Prof. Michal Lipson is the Eugene Higgins Professor at Columbia University. She completed her B.S., MS and Ph.D. degrees in Physics in the Technion in 1998. Following a Postdoctoral position in MIT in the Material Science department from 1998 to 2001, she joined the School of Electrical and Computer Engineering at Cornell University and was name the Given Foundation Professor of Engineering at the School of Electrical and Computer Engineering in 2012. In 2015 she joined the electrical engineering department at Columbia University. Lipson is one of the pioneers of the field of silicon photonics.

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 (*Almeida, et al., Nature 2004* with more than 1200 citations and *Xu et al Nature 2005 with more than 1700 citations)* which represent critical advances that led to the explosion of silicon photonics research and development. The number of publications related to silicon photonic devices and systems is now more than 23,000 a year. A large fraction of these publications are based on Lipson's original papers published since 2001. Today more than one thousand papers published yearly involve devices and circuits based on Lipson's original modulators, as well as on other silicon photonics devices demonstrated by her group including slot waveguides (*Almeida et al, Optics Letters 2004* with more than 1200 citations) and inverse tapers (*Almeida et al, Optics Letters, 2003 with more than 750 citations*). 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, Melannox, Apic, Luxtera, etc).

Lipson has explored several novel physical phenomena of light impacting areas ranging from communications to biology. For example, she demonstrated an analogy between electromagnetic-induced transparency in quantum optics and the coherent interaction between resonators in classical optics (*Xu et al Physical Review Letters 2006*). She also demonstrated the ability to induce strong optical forces using high confinement waveguides, enabling trapping of biological particles (*Yang et al, Nature 2009 and Soltani et al, Biophys J. 2013, Soltani et al Nature Nanotechnology 2014*) as well as repulsion and synchronizations between micro-structures (*Weiderhecker et al*, *Nature 2009 and Zhang et al, Phys. Rev. Lett. 2012.*). She recently demonstrated the ability to scale up the on-chip optical bandwidth using different modalities of light (*Luo, et al Nature Communications, 2014*) as well as using novel graphene/silicon devices (*Phare, et al Nature Photonics, 2015*). Lastly, she has had high impact on integrated nonlinear optics with the demonstration of the first optical frequency comb in silicon-nitride microresonators (*Levy, et al Nature Photonics, 2010 with more than 460 citations*) and mid-infrared comb generation in silicon microresonators *(Griffiths, et al., Nature Comm, 2015)*.

Lipson's work is 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 IEEE Journal of Lightwave Technologies. Her papers (over 200 refereed journal publications) have been cited more than 25,000 times. Her *h*-index (an index that measures both the productivity and impact of the published work) of **80** is also indicative of the impact that her work has had on the scientific community. Lipson has delivered hundreds of invited, keynote and plenary lectures in all the major conferences in optics and related fields. She has over 30 patents that have been issued and approximately half of them have been licensed to industry. Two companies were founded based on her patents: Picoluz, Inc., a company focused on the development of cutting edge optical instrumentation based on nonlinear silicon photonics, and Tornado Medical Systems, a biomedical company based on nanophotonic devices. In 2010 in recognition of her work in silicon photonics she was awarded the MacArthur Fellow. She was also awarded the Blavatnik award in 2010 and was named by Thomson Reuters as a top 1% highly cited researcher in the field of Physics both in 2014 and in 2015.