Steven Boada

Contact Information

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Research Interests

Experimental Cosmology, Very Large Surveys (DES, LSST, SDSS, ACT, SPT), Galaxy Clusters, High Performance Computing (HPC), Galaxy Evolution, Interacting Galaxies and Morphology.

Education

Texas A&M University, College Station, Texas USA

Ph.D. Candidate, Physics (Astronomy focus; expected graduation date: May 2016)

- Dissertation Title: "Galaxy Cluster Dynamics in the Era of Large Spectroscopic Surveys"
- Advisor: Dr. Casey Papovich

The University of Tennessee, Knoxville, Tennessee USA

M.S., Physics (Computational Astrophysics), August, 2009

- Thesis Title: "An Automated Approach to the Study and Classification of Colliding and Interacting Galaxies"
- Advisor: Dr. Michael Guidry

The University of Tennessee, Knoxville, Tennessee USA

B.S., Physics, May, 2007

Professional Experience

Texas A&M University, College Station, Texas USA

Research Assistant **August, 2010 - present**

The University of Tennessee, Knoxville, Tennessee USA

Research Assistant **August, 2007 - 2009**

National Center for Computational Science, Oak Ridge National Laboratory, Oak Ridge, Tennessee USA

Visiting Scientist **May, 2007 - August, 2009**

Carried out the computing projects required to complete Master's, including modeling of interacting galaxy systems, machine learning, and other HPC tasks.

Observing Experience

Proposals

- *Measuring the Masses of X-ray-Selected, Low-Mass Galaxy Clusters and Groups with Integral Field Spectroscopy*
  Co-I (PI: N. Mehrtens), McDonald Observatory, 4 nights awarded, 2013
- *Measuring the Masses of Galaxy Clusters with Integral Field Spectroscopy*
  Co-I (PI: C. Papovich), McDonald Observatory, 9 nights awarded, 2012
- *Measuring the Masses of Galaxy Clusters with Integral Field Spectroscopy*
  Co-I (PI: C. Papovich), McDonald Observatory, 5 nights awarded, 2012

Telescopes

- *Harlan J. Smith 2.7m Telescope, Mitchell Spectrograph (formerly VIURS-P)*, 20+ nights

Data Experience

- *Integral Field Spectroscopy*
- *Hubble Space Telescope Imaging*
- *Sloan Digital Sky Survey Imaging and Spectroscopy*

Computing Experience

Extensive experience in the processing and application of large astronomical data sets, including: the acquisition and reduction of optical integral field unit spectroscopy; querying large astronomical

databases such as the Sloan Digital Sky Survey and the Millennium Simulation; analysis of multi-wavelength imaging from the Hubble Space Telescope. Key computing skills include: mastery of the Python language, and the interface with other languages and tools; considerable experience with large multiprocessor applications (e.g. Gadget-2); supervised and unsupervised machine learning and optimization; GPGPU computing; and participation in open source and collaborative development, including version control.

Teaching and Outreach

Texas A&M University, College Station, Texas USA

Astronomy 111	**Spring, 2015**
Astronomy 314	**Fall, 2014**
Astronomy 314	**Fall, 2013**
Astronomy 111	**Spring, 2013**
Astronomy 314	**Fall, 2012**
Astronomy 314	**Fall, 2011**
Astronomy 111	**Spring, 2011**
Astronomy 101	**Fall, 2010**
Physics Festival	**2010 - present**

Nashville State Community College, Nashville, Tennessee USA

Adjunct Faculty **January, 2010 - May, 2010**

Primary instructor for introductory physics course, Conceptual Physics.

The University of Tennessee, Knoxville, Tennessee USA

Teaching Assistant **August, 2007 - 2009**

Academic Honors and Awards

The University of Tennessee: graduated Magna Cum Laude, Phi Beta Kappa, Sigma Pi Sigma, President, Society of Physics Students 2006 thru 2007

Grants and Awards

- *The Road to the Virgo Cluster: The DECam/IRAC Galaxy Environment Survey*
  Co-I, PI: C. Papovich, NSF Alliances for Graduate Education and the Professoriate, 2015

Posters and Presentations

Talk: CANDELS Team Meeting, University of Santa Cruz, Santa Cruz, CA July, 2015
Talk: CANDELS Team Meeting, STScI, Baltimore, MD July, 2014
Poster: Bashfest Symposium, University of Texas, Austin, TX October, 2013
Talk: CANDELS Team Meeting, University of Kentucky, Lexington, KY August, 2013
Poster: GMT Science Meeting, University of Chicago, Chicago, IL June, 2013
Talk: CANDELS Team Meeting, University of Santa Cruz, Santa Cruz, CA September, 2012
Poster: 219th AAS Meeting, Austin, TX January, 2012
Poster: Bashfest Symposium, University of Texas, Austin, TX October, 2011
Talk: Texas A&M Astronomy Symposium, Texas A&M University, College Station, TX August, 2011–13

References

Dr. Casey Papovich
Dept. of Physics & Astronomy
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Texas A&M University
College Station, Texas 77843-4242

Dr. Vithal Tilvi
ASU School of Earth & Space Exploration
PO Box 871404
Tempe, Arizona 85287-1404

Dr. Risa Wechslar
Dept. of Physics
Stanford University
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