

# MEREDITH DURBIN

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## EDUCATION

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Expected May 2014	<b>Pomona College</b> B.A. in PHYSICS G.P.A. 3.5/4.0	August 2010	<b>Santa Rosa Junior College</b> A.S. in NATURAL SCIENCES Highest Honors
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## RESEARCH EXPERIENCE

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### Carnegie Observatories SUMMER 2013 - PRESENT

- Developed pipeline using IRAF, DAOPHOT, and Python to perform photometry, aperture correction, and calibrations on crowding- limited IRAC channels 1 & 2 data
- Produced new light curves & period-luminosity relations for RR Lyrae variables in globular clusters  $\omega$  Centauri and M54
- Investigated evidence for a metallicity term in the period-luminosity relation based on metallicities of individual  $\omega$  Centauri stars

### Pomona College Department of Physics & Astronomy SUMMER 2012

- Operated 1-meter telescope at Table Mountain Observatory to obtain polarimetry data on quiescent blazars & polarized standard stars
- Analyzed data in IRAF and Python to characterize telescope polarimeter & determine polarization of blazars

## TEACHING ASSISTANTSHIPS

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### Pomona College Department of Physics & Astronomy SPRING 2013 - PRESENT

- Assisted introductory astronomy students with homework sets and laboratory work, including telescope operation and imaging, software use, and data analysis
- Assisted introductory physics students with laboratory work, including experimental setup, troubleshooting, and data analysis

### Scripps College & W.M. Keck Joint Sciences SUMMER 2013

- Tutored post-baccalaureate premedical students in introductory physics, including Newtonian mechanics, electricity & magnetism, thermodynamics, and topics in modern physics

## SKILLS

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PROGRAMMING	Python (Matplotlib, NumPy, SciPy, AstroPy), Java, HTML/CSS, jQuery
SOFTWARE	IRAF/PyRAF, Mathematica, SolidWorks, L <sup>A</sup> T <sub>E</sub> X, Linux/UNIX, Adobe CreativeSuite (Dreamweaver, Photoshop, Illustrator, InDesign), Microsoft Office, Mac OS X

## SCIENCE COMMUNICATION & OUTREACH

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**Science & science fiction columnist**, *The Daily Geekette* 2014 - PRESENT

- Responsible for a biweekly column analyzing science fiction media from a scientific perspective, as well as intermittent science- and science fiction-related current events articles

**Co-founder**, ALPhA (“Awesome Ladies in Physics and Astronomy”) FALL 2013 - PRESENT

- Organized activities geared towards fostering community and support among women studying physics at Pomona, including discussion sessions & lunches with female faculty members

**Graphic designer & contributing artist**, Pomona College Physics Festival SPRING 2013

- Designed publicity posters and contributed concept art of a black hole accretion disk, two collages of HST images, and a demonstration of tri-color image manipulation

## PUBLICATIONS

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**The Mid-Infrared RR Lyrae Period-Luminosity Relation Derived from IRAC Data**

*Durbin, Meredith; Scowcroft, Victoria; et al.* In prep.

## PRESENTATIONS

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**The Mid-Infrared RR Lyrae Period-Luminosity Relation**

*Durbin, Meredith; Scowcroft, Victoria; et al.*

Contributed talk at APS CA/NV, Nov. 2013

**Performance of the Savart-Plate Polarimeter on the Pomona College 1-Meter Telescope at Table Mountain**

*Durbin, Meredith; Zook, Alma; et al.*

Poster presented at AAS 221, Jan. 2013

## REFERENCES

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### Dr. Victoria Scowcroft

Relationship: Research Supervisor  
Carnegie Observatories

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(626) 304-0234

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### Dr. Alma Zook

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Pomona College

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### Dr. Philip Choi

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