



Michael L. Silver, Ph.D.

Technical Specialist

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Michael L. Silver, Ph.D. assists in prosecuting patents for clients in electrical and software engineering industries. A specialist in optical and sensing technologies, Michael has worked on projects involving defense, communication, and biomedical devices.

Outside of work, Michael enjoys playing volleyball, camping, video games, and reading science fiction. Michael also has a passion for the arts. He is a co-founder of a comedy movement group in Chicago and sits on the Young Professionals Board of Stage 773. A strong advocate for equity and inclusion, Michael helped the firm develop internal DEI programming and serves on the Young Leadership Council for Lambda Legal.

Practices

- Patent Prosecution

Industries

- Electrical & Computer Technologies
- Nanotechnology

Background and Credentials

Michael has a strong background in photonics and quantum communications systems. As a Pratt Research Fellow at Duke University, Michael developed tunable external cavity lasers for atomic manipulation in quantum computing systems. He was also awarded a National Science Foundation REU grant where he built neural circuits using hippocampal brain cells from mice.

After working in a photonics lab at Duke University, Michael conducted his graduate studies at Northwestern University where his research focuses on upconversion detection systems for quantum communications. While the majority of his graduate research focused on nonlinear optics, he also assisted in developing computer architecture concepts using on-chip optical semiconductor devices.

Before graduate school, Michael worked at Harris Corporation where he developed optical systems for fiber-based communications and lidar technologies. He also oversaw subcontractors for DARPA contracts and worked closely with private and federal clientele. Michael has been recognized for his strength in technical analysis and communication, which led him to be a finalist for a Congressional Science Fellowship, where he would advise congressional representatives on scientific and technical matters.

Representative Experience

Michael has experience in a wide variety of electrical and computer technologies including:

- Optics & Photonics
- Semiconductor Devices
- Sensing Applications
- Electrophysiology
- Quantum Communications

Education

- Northwestern University (Ph.D.)
 - Electrical Engineering
- Duke University (B.S.)
 - Electrical and Computer Engineering

Publications and Presentations

2017

M. Silver, P. Manurkar, Yu-Ping Huang, et al., "Spectrally Multiplexed Upconversion Detection With C-Band Pump and Signal Wavelengths," IEEE Photonics Technology Letters 29(13), 1097-1100

2016

P. Manurkar, N. Jain, M. Silver, Y.-P. Huang, C. Langrock, M. M. Fejer, P. Kumar, and G. S. Kanter, "Multidimensional mode-separable frequency conversion for high-speed quantum communication," Optica 3, 1300-1307

2015

A. S. Kowligy, P. Manurkar, N. V. Corzo, V. G. Velez, M. Silver, R. P. Scott, S. J. B. Yoo, P. Kumar, G. S. Kanter, and Y.-P. Huang, "Quantum optical arbitrary waveform manipulation and measurement in real time," SPIE Photonics West 2015 (Invited paper), paper 9347-31.

2014

K. Smith, C. Visone, R. Glasser, M. Silver, L. Burberry, P. Wasilousky, "Optical sensing system with a phase sensitive amplifier and associated methods," U. S. Patent No. 8,912,475

2014

A. S. Kowligy, P. Manurkar, N. V. Corzo, V. G. Velez, M. Silver, R. P. Scott, S. J. B. Yoo, P. Kumar, G. S. Kanter and Y. -P. Huang, "Quantum optical arbitrary waveform manipulation and measurement in real time," Opt. Express 22, 27942-27957

2011

P. Wasilousky, K Smith, R. Glasser, G. L. Burdge. L Burberry, B Deibner, M. Silver, et al., "Quantum enhancement of a coherent ladar receiver using phase-sensitive amplification," Proc. Of SPIE, 8163816305-01/816305-11

Community and Professional Involvement

- United Sciences of Chicago
- March for Science Chicago (MFSCChi)
- Operating for Action (OFA)
- Institute of Electrical and Electronics Engineers Member (IEEE)
- The Optical Society Member (OSA)
- American Physical Society Member (APS)