



## Anthony J. Gee

**PATENT AGENT**

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Anthony Gee has been with Haley Guiliano, starting as a technical advisor in 2019 and continuing as a patent agent since 2021. Anthony advises on many topics but has a particular interest in emerging technologies and software, including machine learning, A.I., autonomous driving, and semiconductor device fabrication.

A Ph.D. in Physics, Anthony's research experience includes studying and coding molecular dynamics simulations to study vortex pinning in superconductors and computational accelerator physics, including work simulating charged particle dynamics in particle accelerators. His dissertation explored innovative methods for the simulation of intense particle beams in existing and planned U.S. accelerators.

### Related Practice Areas

- Patents
- Patent Preparation and Prosecution
- Competitive Landscape Analysis
- Due Diligence

### Related Industries

- Computer Technology and Software
- Electronic Hardware
- Semiconductor Devices and Materials
- Biotechnology

### Publications

- S. Abeyratne, A. Gee, and B. Erdelyi. An adaptive fast multipole method in Cartesian basis, enabled by algorithmic differentiation. *Commun. Nonlinear Sci. Numer. Simulat.*, **72** (2019), pgs. 294-317.
- A. Gee, B. Erdelyi. Implementing the Fast Multipole Boundary Element Method With High-Order Elements. Conf. Proc., NAPAC'16, Chicago, IL, USA. October 9 - 14, 2016.
- A. Gee, B. Erdelyi. A Differential Algebraic Framework for the Fast Indirect Boundary Element Method. Conf. Proc., IPAC'16, Busan, South Korea. May 8 - 13, 2016.
- A. Gee, B. Erdelyi. Smooth Fast Multipole Method for Space Charge Tracking: An Alternate to Particle-In-Cell. Conf. Proc., IPAC'15, Richmond, VA, USA. May 3 - 8, 2015.
- A. Gee, B. Erdelyi. Space Charge Map Extraction and Analysis in a Differential Algebraic Framework. Conf. Proc., HB2014, East Lansing, MI, USA. November 10-14, 2014.

- A. Gee, B. Erdelyi. Study and Comparison of the Method of Moments and the Single Level Fast Multipole Method for 2D Space Charge Tracking. Conf. Proc., NAPAC'13, Pasadena, CA, USA. Sept 29 - Oct. 4, 2013.
- A. Gee, Y-M. Shin. Gain analysis of higher-order-mode amplification in a dielectric-implanted multi-beam traveling wave structure. *Phys. Plasmas* **20**, 7 (2013).

## Memberships

- Intellectual Property Owners Association (IPO)

## Education

- Ph.D., 2018, Physics, Northern Illinois University
- B.S., 2009, Physics, UC Davis