

The Institute of Optics

Highlights from 2014

Greetings from *The Institute of Optics*! With the close of my third year as Director, I am delighted to see continued excellence and significant progress in some needed areas. Our students, faculty, staff, alumni, IA members and friends create a dynamic family that continues to connect, prosper and provide great assurance for the future of Optics. There is so much to be proud of from everyone's efforts this year. ABET accreditation is very close, thanks to Andrew Berger's management. As the Industrial Associates program celebrated its 40th anniversary, we were honored to have founder Provost Emeritus Brian Thompson with us to celebrate. Duncan Moore engaged in entrepreneurial research to learn that an impressive number of companies have been founded by our alumni and professors. Recognitions and awards, a second summer Photon Camp, more endowed Scholarships, and continued growth in undergraduate and MS student numbers again highlight our year. Finally, after many years of deficits, we accomplished the significant achievement in 2014 of balancing *The Institute's* budget. The year 2015 is filled with bright promise, and we look forward to continued excellence.

Meliora!



Xi-Cheng Zhang

January

We started the year with a strong increase in our undergraduate student population, with 40 students per class for '16 and '17. The graduate program had 123 students, with 96 PhD and 27 MS.

Prof. Duncan Moore has found 210 companies founded by 132 Optics alumni and faculty.

February

Professor Robert Boyd was selected as an SPIE Fellow.

PhD candidate **Daniel Savage**, '10 was accepted into the Medical Scientist Training Program. He will be the first student in the history of the Institute to earn a PhD and MD from the University of Rochester.



March

Prof. Jannick Rolland received the OSA David Richardson Medal for 2014. Jannick is being recognized for significant contributions to optical engineering, enabling noninvasive, optical biopsy.

April

Alex Iacchetta, a Ph.D. student with James Fienup, received a 2014 NASA Space Technology Research Fellowship for his proposal, *Astro-Interferometric Modeling and Spatio-Spectral Reconstruction* and his activities at the Goddard Space Flight Center.

The fourth annual **Photon Cup** was intense between The Institute of Optics and the Physics Department. Physics carried this year's trophy home, but only after overtime and via penalty kicks.

May

Ovitz Corporation won the 2014 Rochester Regional Business Plan Contest, and 2nd place in the Biotechnology/Healthcare category at the NY Business Plan Competition finals. Ovitz members **Joung Yoon (Felix) Kim**, '15; **Pedro Vallejo-Ramirez**, '16; TEAM MS candidate **Samuel Steven**, '13, **Aizhong Zhang**, TEAM MS & Optics PhD candidate, and **Len Zheleznyak**, PhD '14, developed a hand-held instrument to determine an accurate prescription for corrective lenses.



Prof. David Williams was named a member of the National Academy of Sciences for his achievements in original research. This is the third of our Optics professors to be elected to NAS/NAE.

At the UR's 164th Commencement, 14 PhD, 19 MS, and 20 BS degrees in optics were proudly awarded.

June /July/August

Kari Brick joined the Institute of Optics as the Graduate Program Coordinator.

The 53rd annual **Summer Course Series** featured basic and advanced topics in optical science, lasers, optical design and manufacturing, optical instrumentation, optoelectronics, imaging, and biomedical optics.



Anthony Yee, a graduate student with Prof. Duncan Moore, received a 2014 National Science Foundation Graduate Research Fellowship.

Prof. Robert Boyd received an honorary doctor of science degree by the University of Glasgow in the United Kingdom for his contributions in the field of optical physics, especially for his pioneering work in nonlinear optical interactions and nonlinear optical properties of materials.

Faculty, alumni and staff mentored 18 high school students at the second **Photon Camp**, providing hands-on experience, while fostering and encouraging education in optics.

September

The DOE website featured work from **Prof. Nick Vamivakas** and his group, from a paper describing a new combination of materials that can efficiently guide electricity and light along the same tiny wire.

Prof. Xi-Cheng Zhang was awarded the 2014 Kenneth J. Button Prize from the IRMMW-THz society *for outstanding contributions to the development of THz time-domain spectroscopy and applications.*

Per Adamson, director of The Institute's teaching labs for the past 15 years, was honored with the Outstanding Staff Award at the Hajim School's 2014 Annual Fall reception at Oak Hill Country Club.



PhD candidate **Joseph Choi**, and advisor John Howell captured imaginations when their "invisibility cloak" research was featured in a media blitz that included a stint on NBC News.

October

Our **Industrial Associates** Program is 40 years strong! IA founder Brian J. Thompson was honored at the fall meeting.



Prof. Julie Bentley earned a 2014 Goergen Award for Excellence in Undergraduate Teaching. An alumna of The Institute and highly skilled lens designer, Julie is a strong mentor who challenges and inspires students.

Prof. Robert Boyd was awarded the 2014 IEEE Photonics Society Quantum Electronics Award *for contributions to nonlinear optics, including room temperature slow light and the nonlinear optics of composite materials.*

The **Prof. Govind P. Agrawal** Endowed Scholarship was established. During his career, Govind has advised 18 PhD theses and over 20 MS research papers.

Optics student and UR athlete **Michelle Relin** became UR's all-time leading field hockey scorer in a game against St. Lawrence.

Staff member **Maria Schnitzler** celebrated her 40th year at the University of Rochester, 28 of which have been at The Institute.



November

Two new Graduate Endowed Fellowships were established to honor **Prof. Stephen D. Jacobs** for his significant contributions and alumni **Xiangdong Cao** for his substantial achievements.

December

Qiang Lin, Asst. Prof. of ECE and Optics, was named the first Leonard Mandel Faculty Fellow, an award recognizing exceptional achievement by a junior faculty member in coherence and quantum optics.