The Institute of Optics

HISTORY & BACKGROUND

The Institute was established in 1929 in reaction to burgeoning needs at two scales. Locally, Rochester had become something of an optics hotbed, home to numerous companies designing and building optical systems and in desperate need of highly skilled workers. On the world stage, leading centers of research and training in optics were to be found outside the US, raising concerns about the national security in the interwar period. The Institute of Applied Optics was the answer.

Indeed, the 1940s put The Institute in the thick of the war effort with research ranging from the production of common optical technology to the very cutting edge of night-vision systems. Postwar, The Institute became a driving force in lens and optical system design led by the likes of Robert Hopkins and Rudolf Kingslake. Today, Institute faculty continue to serve the national interest. We meet needs. We serve. This is the lasting hallmark of The Institute. We lead by serving. We serve by leading.

VISION & IMPACT

For the last 90 years, The Institute has defined optics; today, the world continues to look to us. In the next decade, it is critical that we embrace the mantle of stewardship of the discipline and lead the nation in the development of optics curricula, at all levels, from high school to post-graduate education. The need in the market for well-trained optical scientists and engineers virtually guarantees the emergence of more programs to meet that need. We want those new programs to bear the UR brand.

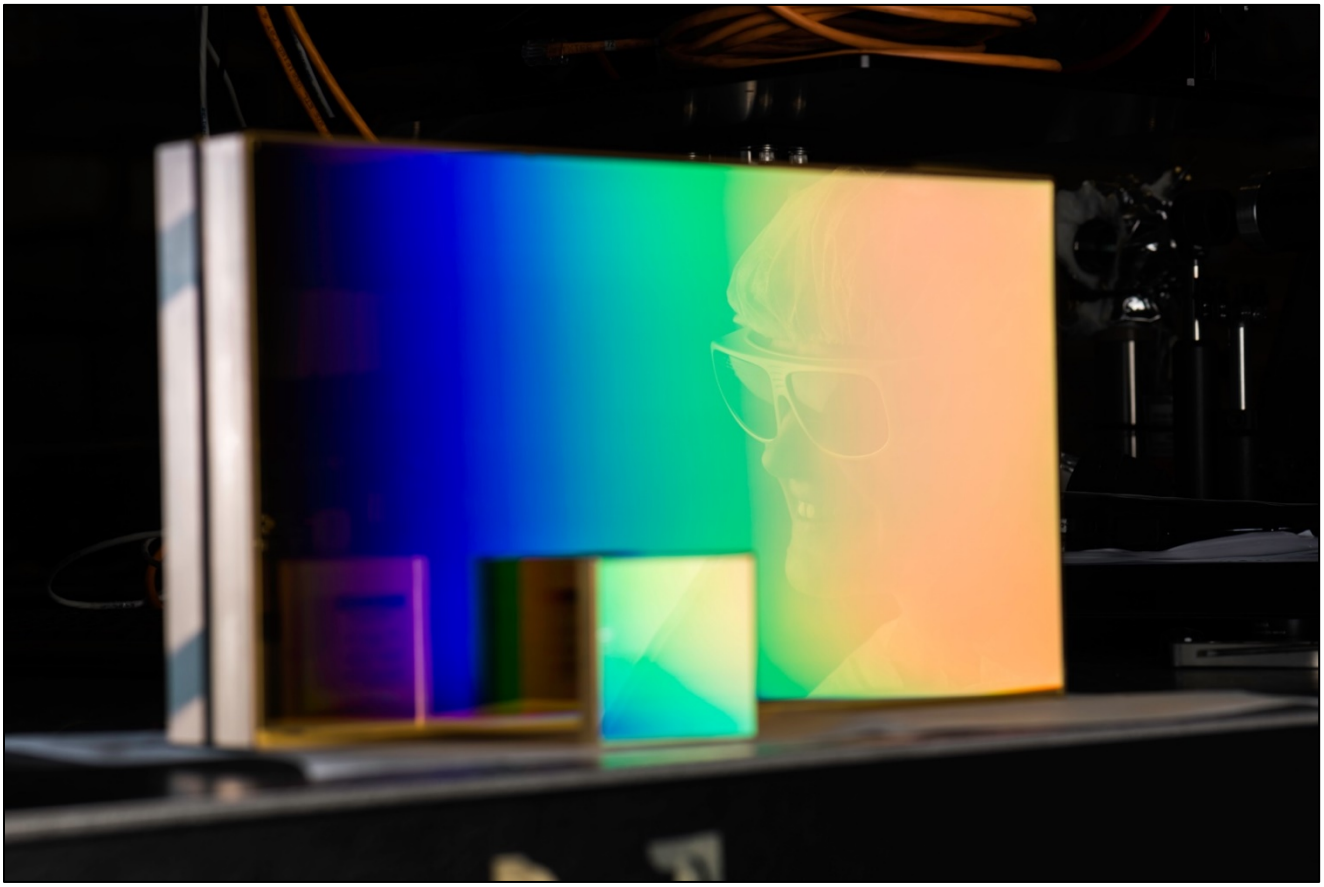
The optics community—comprising academic, industrial, and the defense sectors—has long looked to The Institute for cutting-edge research and new areas of exploration. Our existing centers, most

prominently the Center for Visual Science and the Center for Freeform Optics, serve as models for more Institute-affiliated research centers. For example, our expertise in semiconductors, materials, nonlinear optics, and lasers supports current efforts in quantum technologies where we see emerging research funding opportunities and the potential for discovery.

UNDERGRADUATE & GRADUATE PROGRAMS

Undergraduate students who choose Optics and Optical Engineering are continuing to have excellent outcomes in their graduate school and employment applications. Upon graduation, nearly all students have at least one graduate-school or job offer. Undergraduate class sizes range from 40-50 students.

Optics as an industry does not produce enough masters and PhD students to meet the market demand, resulting in excellent job placement rates at The Institute (almost 100%). Total graduate students enrolled ranges from 76-91 over the last 7 years. The graduate program guarantees that its students all have a firm footing in the fundamentals of Optics in terms of math and theory.



OPPORTUNITIES TO COLLABORATE

Scholarships

Full scholarships for undergraduates in optics would not only help recruit the most talented students to The Institute, but would also help fill the application queue with high-quality aspirants.

Faculty Growth

Continued growth depends largely on endowed fellowships and professorships to recruit top talent through competitive salaries and research support.

Optics Endowment

An endowment is essential for The Institute to fund new faculty lines and grow the department. Opportunities seeking funding include but are not limited to: the Center for Freeform Optics, the Center for Visual Science, a new Center for Optics Education, a new Center for Laser Systems and Applications, a new Center for Optics Manufacturing (a revival), or a funded Center for Coherence and Quantum Optics.

The Institute of Optics Industrial Associates Program (IA)

The Industrial Associates Program, established in 1974, helps to formalize the University of Rochester's partnerships with optics and photonics industry collaborators. The Institute of Optics IA Program was created in response to the growth in the diversity of optical science and technology.

The IA Program provides training and informational benefits to participating companies and allows The Institute to learn more about industry needs and concerns. This exchange improves our partners' ability to use modern optical technology while increasing our ability to educate individuals to assume key roles within their companies.

Resources are required for all research and educational programs, and the membership income from the Industrial Associates Program plays a critical role in the overall operation of The Institute. The money from the program's membership fees is used to:

- Recruit top graduate students
- Purchase specialized laboratory equipment
- Support student projects
- Run optics industry events and trainings

https://www.facebook.com/OpticsRocks/
thecollective.rochester.edu

Hajim.Rochester.edu/optics

HAJIM SCHOOL OF ENGINEERING & APPLIED SCIENCES
UNIVERSITY of ROCHESTER

TYRONE M. JIMMISON
Executive Director of Advancement
Hajim School of Engineering & Applied Sciences
O: 585-273-5901 | C: 216-650-0197
Tyrone.Jimmison@Rochester.edu

DEREK C. SWANSON
Associate Director of Advancement
Hajim School of Engineering & Applied Sciences
O: 585-273-1341 | C: 315-271-9732
Derek.Swanson@Rochester.edu