

Michal Lipson Named 2021 John Tyndall Award Recipient

[The Optical Society](#) (OSA) and the [IEEE Photonics Society](#) have named Michal Lipson, Eugene Higgins Professor of Electrical Engineering and Professor of Applied Physics at Columbia University, USA the 2021 [John Tyndall Award](#) recipient. Lipson, the first woman to receive the award since it was established in 1987, is recognized for “*fundamental and technological advances in integrated photonic devices.*”

“A trailblazer in the field, Michal Lipson’s groundbreaking research led to the development of the first gigahertz silicon modulators, demonstrating that silicon photonics could produce active devices,” said 2020 OSA President Stephen Fantone. “The Tyndall Award is a well-deserved testament to her visionary work in nanophotonics.”

"Michal Lipson is a leader, a pioneer and a giant in the field of nanophotonics for her contributions to the physics and applications of light confining photonics structures", added IEEE Photonics Society President Carmen Menoni. "The IEEE Photonics Society is delighted with her recognition by the Tyndall Award."



The award, one of the top honors in the fiber optics community, is named for John Tyndall, a 19th century scientist who was the first to demonstrate the phenomenon of total internal reflection. It recognizes an individual who has made pioneering, highly significant, or continuing technical or leadership contributions to fiber optic technology.

The Tyndall Award will be presented to Lipson on Tuesday, 08 June 2021 during [OFC 2021](#), the world’s leading conference and exhibition for optical communications and networking professionals.

Corning, Incorporated sponsors the award, which consists of a specially commissioned glass sculpture that represents the concept of total internal reflection, a scroll and an honorarium, and it is jointly presented by The Optical Society and the IEEE Photonics Society.

Lipson received her Ph.D. in Physics from The Technion – Israel Institute of Technology, Israel. Following a Postdoctoral position in the Material Science Department at Massachusetts Institute of Technology, USA, she joined the School of Electrical and Computer Engineering at Cornell University, USA and was named the Given Foundation Professor of Engineering at the School of Electrical and Computer Engineering. In 2015, she joined Columbia University, USA.

Lipson pioneered critical building blocks in the field of silicon photonics, which today is recognized as one of the most promising directions for solving the major bottlenecks in microelectronics. In 2004, she showed the ability to tailor the electro-optic properties of silicon which led to the explosion of silicon photonics research and development. Today more than one thousand papers published yearly involve devices and circuits based on Lipson’s original modulators, or based on other silicon photonics devices demonstrated by her group including slot waveguides and inverse tapers. The growth of the field of silicon photonics has also been

evident in industry with an increasing number of companies developing silicon photonics products (IBM and Intel, HP Aurrion, Melanox, Apic, Luxtera, etc).

Lipson's work has been cited in top high-impact journals such as Nature, Nature Photonics, Nature Physics, IEEE Photonics Technology Letters, Nanoletters, Lab on a Chip, Physical Review Letters and the Journal of Lightwave Technologies. Her papers (over 250 refereed journal publications) have been cited more than 40,000 times and she is the inventor of over 45 issued patents. She has delivered hundreds of invited, keynote and plenary lectures in all the major conferences in optics and related fields. In recognition of her work in silicon photonics she was elected as a member of the National Academy of Science (NAS). She has also been awarded the NAS Comstock Prize in Physics, the MacArthur Fellowship, the Blavatnik Award, the Optical Society's R. W. Wood Prize, the IEEE Photonics Award, Erna Hamburger Award and has received an honorary degree from Trinity College, University of Dublin, Ireland. In 2020, she was elected OSA 2021 Vice President and will serve as the Society President in 2023.

About The Optical Society

Founded in 1916, The Optical Society (OSA) is the leading professional organization for scientists, engineers, students and business leaders who fuel discoveries, shape real-life applications and accelerate achievements in the science of light. Through world-renowned publications, meetings and membership initiatives, OSA provides quality research, inspired interactions and dedicated resources for its extensive global network of optics and photonics experts. For more information, visit osa.org.

About IEEE Photonics Society

The IEEE Photonics Society forms the hub of a vibrant technical community of more than 100,000 professionals dedicated to transforming breakthroughs in quantum physics into the devices, systems and products to revolutionize our daily lives. We organize, contribute to and participate in technical conferences, journals and other activities covering all aspects of photonics in order to share and disseminate our breakthroughs. And provide our members with professional growth opportunities, publish journals, sponsor conferences and support local chapter and student activities around the world. Learn more at <http://www.photonicsociety.org>.