# Samuel Polio, PhD

PATENT AGENT

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Dr. Samuel Polio uses his deep expertise and skills as a trained scientist to help directly translate discoveries into real-world applications to provide intellectual property protection to the Firm's life sciences clients.

Prior to joining Choate, Samuel was a postdoctoral fellow in the Parameswaran Lab at Northeastern University in the Bioengineering Department studying asthma pathogenesis from the perspective of cell-extracellular matrix interactions. Samuel also was a postdoctoral fellow in the Peyton Lab at the University of Massachusetts Amherst, where he worked to develop a bio-mechanical hydrogel to mimic lung tissue for understanding breast cancer metastasis. Samuel received the 2018 Alpha Fund Award from Northeastern University for the co-development of a cell and tissue stretching device.

While receiving his PhD, Samuel developed a novel technique using microfabrication and soft lithography to pattern <2µm features for use in the measurement of cellular traction forces. During his undergraduate education, he was a researcher at in the TIME Lab at the Brigham and Women's Hospital.

## Focus Areas

Intellectual Property

IP Counseling

## Publications and Presentations

- "Comparative Mechanics of Lung Parenchyma," co-author, *PLOS One*, 2018
- "Topographical control of multiple cell adhesion ligands for traction force microscopy," co-author, *Integrative Biology* 6(3):357-65
- "A micropatterning and image processing approach to simplify measurement of cellular traction forces," co-author, *Acta Biomaterialia* 8(1):82-88
- "Bio-printing of collagen and VEGF –releasing fibrin gel scaffolds for neural stem cell culture," co-author, *Experimental Neurology* 223(2):645-652

## Education & Credentials

- Boston University, PhD (2014) *Biomedical Engineering*
- Boston University, BS (2009) *Biomedical engineering*

## Admissions

- U.S. Patent & Trademark Office

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