

Nick McGreivy

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- EDUCATION** *University of Pennsylvania* Philadelphia, PA
• B.A. in Physics; Computer Science and Math minors Expected May 2017
• GPA: 3.90; Physics GRE: 990
- HONORS AND AWARDS** 2016 Dean's Scholar: Nine students are selected for their outstanding academic achievements. Students are nominated by faculty. One of three juniors selected. Phi Beta Kappa (top 0.5% of junior class)
- RESEARCH EXPERIENCE**
- SULI Internship at PPPL* June - August 2016
- Used the edge-plasma code UEDGE to model the scrape-off layer of a Field-Reversed Configuration (FRC) reactor.
 - Wrote a set of scripts to run and analyze UEDGE in batch mode.
 - Evaluated the FRC for use as a direct-fusion drive rocket engine. Examined the effects of power input and gas flow on rocket thrust and specific impulse.
- TREND REU at the University of Maryland, College Park* June - August 2015
- Used to particle-in-cell code P3D to investigate the cause of high-energy He³ abundance enhancements in solar flares.
 - Found that low- β magnetic reconnection can generate a temperature anisotropy with $T_{\perp} > T_{\parallel}$.
 - Determined that such a temperature anisotropy can generate Alfvén-Cyclotron waves which resonantly heat He³.
 - Proposed a new mechanism for high-energy He³ abundance enhancements produced by impulsive flares.
- SNO+ Electronics Laboratory* October 2015 - Present
- Debugged and repaired circuit boards for the SNO+ neutrino detector.
 - From Dean's Scholar recognition ceremony: "He has distinguished himself in Professor Joshua Klein's group, quickly learning complex software tools and schematics while working to solve challenging problems related to the design and construction of data acquisition electronics for neutrino experiments."
 - Fully repaired two boards and partially repaired two others.
- TEACHING EXPERIENCE**
- PHYS 101 Learning Assistant (TA)* August - December 2015
- Coached non-majors through the process of solving physics problems. Co-led three recitations and hosted two office hours per week.
- PHYS 150 and 151 Tutor* August 2014 - May 2015
- Individual tutoring sessions five to seven hours per week.
- PHYS 230 Tutor* Fall 2016
- Volunteered to tutor two physics majors struggling with PHYS 230.

CONFERENCE PRESENTATIONS *2016 APS Division of Plasma Physics Meeting, San Jose CA*
Nicholas McGreivy, Amir Raja, Eugene Evans, Olivier Izacard, Tom Rognlien, S.A. Cohen. UEDGE modeling of a small-s FRC reactor's asymmetric scrape-off-layer (SOL).

2015 AGU Fall Meeting, San Francisco CA
Nicholas McGreivy, Marc Swidak, James Drake. A Mechanism for Helium-3 Abundance Enhancements in Solar Flares. Could not attend.

EXTRA-CURRICULAR ACTIVITIES

Varsity Track and Field

- Member during 2013-2014 and 2016-2017 seasons

Club Basketball

- Team Founder (2014), Treasurer (2014-15), Co-President (2015-16), President and Coach (2016-17)