Shaping Light Using Ultrafast and Programmable Nano-Optics

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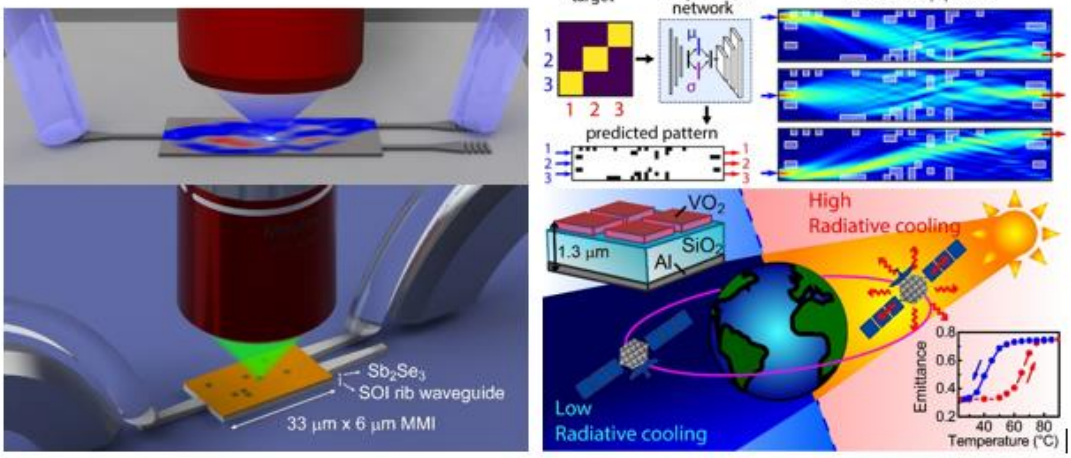
Bluejeans Link: https://bluejeans.com/468395960/5942

Abstract:

A variety of applications requires light and infrared radiation to be shaped and controlled actively. In our laboratory we are working on shaping light using silicon photonics on a chip and in free space using metasurfaces. Key to these applications are materials that can be tuned or switched optically, electrically or thermally. In this presentation I will give an overview of cutting edge developments in shaping of light using phase change materials and ultrafast all-optical perturbations. I will also address efforts at modelling these effects using emerging new techniques from the toolbox of machine learning.



Bio:

Otto Muskens is a Professor of Physics and head of the Quantum, Light, and Matter group at the University of Southampton. He received his PhD from the University of Utrecht in The Netherlands in 2004 and subsequently did postdoctoral research projects in France and the Netherlands. In 2009 he started his position at the University of Southampton. From 2012 to 2017 he held an EPSRC fellowship on development of new concepts in silicon integrated photonics based on ideas from light scattering in complex media. In 2016 he held the Debye visiting chair at the University of Utrecht. His research interests span the domains of nanophotonics, metamaterials, silicon photonics, complex media and bionanophotonics.

If you have any questions, please contact Xi Wu at xiwu51@gatech.edu.