

ORAD RESHEF, PHD

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Recent experience

University of Ottawa, Ottawa ON

Research Associate, Advisor: Robert W. Boyd

Jul. 2016 – Present

Modeled, fabricated and optically characterized silicon photonic components, nano-scale gold metasurfaces, and multi-layer stacks.

Managed over 25 students (undergraduate, masters, and PhD). Trained them in experimental methods and in preparation for science communication (presentations, manuscripts and theses).

Secured over \$4M in research funding from national funding agencies (incl. NSERC, NSF, and DARPA).

Photonics Online Meetup, Virtual

Co-founder, co-chair

Sept. 2019 – Present

Led and coordinated the first entirely virtual photonics conference, drawing over 2000 attendees worldwide. Garnered extensive media coverage (incl. *Nat. Photonics*, *OPN News*, *Photonics Media*).

Harvard University, Cambridge MA

Graduate Researcher, Advisor: Eric Mazur

Sept. 2010 – Jun. 2016

Designed metamaterials and photonic crystals in the silicon-on-insulator platform. Fabricated and optically characterized integrated zero-index metamaterials and waveguides.

Developed fabrication procedure for titanium dioxide integrated photonics. Characterized optical waveguides and resonators.

Education

Harvard University, Cambridge MA

Master's and PhD, Applied Physics

Sept. 2010 – Jun. 2016

Dissertation: Integrated metamaterials and nanophotonics in CMOS-compatible materials

McGill University, Montreal QC

Bachelor of Science, Honours Physics

Sept. 2006 – May 2009

First class honours, magna cum laude

Selected skills

Optical Modeling and Simulations

Lumerical FDTD and MODE Solutions, COMSOL Multiphysics, Meep, MPB

Nanofabrication

Computer-assisted design (CAD), Process engineering, Lithography, Thin film deposition and characterization, Pattern transfer

Optical Characterization and Measurement Setup Construction

Instrument control, microscopes and telescopes, fiber optics, CW and ultrafast lasers, spectrometers

Programming

Python, MATLAB, \LaTeX , git

Publications

35 peer-reviewed publications, incl.:

- 1500 citations
- 2 journal covers
- 9 *Nature Research* publications
- 4 Editor's picks

43 conference proceeding papers

3 patents pending

2 book chapters

3 preprints

Selected honors and awards

OSA Ambassador

2021

Banting Postdoctoral Fellowship

2017 - 2019

Harvard Quantum Optics Fellowship

2015 – 2016

NSERC Postgrad Doctoral Fellowship

2011 – 2015

Languages

English, French, Hebrew