CHOATE

Ronen Adato, PhD

Patent Agent

T +1 (617) 248-4814 | radato@choate.com

Dr. Ronen Adato leverages his extensive background in nanotechnology and electrical engineering in providing patent protection to a variety of academic and industry clients.

Prior to joining Choate, Dr. Adato was a postdoctoral fellow in Boston University's Department of Electrical and Computer Engineering with additional appointments in the Photonics Center and Rafik B. Hariri Institute for Computing and Computational Science and Engineering. His research focused on creating nanophotonic and computational tools for sensing, microscopy and spectroscopy. He oversaw projects aimed at developing new techniques for characterizing semiconductor integrated circuits for failure analysis and security testing applications. He secured funding for and managed the development of a multi-user near-field microscopy facility as part of the National Science Foundation Major Research Instrumentation program.

Dr. Adato received his PhD in Electrical and Computer Engineering from Boston University in Hatice Altug's Laboratory for Integrated Nanophotonics and Biosensing Systems. His dissertation developed nanoscale antennas to enhance the sensitivity of infrared absorption spectroscopy measurements thereby providing new tools for studying protein structure-function relationships, drug discovery and disease diagnostics. Before his PhD Dr. Adato researched nanophotonic waveguides for optical interconnect applications in the lab of Junpeng Guo at the University of Alabama in Huntsville and coded aperture imaging as an Addy Summer Fellow in David Brady's lab at Duke University.

EDUCATION

Boston University
PhD, 2013, *Electrical and Computer Engineering*

The University of Alabama in Huntsville
MS, 2008, *Electrical Engineering*

Duke University
BS, 2005, *Electrical Engineering*

PRACTICE FOCUS

Intellectual Property Protection
Assists in the preparation and prosecution of patent applications.

REPRESENTATIVE ENGAGEMENTS

- Assists patent prosecution and litigation teams in AIA post grant review proceedings, including *inter partes* review.
- Assists in patent prosecution for range of clients.
- Conducts expert prior art and patent landscape searches.

PRACTICE AREAS
Intellectual Property Protection

Technology

PUBLICATIONS AND PRESENTATIONS

- "Rapid mapping of digital integrated circuit logic gates via multi-spectral backside imaging," *first author, arXiv preprint*, 2016.
- "Physical modeling of interference enhanced imaging and characterization of single nanoparticles," *co-author, Optics Express*, 2016.
- "Integrated nanoantenna labels for rapid security testing of semiconductor circuits," *speaker, Optical Society of America Frontiers in Optics Meeting*, 2015.
- "Detecting Hardware Trojans using backside optical imaging of embedded watermarks," *co-author, Design Automation Conference*, 2015.
- "Engineering mid-infrared nanoantennas for surface enhanced infrared absorption spectroscopy," *first author, Materials Today*, 2015.
- "In-situ ultra-sensitive infrared spectroscopy of biomolecule interactions in real-time with plasmonic nanoantennas," *first author, Nature Communications*, 2013.
- "Engineered absorption enhancement and induced transparency in coupled plasmonic-molecular resonators," *first author, Nano Letters*, 2013.
- "Reusable nanostencils for creating multiple biofunctional Molecular nanopatterns on polymer substrate," *co-author, Nano Letters*, 2012.
- "Rational design and optimization of plasmonic nanoarrays for surface enhanced infrared spectroscopy", *co-author, Optics Express*, 2012.
- "Dual band perfect absorber for multispectral plasmon-enhanced infrared spectroscopy," *co-author, ACS Nano*, 2012.
- "Fano-resonant asymmetric metamaterials for ultra-sensitive spectroscopy and identification of molecular monolayers," *co-author, Nature Materials*, 2012.
- "On-chip plasmonic monopole nano-antennas and circuits," *first author, Nano Letters*, 2011.
- "High-throughput nanofabrication of plasmonic infrared nanoantenna arrays for vibrational spectroscopy," *co-author, Nano Letters*, 2010.
- "Radiative engineering of plasmon lifetimes in embedded nanoantenna arrays," *first author, Optics Express*, 2010.
- "Ultra-sensitive vibrational spectroscopy of protein monolayers with plasmonic nanoantenna arrays," *first author, Proceedings of the National Academy of Sciences*, USA, 2009.

- "Modification of dispersion, localization and attenuation of thin metal strip symmetric surface plasmon-polariton modes by thin dielectric layers," *first author, Journal of Applied Physics*, 2009.

- "Single-shot subpixel response measurement with an aperture array pixel mask," *co-author, Optics Letters*, 2006.

PROFESSIONAL AND COMMUNITY INVOLVEMENT

Dr. Adato is a member of the New England Section of the Optical Society of America, volunteering in optics demonstration outreach at local Boston area science museums and expositions.