Meridith P. Joyce

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Education

Ph.D. Astrophysics, Dartmouth College, 2015–present, *expected 2018*

M.S. Astrophysics, Dartmouth College, 2013–2015

B.S. Mathematics, Bucknell University, 2009–2013

B.S. Physics, Bucknell University, 2009–2013, *with concentration in Astrophysics*

Data Science and Software Engineering Skills

- Research in computational astrophysics using statistical methods and several programming languages daily
- Experience developing software in a group environment at MIT's Lincoln Laboratory
- Experience with Dartmouth's supercomputing cluster DISCOVERY and large UNIX clusters
- Experience developing software interfacing the Dartmouth Stellar Evolution Program (DSEP) code with the MESA (Modules for Experimentation in Stellar Astrophysics) code
- Experience executing grids of computationally intensive jobs, extracting information from large data, and processing large data sets such as astronomical catalogs

Languages

Python (numpy, scipy, matplotlib, subprocess, os, tkinter), bash, awk, Perl, R, Fortran, Mathematica, LaTeX (Beamer) MATLAB, IRAF, PyRAF, CSS, HTML, SQL, C, Java

Software

Linux/Unix environment (Ubuntu, Red Hat, CentOS), Subversion VCS, Windows OS, Mac OS, Microsoft Office (Word, Excel, Powerpoint), Ds9, Aperture Photometry Tool, Microsoft WorldWide Telescope, Android, Libre Office

Publications and Projects

- "Investigating the Consistency of Stellar Evolution Models with Globular Cluster Observations Via the Red Giant Branch Bump" *The Astrophysical Journal* Vol 18 No. 2; first author
  Recieved Chambliss Honorable Mention for presentation on this work at the 227th AAS meeting, 2016
- Participated in the MESA Astrophysics Summer School, 2015
- Worked as software engineer in 10-week paid internship at MIT's Lincoln Laboratory, 2015
- Presented graduate research at the 224th American Astronomical Society meeting, 2014
  Photometry on Metal-Poor Stars with HST Parallaxes
- REU at Fermi National Accelerator Laboratory: Published technical manual in the FNAL internal journal, 2012
  Testing the Response of Three PSF Fitting Methods
- REU at Bucknell University: Presented undergraduate research at the 219th AAS meeting, 2011
  Multi-Waveband Analysis of Three Blazars
- Culminating project for undergraduate concentration in astrophysics
  Composed stellar interior code in Python
- Culminating paper for mathematics degree
  The Role of Hyperbolic Geometry in Cosmology
- Culminating project for physics degree
  Investigation of Nuclear Magnetic Resonance

Outreach and Teaching

- Microsoft WorldWide Telescope project, 2012–2013
- Grace Hopper Celebration of Women in Computing conference, 2014
- Teaching assistant, Dartmouth, 2014–present
- Teaching assistant, Bucknell University, 2010–2013
- Dartmouth Fitness and Recreation dance instructor, 2015-present

Scholarships

- Research Assistantship under Professor Brian Chaboyer, Dartmouth College, 2014–present
- GAANN Fellowship, Dartmouth College, 2013–2014
- Bucknell University's Presidential Fellowship academic scholarship, 2009–2013