PATRICK JAMES BYRNE

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EDUCATION

Columbia University *New York, NY, 2009-Present*
Ph.D. Candidate in Applied Physics *Expected Graduation: January 2016*
M.S. in Applied Physics

Carnegie Mellon University *Pittsburgh, PA, 2002-2006*
B.S. in Physics
Minor in Engineering Studies

RESEARCH EXPERIENCE

Columbia University Plasma Lab Aug 2009 - Present
Graduate Research Student *New York, NY*

- Address: Room 102, Mudd Bldg, 500 W 120th ST 10027
- Thesis topic: Effects of Magnetic Shaping on MHD modes in Tokamaks
- Designed, installed and currently operate and maintain a low impedance, high voltage, plasma-shaping electromagnet, including 2MW quick-start capacitive pulsed power supply and current monitor
- Analyze large and highly variable datasets to determine effects of shaping on plasma stability
- Maintain, upgrade, or if necessary create, all necessary diagnostics and simulation/analytic software

South Korean Education Ministry Sept 2007 - Sept 2008
English Teacher *Iksan-si, S. Korea*

- Provided English instruction to middle/high school age students in several schools in rural South Korea
- Developed curricula for each school, tailoring to age and ability of students, as well as available resources (Printing, Audio/Video, Internet).
- Provided intensive classes for gifted students, native Korean ESL teachers, and students participating in academic competitions
- Consulted on choosing appropriate textbooks, workbooks, and curricula for upcoming semesters.

Lutron Electronics June 2006 - Sept 2007
Project Physicist - Existing Product Support *Coopersburg, PA*

- Reengineered Lutron's flagship products to meet and exceed environmental, cost, QA, supply chain, & production line constraints
- Oversaw day-to-day operation of Lutrons color compliance program
  - Mediated disputes with both suppliers and customers
  - Characterized different spectrophotometers for accuracy, precision and consistency
  - Drew up operation procedures and best practices for color measurement and quality control
  - Provided training to QA managers and project engineers

TECHNICAL PROFICIENCIES

Mill/Lathe Machining, ProE, Python, C, Matlab, SPICE, R, IDL, HTML, and CSS

INTERESTS

Homebrewing, Distance running, DIY Electronics