- Jacob Nelson
- Griffin Doherty
- Jakob Olson
- Teddy Dunaway
- George Pentz
- Johan Gross
- Andrew Raso
- Tori Groves
- Miki Sakai
- Oliva Harrison
- SS Singh
- Kevin Harvey
- Ben Speyer
- Nick Highman
- Emily Stewart
- Alex Johnson
- Ignacio Manuel Umpierre Jimenez
- Hannah Kaufman
- Ying Wu
- Jordan Macdonald
- Hans van Rhyn

Lehigh ISE Alum, Diplomat, and former U.S. Deputy Secretary of State returns to Lehigh to share insights on global affairs and leadership



Richard Verma '90, former U.S. Ambassador to India and most recently U.S. Deputy Secretary of State for Management and Resources, was honored as University's inaugural President's Distinguished Fellow. Verma, a former Lehigh University Trustee and ISE Class of 1990 alum, began six-month appointment on February 1, 2025.

As the President's Distinguished Fellow, Verma will engage with Lehigh students and the broader university community through a variety of activities, drawing on his extensive experience in government, diplomacy, and international relations. Over the course of his Fellowship, Verma will mentor students, lead discussions on key national and global issues, deliver a public lecture, and share his insights on leadership in complex times. He will visit the Bethlehem campus and will also host programs in New York City and Washington, D.C.

President Joseph J. Helble '82 emphasized the importance of Verma's appointment: "Rich Verma's exceptional career in government, diplomacy, and international relations brings a wealth of knowledge to our campus," he said. "His ongoing engagement with our students has already inspired many, and this fellowship will provide our community with further opportunities to learn from his expertise. His insights will deepen our understanding of the most pressing national and global issues and inspire the next generation of leaders."

"I'm very excited to be back on campus and reconnect with the Lehigh community over the coming months," said Verma. "Lehigh has been a key part of my life for more than 35 years. The University has been with me every step of the way. I'm grateful to have this chance to engage with students, faculty and staff to discuss a really dynamic time in the international landscape."

Verma's distinguished career has spanned both public service and the private sector. In addition to his role as Deputy Secretary of State, he served as the Assistant Secretary of State for Legislative Affairs and National Security Advisor to the Senate Majority Leader. As a former General Counsel and Head of Global Public Policy at Mastercard, Verma has also navigated complex international issues from the private sector. He is a veteran of the U.S. Air Force, where he earned military honors, including the Meritorious Service Medal and Air Force Commendation Medal. Verma attended Lehigh on an Air Force ROTC scholarship.

This Fellowship underscores Lehigh University's dedication to preparing students for the complexities of a rapidly changing world. By inviting leaders like Verma to share their expertise, the university continues to enhance its academic environment and position itself as a hub for meaningful dialogue on national and global issues.



Bronze sponsorship of the
Lehigh ISE 100 Program of Events has been provided by:

Jeffrey Bodenstab '77

Karen J. LaRochelle '88

David Meadows '98G, '96 and Tricia Wandrie '97

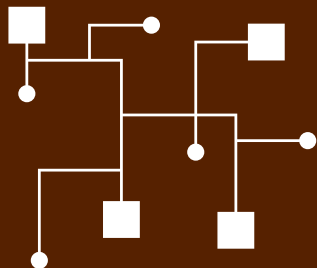


LEHIGH ISE IS CELEBRATING 100 YEARS

Please join us in celebrating Lehigh ISE 100!

In the academic year 2024/2025, we have accomplished 100 years of Industrial Engineering at Lehigh.

Yes, we started offering our first undergraduate program in Industrial Engineering a century ago!



LEHIGH
UNIVERSITY

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of Engineering and
Applied Science

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