Zachary Jennings

Email: zach.jennings@gmail.com | **Website:** zachjennin.gs | **Phone:** (831) 359-0324

I am a PhD candidate in Astronomy & Astrophysics with extensive training in graduate-level statistics. I have worked on many projects requiring one to start with raw astronomical data and independently perform calibration, measurement, statistical inference, and final write-up/presentation of results.

Education:

PhD, Astronomy and Astrophysics with Emphasis in Statistics (Expected June 2017)
University of California, Santa Cruz

MS, Astronomy and Astrophysics June 2014
University of California, Santa Cruz

BS, Physics and Astronomy, Honors June 2012
University of Washington, Seattle

Research Experience:

Graduate Student Researcher UC Santa Cruz (Summer 2012 - Current)

- Developed fully-Bayesian model for simultaneous selection of globular clusters and inference of their global parameters in extragalactic imaging data.
- Created photometric globular cluster catalogs for imaging data of nearby galaxies, containing thousands of sources.
- Helped maintain pipeline for calibration of large, wide-field Subaru telescope imaging for science measurement.
- Two published lead-author papers, nine more as contributing author in top astrophysics journals.

Undergraduate Researcher University of Washington (Fall 2010 - Summer 2012)

- Developed technique for predicting masses of supernova progenitor stars based on measured color and luminosity of surrounding stellar populations.
- Two published lead-author papers, two more as contributing author in top astrophysics journals.

Selected Honors and Awards

National Science Foundation Graduate Research Fellow Fall 2013 - Summer 2016

- Full support fellowship, awarded to top ~5% of science doctoral students across US.

Whitford Prize, UC Santa Cruz Summer 2014

- Department prize given to best graduate student in first two years.

Mary Gates Research Scholar, University of Washington Winter 2012

- Competitive scholarship to support proposed undergraduate research

Selected Teaching and Outreach:

Telescope Club Coordinator Fall 2012 - Current

- Organized and led several dozen amateur astronomy nights for local schools, companies, intro-astronomy classes at UCSC, and general public. Gave several public talks as components of these.

Teaching Assistant, Introduction to Scientific Computing Winter 2013

- Taught basic scientific computing skills to advanced science undergraduates

Selected Skills:

- Statistics: Probability, Regression, Bayesian Inference, Nonparametric Bayesian Statistics, Linear Modelling, MCMC, Machine Learning

- Computer Skills: Extensive: Python (including scipy, scikit-learn, pandas, emcee, ipython), IDL, LaTeX. Intermediate: R, LaTeX, HTML, Markdown, Unix, git