



Emily J. Gardel PhD

Patent Agent

617.646.8486

Emily.Gardel@WolfGreenfield.com

Education

Smith College, BA,
Physics, *summa cum
laude*

Harvard University, AM,
Applied Physics

Harvard University, PhD,
Applied Physics

Suffolk University Law
School, JD, 2018
Candidate

Practice Groups

Electrical & Computer
Technologies

Emily Gardel assists the Electrical & Computer Technologies Group in patent prosecution in the areas of bioelectronics, electrochemical devices, imaging systems and analysis including fluorescence-lifetime imaging microscopy (FLIM), medical devices, electronics, electromagnetic materials, and software.

Prior to joining Wolf Greenfield, Emily performed her graduate and doctoral research at Harvard. There she worked on designing bioelectrochemical systems, which use microorganisms capable of electron transfer with an electrode. She used these systems to study how performance can be improved in electricity generation and to investigate novel electron-transfer capabilities of other microorganisms. Such systems have many potential energy and bioremediation applications such as electricity production, bioelectrosynthesis, and improving wastewater treatment.

She has experience designing and working with electrochemical systems and culturing microorganisms. In her research, she used fluorescence, confocal, TIRF, and scanning electron microscopy in combination with image analysis techniques. She is experienced with different sample preparation techniques for microscopy, including different fluorophores, fluorescent protein expression in biological cells, fluorescent in situ hybridization (FISH), and biological sample preparation for electron microscopy. In addition, she conducted chemical analysis, including gas chromatography, to measure reaction byproducts and analyzed genomic sequencing data to study microbial communities. While at Smith College, Emily performed research on force generation in two- and three-dimensional granular flow materials. She also served as a research assistant at NYU, where she researched methods to remove aberrations from optical traps.

Experience

- Prepared and prosecuted patent applications related to semiconductors, image processing, fuel cells, biosensors, medical devices, consumer electronics, and software,.
- Conducted prior art searches and patentability studies for semiconductor devices, semiconductor manufacturing, and software.
- Worked with inventors, professors, and research scientists in reviewing invention disclosures and preparing the related patent applications.

Recognition

- Department of Energy Office of Science Graduate Research Fellowship
- National Science Foundation Graduate Research Fellowship
- Harold T. White Prize for Excellence in Teaching, Harvard Physics Department

Interests

Emily is currently a mentor in the NeXXt Scholars Program for undergraduate women interested in STEM fields. At Harvard, she was a co-chair for the Harvard Graduate Women in Science and Engineering group and was an academic mentor to undergraduate women in science.