

THE INSTITUTE OF OPTICS

**INDUSTRIAL
ASSOCIATES**

October 24, 2024



HAJIM
SCHOOL OF ENGINEERING
& APPLIED SCIENCES

UNIVERSITY of ROCHESTER

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Agenda

Thursday, October 24**Rochester Riverside Convention Center**

7:30 – 8:15 AM: Networking Breakfast
Riverside Court

8:15 – 8:45 AM: Welcome to the I.A. Symposium
Thomas G. Brown, Director
The Institute of Optics | University of Rochester
Lilac Ballroom

8:45 – 9:00 AM: Welcome from RIT
Jan van Aardt, Director
Center for Imaging Science | Rochester Institute of Technology
Lilac Ballroom

9:00 – 9:30 AM: Abbie Watnik
Naval Research Lab
“Optical Physics at the Naval Research Laboratory”
Lilac Ballroom

9:30 – 10:00 AM: Faculty Innovation Showcase
UR and RIT Faculty
Lilac Ballroom

10:00 – 10:50 AM: Poster Session/Coffee Break
Galleria

10:50 – 11:20 AM: Master’s Student Showcase
UR and RIT Students
Lilac Ballroom

11:20 – 11:50 AM: PhD Research Showcase
UR and RIT Students
Lilac Ballroom

11:50 – 12:00 PM: Hajim Alumni Award
Wendi Heinzelman, Dean
Hajim School of Engineering and Applied Science/UR
Lilac Ballroom

12:00 – 12:20 PM: Congressman Joe Morelle
Update on the Optics and Photonics Caucus
Lilac Ballroom

12:20 – 12:30 PM: EDA Tech Hub
Cristina Killingsworth, Acting Assistant Secretary, Economic
Development Administration
Lilac Ballroom

12:30 – 1:20 PM: Networking Lunch
Galleria

1:20 – 2:00 PM: Company Introductions
Lilac Ballroom

2:00 – 2:30 PM: Barry Silverstein
Meta Reality Labs
“Optical Grade Silicon Carbide to Enable a Future of Electro-
Photonics”
Lilac Ballroom

2:30 – 3:00 PM: Company Introductions
Lilac Ballroom

3:00 – 3:15 PM: Optica and SPIE Student Chapter Updates
Trevor Shooshan, Optica Chapter President
The Institute of Optics | University of Rochester

Quazi Rushnan Islam, SPIE Chapter President
The Institute of Optics | University of Rochester

3:15 – 5:30 PM: Company Connection Showcase
Highland Ballroom

4:45 – 5:30 PM: Women in Optics Happy Hour
Hosted by SPIE and OPTICA Student Chapters
Riverside Court

5:30 – 7:30 PM: Networking Reception
Lilac Ballroom

The Institute of Optics Director's Remarks



Welcome to the Fall 2024 meeting of the Industrial Associates of The Institute of Optics. I am pleased to welcome QED Technologies, Attochron, AmeriCOM, ThorLabs, and Dioptic to our membership, bringing the total number of IA members to 61 as of this writing. We also have a number of guest companies in attendance; if you are representing a guest company we want to give you a warm welcome and an introduction both to the students and faculty of the Institute of Optics and to the optics/photonics activity in our region, including our partners from the Rochester Institute of Technology and participants from other departments within the University of Rochester with special emphasis on vision and the Center for Visual Science.

One of our faculty participants is Eileen Otte, our newest addition to the Institute Faculty. In January, Eileen will make the trek from Stanford to Rochester and work to build an exciting new research program that covers a range of structured light phenomena with an emphasis on microscopy. I am also pleased to welcome

two new Institute staff members, Emily Boedo who will assist Ed Herger in managing the teaching laboratories, and Marylou Luciano who is joining our administrative staff as an Administrative Coordinator in the director's office.

We are excited about our entering classes: We have over sixty first-year undergraduates enrolled in Optics 101; many of them are intended optics majors. Our entering MS and Ph.D. classes are similarly strong, and we are continuing to see growth in both the enrollment and the course offerings of the online MS (HOME) program. Our Industrial Associates program is a big reason for our continued strong enrollment; both the students and the faculty appreciate the energy and opportunity your participation brings to the program through encouragement, instructional support, and employment opportunities. The annual financial support to the Institute provided through the Industrial Associates program provides support for student conference travel, outreach activities, and, of course, our semiannual meetings.

This year's symposium will provide snapshots of faculty and PhD student research, an MS showcase, and a poster session featuring a wide breadth of research activities in optics and photonics, and our regularly featured gathering of Women in Optics. We are also pleased to welcome Institute Alumna Abbie Watnik (Naval Research Laboratories) and Barry Silverstein (Meta). Both organizations have been fantastic career destinations for optics students over the years, and we are looking forward to their remarks. We will also have a short visit from Joe Morelle, our local congressional representative, and Cristina Killingsworth, the Acting Assistant Secretary of Commerce and Economic Development responsible for overseeing regional tech hubs and other major economic development initiatives. The Institute, LLE, MCC, RIT, and Nextcorps/Luminate are pleased to be teaming together in an NSF-funded regional innovation engine built around the Science, Technology and Engineering of Lasers and Laser Applications Research (STELLAR). Many of our Industrial Associates companies have committed as charter members of this initiative.

Finally, thanks to our Industrial Associate members for your ongoing support. We are thankful that our students have more opportunities than ever for productive and fulfilling careers. I am thankful for The Institute Staff who have worked so hard on putting this program together: Dustin Newman manages our IA program and is the prime contact for member communication; Kai Davies and Cynthia Daher facilitate your access to our students, including collecting resumes, arranging for student transportation, and organizing the poster session; Lori Russell manages the staff; Lindsay Anderson and Aylin Tunay manage the logistics of this event; Adrienne Snopkowski and Meir Brea manage the finances behind the scenes to assure a smooth event.

Welcome

The Institute of Optics Overview and Welcome



Thomas G. Brown

Professor and Director
The Institute of Optics | University of Rochester

Biography:

Thomas G. Brown is director of The Institute of Optics and is a Mercer Brugler Distinguished Teaching Professor at the University of Rochester and holds a secondary appointment as senior scientist at the Laboratory for Laser Energetics. He has been on the faculty of the Institute since July of 1987, has held the rank of full professor since 2008, and a Fellow of Optica and SPIE. He serves on the boards of the Luminare business accelerator, the New York Photonics Cluster, and the New York State photonics board, serves as chair of the annual multidimensional microscopy conference (Photonics West) and is the outgoing Editor-in-Chief of the Journal of Modern Optics. He was the founding

director of the Robert E. Hopkins Center for Optical Design and Engineering, the architect of the optical engineering curriculum at the Institute of Optics, served as a program co-chair for the centennial program of Optica, and is former president and honorary member of the Rochester Local Chapter of Optica. He was foundational in establishing the plans for the Test, Assembly, and Packaging program within AIM Photonics and serves on the leadership council of AIM Photonics. He led the effort to establish the NSF-funded STELLAR regional innovation engine centered on advancing laser technology in the Rochester NY region and serves as PI and interim CEO.

Welcome From the Carlson Center for Imaging Science



Jan van Aardt

Professor and Director

Biography:

Dr. Jan van Aardt obtained a BSc Forestry degree (biometry and silviculture specialization) from the University of Stellenbosch, South Africa. This was followed by a Hons. Forestry degree with a remote sensing and Geographical Information Systems (GIS) specialization, also from the University of Stellenbosch. Jan then completed MS and PhD Forestry degrees at Virginia Polytechnic Institute and State University, Blacksburg, Virginia - these degrees respectively focused on imaging spectroscopy (hyperspectral) and light detection

and ranging (lidar) applications in forestry. Hyperspectral, lidar, and multi-temporal sensing form the core of his efforts, with various ecosystem and forestry projects, e.g., land quality and global change (multi-temporal), forest and savanna structural assessment using discrete and waveform lidar systems, and estimation of foliar chemistry and vegetation state (hyperspectral). He is a professor in the Chester F. Carlson Center for Imaging Science at the Rochester Institute of Technology, following stints at the Katholieke Universiteit Leuven as post-doc and the Council for Scientific and Industrial Research, South Africa, as research group leader.

Guest Speakers

Optical Research at The Naval Research Laboratory



Abbie Watnik

Optical Physics Branch Head
Naval Research Laboratory

Biography:

Dr. Abbie T. Watnik is Optical Physics Branch Head in the Optical Sciences Division at the Naval Research Laboratory (NRL) in Washington, DC. Dr. Watnik manages personnel and scientific research within a broad multi-disciplinary portfolio of basic and applied optical physics, with topics in optical nanomaterials, laser-based imaging and sensing, semiconductor optoelectronics and quantum optics. Prior to her appointment as Branch Head, Dr. Watnik served as Section Head in the Applied Optics Branch specializing in research areas such as digital holography, orbital angular momentum, structured illumination and

computational imaging.

Dr. Watnik received a doctorate in Optics from the University of Rochester Institute of Optics in 2012. Dr. Watnik was a National Science Foundation Graduate Research Fellow while at the University of Rochester. Dr. Watnik received a BS in Electrical Engineering from Colorado State University and an MS in Optics from the University of Rochester. Dr. Watnik is recipient of several Navy awards including: 2019 Sigma Xi Young Investigator Award and 2016 Delores M. Etter Top Scientists and Engineers Award for Emergent Scientist Investigators. Dr. Watnik is a Fellow of Optica and currently on the governance board of Optica as the Chair of the Board of Meetings.

Abstract:

In this talk, I will provide an overview of research topics currently being investigated by UR alumni at the Naval Research Laboratory. The optical physics research ranges from wavefront sensing, underwater imaging, optical spectroscopy, fiber sensing, and free-space optical communication. Applications for this work include intelligence, surveillance and reconnaissance, directed energy, and optical communications.

Optics and Photonics Caucus Update



Joe Morelle

Congressman, 25th District

Biography:

Congressman Joe Morelle is proud to represent New York's 25th Congressional District, which currently includes Monroe County and a section of neighboring Orleans County. A lifelong resident of Upstate New York, Congressman Morelle is a former small business owner and previously served as the Majority Leader of the New York State Assembly before being elected to Congress in 2018.

Throughout his career, Congressman Morelle has worked diligently to grow our economy, invest in regional innovation, and create opportunity for Monroe County families. He continues that work through his service on the Committee on Appropriations and as Ranking Member of the Committee on House Administration. He is also the Chair and Co-Founder of the Congressional Optics and Photonics Caucus where he advocates for policies that promote the

use of light-based technologies

EDA Tech Hub Update

**Cristina Killingsworth**

Acting Assistant Secretary of Commerce and Economic Development

Biography:

Cristina Killingsworth serves as Acting Assistant Secretary of Commerce and Economic Development, guiding the U.S. Economic Development Administration's work supporting and investing in communities and regions to help them build the capacity for economic development through infrastructure investments, workforce development, technical assistance, and many more programs designed to elevate an entire region's economic competitiveness. Previously, Cristina served as EDA's Deputy Assistant Secretary for Policy and External Affairs, responsible for EDA's national programs, including [Tech Hubs](#), [Recompete](#), the [Build Back Better Regional Challenge](#), and the [Good Jobs Challenge](#), as well as the legislative, public affairs, and policy portfolio. Earlier in the Biden-Harris administration, Cristina served as Chief of Staff for the International Trade

Administration within the U.S. Department of Commerce. Cristina's extensive service career includes serving as Director for Strategic Planning at the White House National Security Council (NSC), Director for African Affairs at the NSC, and an Examiner in the International Affairs Division of the White House Office of Management and Budget. She started her career as a staffer in the Massachusetts State Senate. Cristina holds a Master of Arts in international affairs from Yale University and a Bachelor of Arts in humanities and Middle Eastern studies from the University of Texas at Austin. She is the proud mom of Simon and June.

Optical Grade Silicon Carbide to Enable a Future of Electro-Photonics

**Barry Silverstein**

Senior Director of Optics and Display Research

Biography:

Barry Silverstein is a Senior Director of Optics and Display Research at Meta's Reality Labs, leading the charge in developing cutting-edge displays for VR and AR. With a focus on creating the world's smallest and most efficient visual imaging systems, collaborates to push the boundaries of what's possible. Before joining Meta, Barry was Senior Research Director at IMAX, where he received an Academy Award for developing and commercializing IMAX with Laser technology, bringing the iconic IMAX experience to the world's largest screens. With 28 years of experience at Kodak's research laboratory, Barry is a seasoned expert in laser projection, imaging/printing, space imaging, and optical recording. A graduate of the Institute of Optics at the University of Rochester, Barry works to change the world through Optics and Imaging.

Abstract:

Meta's recent introduction of the world's first 70-degree Field of View AR glasses, Orion, marks a significant milestone in the AR industry. This achievement was made possible by the development of Optical Grade Silicon Carbide substrates, which were used to fabricate nano-etched waveguides, both in collaboration with commercial partners. While this breakthrough is certainly exciting for the AR industry, it also has far-reaching implications for the convergence and integration of Electronics, Optics, Photonics, Quantum Computing, and Display

Silicon Carbide (SiC) is a versatile material that offers a range of benefits, including high thermal conductivity, suitability for high voltage and high frequency electronics, and biocompatibility. Its wide bandgap, non-linear properties and luminance capabilities make it an ideal candidate for applications in photonics, optoelectronics and through selective defect creation, quantum computing. Its high index of refraction optics, photonic and display technologies.

As research in these fields continues to advance, it is becoming increasingly clear that SiC could be the basis for an integration platform that brings together computing, communication, and display. By exploring the potential of SiC as a unifying technology, we may be able to unlock new possibilities for innovation and collaboration across these fields. Today, research in these areas is often segmented into isolated topics, but it is time to consider how they might be brought together to create something truly transformative.

Faculty Innovation Showcase



Dimah Derah

Assistant Professor

Biography:

Dimah Dera is an assistant professor at the Chester F. Carlson Center for Imaging Science at the Rochester Institute of Technology. She received her Ph.D. and M.S. in Electrical and Computer Engineering and M.A. in Mathematics from Rowan University. Dimah received the National Science Foundation (NSF) Computer and Information Science and Engineering Research Initiation Initiative (CRII) award in 2023 for her current research focusing on robust and trustworthy machine learning. She won several research Awards at IEEE conferences and the Engineering community, such as the Best Paper Award at the 2019 IEEE International Workshop on Machine Learning for Signal Processing and the IEEE Philadelphia Sections Benjamin Franklin Key Award (2021). She publishes in the area of trustworthy, reliable, and expandable ML, signal and image processing and optimization.

Title: Robustness and Adaptability of Modern Machine Learning



Nick Vamivakas

Professor of Optical Physics

Biography:

Nick Vamivakas is the Marie C. and Joseph C. Wilson Professor of Optical Physics in The Institute of Optics at the University of Rochester. He is also the Dean of Graduate Education and Postdoctoral Affairs for the School of Arts and Sciences and the Hajim School of Engineering and Applied Sciences. He studied electrical engineering at Boston University and received his PhD degree in 2008. Following his PhD, he was a post-doc from 2007-2011 in the Cavendish Laboratory at the University of Cambridge. Nick joined the Institute of Optics in 2011. His research efforts center on light-matter interaction at the nanoscale. He is particularly interested in nanophotonics, superresolved scene characterization, quantum information science and augmented and virtual reality.

Title: An Introduction to the Rochester Quantum NETWORK (RoQNET)



Eileen Otte

Postdoctoral Fellow at Stanford University
Incoming professor at The Institute of Optics

Eileen Otte will join the Institute of Optics at the University of Rochester as a new faculty member in January 2025. Currently, she is a postdoctoral fellow at the Geballe Laboratory for Advanced Materials (GLAM), Stanford University, advised by Prof. Mark Brongersma. Eileen's research concentrates on the fundamental properties and diverse applications of structured light fields, in areas such as singular optics, nanoscale imaging and sensing, quantum cryptography, optical manipulation, and more. In her postdoctoral research, Eileen focused on nanoscale light-matter interactions, combining structured light and nanophotonics.

Eileen has coauthored 24 peer-reviewed articles, including 14 first-author publications. Her PhD work, performed at the University of Muenster, Germany, and University of the Witwatersrand, South Africa, was honored with summa cum laude as well as the WWU Dissertation Award, and published as a book in the Springer Theses series. She has also received the Research Award 2020 of the Industrial Club Duesseldorf, was appointed a junior class member of the NRW Academy of Sciences, Humanities, and the Arts, and was listed among the Emerging Leaders 2021 and Emerging Talents 2021 of IOP's Journal of Optics. Her postdoctoral research was supported by the PRIME program of the German Academic Exchange Service as well as the GLAM Postdoctoral Fellowship.

Title: Information Carried in the Structure of Light

Master's Student Showcase

Liam Hunt: HOME Student, 2024 Cohort

Katelynn Melohusky: HOME Student, 2024 Cohort

Carlos Rojas Mena: HOME Student, 2024 Cohort

Yuang Liu: Optics MS, 2024 Cohort – Open to Co-Op Opportunities

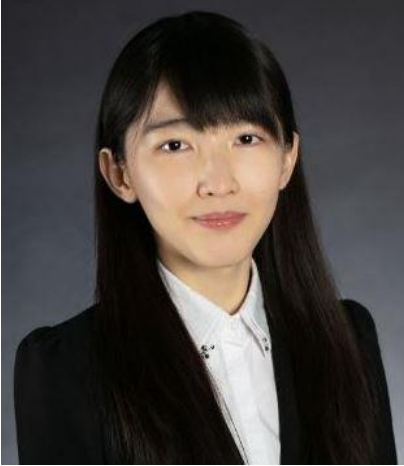
Suheng Peng: Optics MS, 2024 Cohort – Open to Co-Op Opportunities

Yuhang (Oliver) Zhai: Optics MS, 2024 Cohort – Open to Co-Op Opportunities

Eric Li: Optics MS, 2024 Cohort

Marissa Strelczyk: Optics MS, 2024 Cohort

PhD Student Showcase



Yi-Ting (Sherry) Feng, The Institute of Optics

Title: Polarimetric Calibration in Fluorescence Microscopy



Deepak Kandel, Imaging Science

Title: Recent Trends in Robust and Practical Lifelong / Incremental Learning



Sushant Kumar, The Institute of Optics

Title: Passive Alignment Packaging for Photonic and Electro-optics Systems



Michael Rodriguez, The Institute of Optics

Title: Fiber Nonlinearity and Corresponding Spectral Effects



Mohammad Saif, Imaging Science

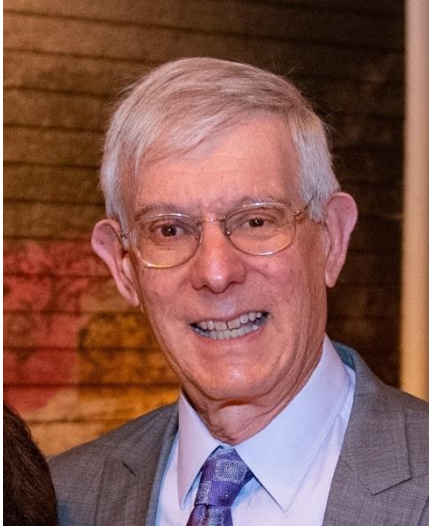
Title: Assessing Multiseason Table Beet Root Yield from Unmanned Aerial Systems



Witold Stepien, The Institute of Optics

Title: New Insights into Brillouin Scattering

Hajim Alumni Award



Alan Wertheimer

Biography:

Alan Wertheimer obtained his B.S. in Optics in 1968 from the U of R. After a year at Itek in Boston, he returned for a Ph.D. in Optics, graduating in 1974. His career in industry continued at Leeds and Northrup, in Philadelphia where he developed a commercial line of particle size measuring instruments based on light scattering. In 1982 he joined Eastman Kodak's Government Systems Division as chief systems engineer on NASA's Chandra X-Ray Observatory. He was chief engineer on a commercial line of lenticular image motion cards and also taught an Optics course for two years at RIT. Other Kodak projects included the Google Maps camera, a digital radiography system for the Space Station, and several classified government programs. He retired in 2010 with 12 patents and 17 publications. Subsequently, he consulted on ocean-based optical contamination monitors at Sarasota, Florida's Mote Marine Research Labs. He is a founding member of the George Eastman Society, and a long-

time participant in Dean Heinzelman's Hajim Visiting Committee. Alan and his wife, Judy, have two sons, and are members of the Wilson Society. In 2019, Alan and Judy funded an Endowed Undergraduate Scholarship in Optics which has supported two students to date.

SPIE Student Chapter

SPIE is the International Society for Optics and Photonics. The University of Rochester Student Chapter was established in 2009 and has since grown to be the largest student chapter in North America, with over 70 registered student and alumni chapter members. We promote optical science and engineering while supporting the professional development of our chapter members. To accomplish this, we regularly engage in optics outreach in the Rochester community, invite speakers to visit with students on campus, and schedule tours of local optics companies.

Current Officers:

President: Quazi Rushnan Islam

Vice President: Rebecca Swertfeger

Treasurer: Renuka Manjula Narayanan

Secretary: Robert Johnson

Communications Officer: Chang Liu

Outreach Coordinator: Shravan Gupta

Web Admin: Connor Hewson

If you would like to host a company tour or collaborate with us on outreach or professional development events, please contact urspie@gmail.com.

Optica Student Chapter

The University of Rochester's Optica student chapter is a pre-professional organization and academic club. Our mission is to promote and advance the science of light amongst the student body of the University of Rochester. One of our largest goals each year is to provide students with professional development opportunities aimed at giving them the skills they need to succeed. We have been working to find creative ways to engage with and teach optics to the campus and community at large, as well as host social events to promote interaction between students. Our biggest event of the year, bringing together Institute undergraduates, graduates, and faculty, is our annual Photon Cup soccer match with the Physics department.

President: Trevor Shooshan

Secretary: Jack Maness

Social Chair: Brendan Habert

Business Manager: Wonki Chae

Outreach Chair: Tate Finger

Senior Advisor: Farhan Ejaz

Digital Media Officer: Henry Chen

Please contact the chapter at RochesterStudentOSA@gmail.com if you are interested in getting involved in our chapter programming through outreach, event sponsorships, company tours, talks and/or presentations.

Posters

Jordan Butt, Chemistry PhD (University of Rochester): A Dual-Readout Photonic Sensor for Simultaneous Measurement of Enzyme Activity and Concentration

Debamitra Chakraborty, Materials Science (University of Rochester): Terahertz Time Domain Imaging for Non-Destructive Testing for Biomedical Applications

Gong Chen, Imaging Science PhD (Rochester Institute of Technology): Structuring and Polishing of Glass Using Femtosecond Lasers

Thomas Dickinson, Imaging Science PhD (Rochester Institute of Technology): Automated 6DOF Satellite Estimation From Resolved Ground-Based Imagery

Demetrious Dowdell, Optics PhD (University of Rochester): Holographic Phase-Shifting Interferometry and Global Phase-Unwrapping Using Nearest Neighbors

Khata Elphas, Imaging Science PhD (Rochester Institute of Technology): Improved Strategies to Enhance Calibration and Validation of Landsat Thermal Data and Their Associated Higher-Level Products

Jeremy Goodsell, Optics PhD (University of Rochester): Limits and Trade-Offs of Augmented Reality Waveguide Displays

Ben Hancock, Optics PhD (University of Rochester): Strong Coupling Between 2-D CdSe Nanocrystals and a Fabry-Pérot Cavity

Brian Hassard, Optics PhD (University of Rochester): A Cost-efficient Biophotonic System for COVID-19/Antibody Detection.

Mohammad Hosseini, Optics PhD (University of Rochester): By pre-screening for osteoporosis with portable Raman spectroscopy, we empower early diagnosis for better bone health

Evan James, Optics PhD (University of Rochester): Oblique Lightsheet Microscopy

Tyler Howard, Optics PhD (University of Rochester): Examination of Polarization Converters using Optical Test Points

Deepak Kandel, Imaging Science PhD (Rochester Institute of Technology): Recent Trends in Robust and Practical Lifelong/Incremental Learning

Sushant Kumar, Optics PhD (University of Rochester): Passive alignment packaging platform for photonic and electro-optic systems

Chang Liu, Optics PhD (University of Rochester): Modulate chromatic cues in the retina as a potential approach to guide eye growth

John Mahoney, Optics PhD (University of Rochester): Pulse Propagation in Nonlinear Fibers via Wigner Phase Space Evolution

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Anna Noll, Optics Undergraduate (University of Rochester): Increased retinoic acid activity in mice with photoreceptor degeneration induces remodeling of scleral collagen network

Akif Qadeer, Imaging Science PhD (Rochester Institute of Technology): Optical Differentiation Wavefront sensor Powered By Deep Learning

Jacob Sacks, Optics PhD (University of Rochester): Aberration Design of Zoom Lenses

Mohammad Saif, Imaging Science PhD (Rochester Institute of Technology): Assessing Multiseason Table Beet Root yield from Unmanned Aerial Systems

Martin Sanchez, Optics PhD (University of Rochester): Bullseye Cavity Optimization With Tandem Neural Networks

Tahrir Siddiqui, Imaging Science PhD (Rochester Institute of Technology): LiDAR for Estimation of Forest Carbon Sequestration

David Spiecker, Optics PhD (University of Rochester): Single-Shot Spectropolarimetry with Stress Engineered Optics

Surendar Vijayakumar & Yihan Liu, Optics PhDs (University of Rochester): Fluorescent properties of Eu³⁺ in 3D microstructures of SrZrO₃ and ZrO₂

Vitek Stepien, Optics PhD (University of Rochester): Spectral and temporal intricacies of Brillouin scattering in optical fibers

Linrui (Stephen) Tan, Optics Undergraduate (University of Rochester): High Bandwidth Detection in Photon-Starved Environments Using Parametric Optical Amplification

Zhouzhi Xia & Yichen Li, Optics Undergraduates (University of Rochester): Investigation of Vector Beam Propagation under the Effects of Nonlinearity and Turbulence

Valeria Viteri-Pflucker, Optics PhD (University of Rochester): Experimental Quantification of Supergrowth Properties in Speckle

Pei Xiong, Optics PhD (University of Rochester): Metasurface fabrication for Augmented reality device

Wendao Xu, Optics PhD (University of Rochester): Tunable Brillouin-based Microwave Photonic Bandpass Filter with sub-MHz Bandwidth

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Luminar Technologies
<https://www.luminartech.com>



MIT Lincoln Laboratory
<https://www.ll.mit.edu/>



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www.microsoft.com



Northrop Grumman
<https://www.northropgrumman.com/>



OPTIMAX Systems, Inc.
www.optimaxsl.com



Sunny Optical Technology Group Co., Ltd.
www.sunnyoptical.com



Viavi Solutions
<https://www.viavisolutions.com/en-us>

Standard Members



Alcon
<https://www.alcon.com/>



Elbit Systems of America
<https://www.elbitamerica.com/>



Meta
<https://www.metacareers.com/>
https://about.meta.com/?utm_source=about.fac ebook.com&utm_medium=redirect



Intuitive Surgical
<https://www.intuitive.com/en-us>



JENOPTIK Optical Systems
www.jenoptik-inc.com



Optikos
www.optikos.com



QED Technologies
www.qedmrf.com



SONY Electronics Inc.
www.sony.com

Associate



412th Test Engineering Group - Edwards
Air Force Base

<https://www.edwards.af.mil/About/Fact-Sheets/Display/Article/393902/412th-test-wing/>



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Society and Trade



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AIM Photonics
<https://www.aimphotonics.com/>



The Laboratory for Laser Energetics
<https://www.lle.rochester.edu/>



Monroe Community College
STATE UNIVERSITY OF NEW YORK

Monroe Community College
www.monroecc.edu

INDUSTRIAL ASSOCIATES



New York Photonics
www.newyorkphotonics.org
www.rrpc-ny.org



NextCorps | Luminate
www.nextcorps.org
www.luminate.org



The Optical Society
<https://www.optica.org/en-us/home/>



Rochester Institute of Technology
<https://www.rit.edu/>



The International Society for Optics and Photonics
www.spie.org

Guest Companies



An Onto Innovation Subsidiary

4D Technology
<https://4dtechnology.com/>



ASRC Federal
<https://www.asrcfederal.com/>



BLUE LASER
FUSION, INC. TM

Blue Laser Fusion
<https://bluelaserfusion.com/>

INDUSTRIAL ASSOCIATES



Circle Optics, Inc.
<https://circleoptics.com/>



EagleView
<https://www.eagleview.com/>



Finger Lakes Instrumentation
<https://flicamera.com/>



Heraeus Conamic
<https://www.heraeus-conamic.com/>



Georgia Tech Research Institute
<https://www.qtri.gatech.edu/>



Labsphere
<https://www.labsphere.com/>



NeuroAI Monitoring
<https://neuroaimonitoring.com/>



Peraton
<https://www.peraton.com/>



Raytheon
www.raytheon.com



tec5USA
<https://www.tec5usa.com/>



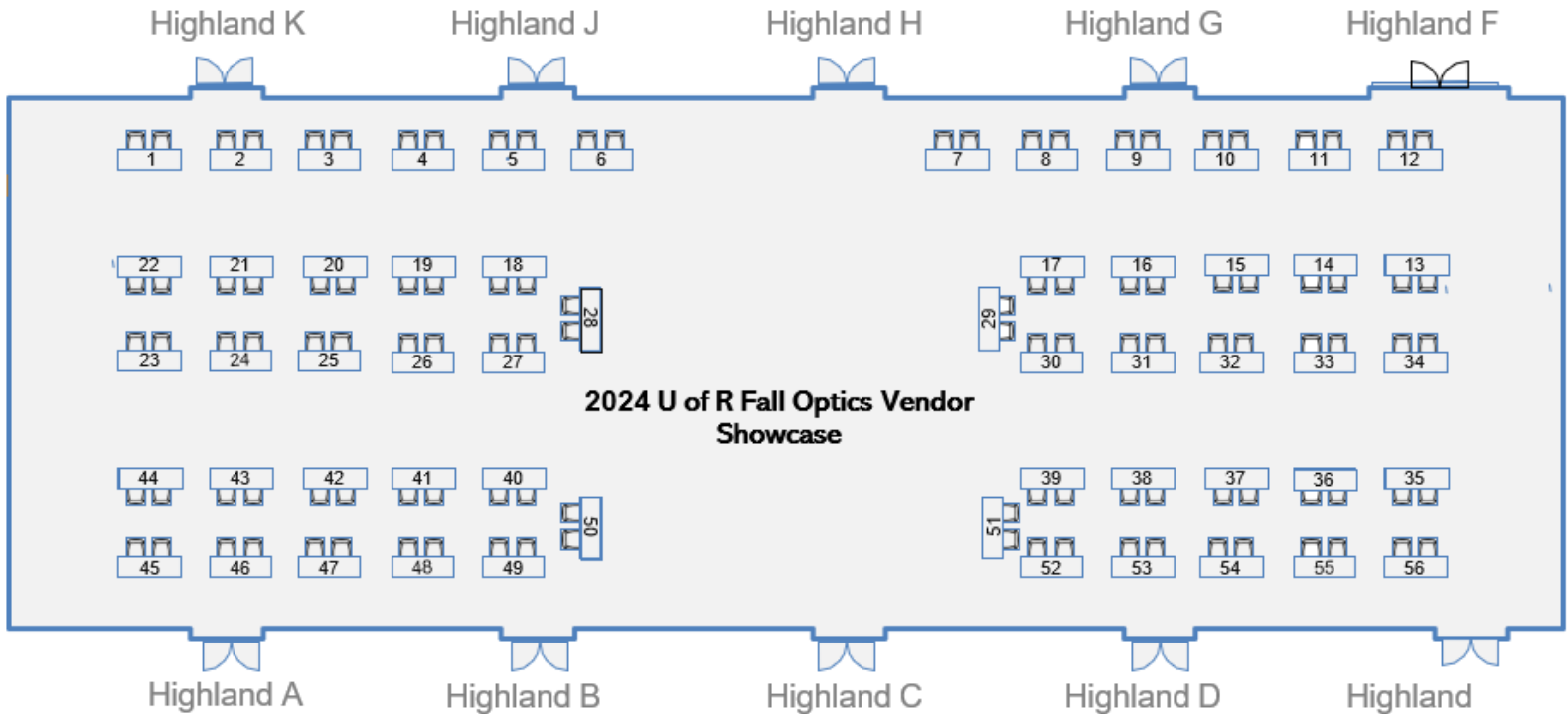
AEROSPACE

The Aerospace Corporation

<https://aerospace.org/>

Company Connection Showcase Map

Highland Ballroom



- | | | | |
|------------------------------|--------------------------------------|------------------------------|-------------------------------|
| 1. Alcon | 13. Edmund Optics | 25. Meta | 36. Raytheon |
| 2. Aperture Optical Sciences | 14. Edwards Air Force Base | 26. MIT LL | 37. RIT |
| 3. Apple | 15. Elbit Systems of America | 27. Monroe Community College | 38. Sunny |
| 4. Arizona Optical Metrology | 16. Fibertek | 28. EMPTY | 39. Synopsys |
| 5. ASRC Federal | 17. Flic Camera | 29. EMPTY | 40. The Aerospace Corporation |
| 6. ASML | 18. Georgia Tech Research Institute | 30. Newport MKS | 41. Zemax |
| 7. Attochron | 19. KLA | 31. Northrop Grumman | 42. Zygo |
| 8. Circle Optics | 20. L3Harris | 32. Optimax | 43. LLE |
| 9. Corning | 21. Lab sphere | 33. OptiPro | |
| 10. Dioptic | 22. Lawrence Livermore National Lab | 34. Peraton | |
| 11. DRS Daylight Solutions | 23. Lockheed Missiles & Fire Control | 35. Plymouth Grating | |
| 12. EMPTY | 24. Lockheed Space | | |

SAVE THE DATE!

The spring symposium will be on Thursday, April 3rd

Register now:

https://2025_Optics_Spring.eventbrite.com