

MEREDITH DURBIN

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EMPLOYMENT

Space Telescope Science Institute

JUNE 2014 - PRESENT

Research & Instrument Analyst I

- PI of WFC3 Cycle 22 calibration proposals 14001 (IR Dark Monitor) & 14008 (UVIS Bowtie Monitor); CoI of proposal 14030 (WFC3 CSM monitor Earth Flats)
- Responsible for several characterization projects for WFC3/IR detector, including delivering updated bad pixel tables, studying effects of “blob” artifacts on point-source photometry, and investigating time evolution and aggregate photometric properties of transient “snowball” events
- Primary web developer for WFC3 “Quicklook” project & web content manager for WFC3 and Frontier Fields

EDUCATION

May 2014 **Pomona College**
B.A. in PHYSICS
G.P.A. 3.6/4.0

August 2010 **Santa Rosa Junior College**
A.S. in NATURAL SCIENCES
Highest Honors

RESEARCH EXPERIENCE

Carnegie Observatories

JUNE 2013 - MAY 2014

- Developed pipeline using PyRAF, DAOPHOT, and Python to perform PSF fitting, aperture correction, and flux calibration on crowding-limited IRAC channels 1 & 2 data
- Produced new light curves & period-luminosity relations for RR Lyrae variables in globular cluster ω Centauri
- Investigated evidence for metallicity effect in the period-luminosity relation based on metallicities of individual ω Centauri stars

Pomona College Department of Physics & Astronomy

MAY - AUGUST 2012

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

TEACHING & MENTORING EXPERIENCE

Teaching Assistant, Pomona College Dept. of Physics & Astronomy

JAN 2013 - MAY 2014

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

Tutor, Scripps College & W.M. Keck Joint Sciences

MAY - JULY 2013

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

Mentor, Claremont Colleges Queer, Questioning & Allied Mentor Program

SEPT 2011 - MAY 2012

- Helped students connect with the Claremont LGBT+ community, locate resources, and develop support networks

SKILLS

PROGRAMMING	Python (Matplotlib, NumPy, SciPy, AstroPy, Pandas, Flask/Jinja2), HTML/CSS, JavaScript/jQuery
SOFTWARE	IRAF/PyRAF, DAOPHOT, DOLPHOT, DrizzlePac/AstroDrizzle, Source Extractor, GALFIT, git/GitHub, APT, Mathematica, L ^A T _E X, Adobe CreativeSuite (Dreamweaver, Photoshop, Illustrator, InDesign)

PUBLICATIONS

Metallicity Effects in the Mid-Infrared RR Lyrae Period-Luminosity Relation

Durbin, M. J.; Scowcroft, V.; Freedman, W. L.; Madore, B. F.; Monson, A.; Seibert, M.; Rich, J. in prep.

PRESENTATIONS

The RR Lyrae Period-Luminosity Relation in IRAC Channels 1 and 2

Durbin, M. J.; Scowcroft, V.; Freedman, W. L.; Madore, B. F.; Monson, A.; Seibert, M.; Rich, J.

Lunch talk at STScI RIAB Science Lunch, Oct. 2014

Poster presented at AAS 224, June 2014

Contributed talk at APS CA/NV, Nov. 2013

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

Zook, A. C.; Carlson, E. K.; Durbin, M. J.; Goldman, R. T.

Poster presented at AAS 221, Jan. 2013

PROFESSIONAL MEMBERSHIPS

Junior Member, American Astronomical Society

MARCH 2014 - PRESENT

- Member, AAS WGLE (Working Group on LGBTIQ Equality), Feb 2015 - present

OUTREACH

Co-founder & coordinator, ALPhA (“Awesome Ladies in Physics and Astronomy”)

OCT 2013 - MAY 2014

- 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

APRIL 2013 & 2014

- Designed publicity posters and contributed several art pieces depicting astrophysical phenomena to the yearly Pomona College celebration of physics in the arts

HONORS & AWARDS

The Frank Parkhurst Brackett, Jr., and Davida Wark Brackett Prize, Pomona College

2014

- Awarded to an individual student as an incentive to excellence in advancing the study of astronomy, including astrophysics.

The Tileston Physics Prize, Pomona College

2011

- Given annually to outstanding first-year or sophomore students in the introductory courses and to the junior student in physics whose record in the department is judged most promising.

REFERENCES

Mr. Max Mutchler

Relationship: Branch Supervisor
Space Telescope Science Institute
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Dr. Alma Zook

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Dr. John Mackenty

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Dr. Philip Choi

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Dr. Victoria Scowcroft

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