

# YOUNG BASILE



## Michael Cantara

Technology Specialist

[mcantara@youngbasile.com](mailto:mcantara@youngbasile.com)

859 Willard Street, Suite 400  
Quincy, MA 02169

P: 248-370-5211

F: 248-649-3338

### Practice Areas

Patent

### Industries

Consumer Electronics

Electronics & Semiconductors

Information Technology

### Education

Massachusetts Institute of Technology, Ph.D. in Physics, to be completed 2022

University of Connecticut, M.S. in Physics, B.S. in Physics, *Summa Cum Laude*, 2016

Mr. Cantara currently supports the firm's patent prosecution services as a member of the quantum technologies team. He works closely with inventors in the areas of quantum computing and sensing, lasers, optics, circuits, machine learning, and related fields.

### Industry Experience

Mr. Cantara's work under Prof. Wolfgang Ketterle (Director, MIT-Harvard Center for Ultracold Atoms; 2001 Nobel Laureate) has included:

- Building a new laboratory to study ultracold dipolar quantum gases with the most magnetic element, dysprosium.
- Implementing ultra-tight optical lattice confinement to suppress dipolar relaxation, a spin-relaxation process in magnetic atoms.
- Extensive design and construction experience ranging from custom built RF circuits, electro-optic devices, ultra-high vacuum and laser systems, polarization optics and imaging systems.
- Ro-vibrational spectroscopy of Rydberg molecules formed via photo-association.
- Leveraging coursework in algorithms for inference and machine learning to create a classifier for the dynamical states of galaxy clusters.

### Conferences

- Invited Talk, Apker Award, The D-term of Q-clouds, Washington DC
- Contributed Talk, Frontiers in Optics, Ultracold Trimer Ion Formation Energetics of Rb, San Jose, CA
- Contributed Talk, APS Meeting, The D-term of Exploding Q-balls, Savannah, GA

### Honors/Distinctions

- NSF Graduate Research Fellowship
- MIT Physics Frank Fellowship
- APS Apker Award Finalist
- Goldwater Scholarship