

PATRICK JAMES BYRNE

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EDUCATION

Columbia University

Ph.D. Candidate in Plasma Physics
M.S., M.Phil. in Plasma Physics

New York, NY, 2009-Present

Expected Graduation: August 2016

Carnegie Mellon University

B.S. in Physics
Minor in Engineering Studies

Pittsburgh, PA, 2002-2006

EXPERIENCE

United States Military Academy

Physics Instructor

Jun 2015 - Present

West Point, NY

- Teach four sections of calculus-based introductory physics in a classroom and laboratory setting.
- Study student outcomes in a university-wide analysis project prompted by curriculum changes.
- Maintain and track lab equipment used for classroom demonstrations and lab instruction.
- Maintain a gradebook and return timely feedback to cadets on all graded events, including instructor-designed homeworks and quizzes.
- Provide one-on-one and group office hours for additional instruction. Provide counsel to failing cadets on time-management, study habits, goal-setting and success strategies.

Columbia University Plasma Lab

Graduate Research Student

Aug 2009 - Present

New York, NY

- Thesis topic: Effects of Magnetic Shaping on MHD modes in Tokamaks.
- Designed, installed, and maintained a low-impedance/high-voltage, plasma-shaping electromagnet, including 2MW quick-start capacitive pulsed power supply and current monitor.
- Analyzed large and highly variable datasets to determine effects of shaping on plasma stability.
- Maintained, upgraded, and/or created all necessary diagnostics and simulation/analytic software.

Lutron Electronics

Project Physicist - Existing Product Support

June 2006 - Sept 2007

Coopersburg, PA

- Reengineered Lutron's flagship products to meet and exceed environmental, cost, QA, supply chain, and production line constraints.
- Oversaw day-to-day operation of Lutrons color compliance program.
 - Mediated Lutron's disputes with 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, Microsoft Office

INTERESTS

Homebrewing, Distance running, DIY Electronics