

AMY FURNISS, PH.D.

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CURRICULUM VITAE

SCIENTIFIC INTERESTS

Gamma-ray astrophysics, active galactic nuclei, blazar environment, evolution and emission, extragalactic background light, intergalactic magnetic fields, extragalactic cosmic ray and photon propagation, relativistic acceleration mechanisms, non-thermal emission processes.

EMPLOYMENT HISTORY

PHYSICS ADJUNCT FACULTY
Foothill Community College - Los Altos Hills, CA 2014
PHYSICAL SCIENCE MATH AND ENGINEERING LEARNING CENTER
Foothill Community College - Los Altos Hills, CA 2014
PHYSICS LECTURER
University of California Santa Cruz - Santa Cruz, CA 2014
POST DOCTORAL FELLOW
Stanford University - Menlo Park, CA 2013-Present

ACADEMIC HISTORY

PH. D. PHYSICS
University of California Santa Cruz - Santa Cruz, CA 2013
MS PHYSICS
University of California Santa Cruz - Santa Cruz, CA 2009
BS PHYSICS
Humboldt State University - Arcata, CA 2006

TEACHING EXPERIENCE

2014 PHYS 2A General Physics (Foothill Community College) 45 students
2014 PHYS 6A Introduction to Classical Mechanics (UCSC) 300 students
2011 PHYS 160 Practical Electronics (Laboratory Course) (UCSC) 20 students
2008 PHYS 5M Introduction to Physics Lab: Mechanics (UCSC) 30 students
2008 PHYS 6M Introductory Lab: Electricity and Magnetism (UCSC) 30 students
Student mentees: 7 undergraduate students (B.S. in Physics)
3 graduate students (1 M.S. in Physics, 1 M.S. Astronomy)

RESEARCH

VERITAS BLAZAR SCIENCE WORKING GROUP CHAIR
Stanford University 2014
NUSTAR HARD X-RAY SATELLITE FULL TEAM MEMBER
Stanford University 2013-Present
VERITAS FULL MEMBER
University of California Santa Cruz/ Stanford 2007-Present
FERMI-LARGE AREA GAMMA-RAY TELESCOPE FULL MEMBER
University of California Santa Cruz/Stanford 2008-Present
CREATOR/COORDINATOR UCSC BLAZAR MONITORING PROGRAM
University of California Santa Cruz/UCO Lick Observatory 2009-2013
INTERGALACTIC MEDIUM PROGRAM STUDIES (IMPS)
University of California Santa Cruz/UCO Lick Observatory 2011-2013
ARECIBO LEGACY FAST ALFA RESEARCH ASSISTANT
Humboldt State University 2006

TEACHING WORKSHOPS ATTENDED

2014 Sep.	Association of Women in Physics Mentoring Program <i>Mentoring, where members are paired with a more senior scientists</i>	Stanford
2014 Apr.	Mentoring Matters, Parts 1-3 <i>An intensive training for mentorship at the postdoc level</i>	Stanford
2014 Mar.	Postdoc Academic Chat: Effective Teaching Skills <i>Two-day teaching improvement workshop for postdoctoral scholars</i>	Stanford
2014 Jan.	Getting Funding and How to Write a Grant <i>A one day workshop to improve postdoctoral science management skills</i>	Stanford
2014 Jan.	Postdoc Academic Chat: Blended Learning - What's all the Hype about? <i>Teaching students who lead blended lives (part virtual/part tangible)</i>	Stanford
2013 Oct.	Postdoc Teaching Workshop <i>Two-day teaching improvement workshop</i>	Stanford
2013 Sep.	Skills for Communication and Conflict Resolution <i>Women in Engineering and Science Workshop</i>	UC Santa Cruz
2013 Oct.	Math Anxiety Workshop for STEM Instructors <i>Women in Engineering and Science Workshop</i>	UC Santa Cruz

AWARDS AND DISTINCTIONS

2014	AAS Travel Grant Recipient - Conference Travel (Tokyo, Japan)
2013	AAS Travel Grant Recipient - Conference Travel (Turku, Finland)
2011	American Physical Society Margaret Burbidge Award for Best Experimental Research by a Graduate Student
2011	AAS Travel Grant Recipient - Conference Travel (Olos, Finland)
2010	AAS Travel Grant Recipient - Multiwavelength Graduate School Travel (Amsterdam, The Netherlands)
2010	Competitively selected for participation in the Summer Multiwavelength School of Astronomy in Amsterdam, The Netherlands
2007	Featured Article "It was a Galaxy Far Far Away But We Found It..." Annual CSU Humboldt State University Magazine

MEMBERSHIP AND SERVICES

2014	Member of Science and Engineering Graduate Women's Association
2014	Member of American Association of Physics Teachers
2013-2014	Founder and Mentor of <i>Having FUN (Fundamental Understanding of Nature)</i> Elementary School Science Program
2012	Science Fair Judge for Bay View Elementary School Science Fair
2010-2014	Member of American Astronomical Society
2010-2014	Member of American Physical Society
2010-2012	Nominated Service on VERITAS Time Allocation Committee
2007-2013	Member of UC Santa Cruz Women in Science and Engineering
2007-2012	Spokesperson highlighted on Humboldt State University Recruitment Video and Pamphlets for Undergraduate Studies in Physics

INVITED TALKS

- 2014 Apr. **Invited**, American Physical Society April Meeting, Savannah Georgia, *Very High Energy Blazars as Cosmological Probes*
- 2014 Mar. **Invited**, Kavli Institute of Physics, Chicago Illinois, *Very High Energy Blazars as Cosmological Probes*
- 2014 Feb. **Invited**, CCAPP, The Ohio State University, *Very High Energy Blazars: A Broadband Perspective*
- 2013 Oct. **Invited**, Center for Space Research Potchefstroom, South Africa, *Very High Energy Blazars: A Broadband Perspective*
- 2013 Oct. **Invited**, What are we learning from the gamma-ray sky? Conference Minneapolis MN, *View of the Extragalactic Sky from the Ground*
- 2013 Sep. **Invited**, PACIFIC 2013, *The Gamma-ray Spectrum of the Most Distant TeV-Emitting Blazar PKS 1424+240*
- 2013 Sept. **Invited**, Humboldt State Colloquium, *Very High Energy Blazars: A Broadband Perspective*
- 2013 Jun. **Invited**, UC Berkeley Colloquium, *Very High Energy Blazars: A Broadband Perspective*
- 2012 Aug. **Invited**, Santa Cruz Institute of Particle Physics Quark Net Outreach Project, *The Extreme Universe*
- 2011 Nov. **Invited**, Humboldt State University Colloquium, *Very-High Energy Astroparticle Physics: Providing a Peek at the Most Extreme Processes in the Universe*
- 2011 Apr. **Plenary Opening Speaker**, Beamed and Unbeamed Gamma-rays from Galaxies Conference Olos, Finland, *VERITAS Very High Energy Gamma-ray Observations of Galaxies*
- 2011 Mar. **Seminar**, Santa Cruz Institute of Particle Physics, *VERITAS Very High Energy Gamma-ray Observations of Galaxies*
- 2010 Aug. **Invited** Humboldt State University Colloquium, *The Extreme Universe, Observations of Very High Energy Phenomena with VERITAS*
- 2010 Sept. **Invited**, National Undergraduate Women in Physics Conference at University of California Santa Cruz, *The Extreme Universe, Observations of Very High Energy Phenomena with VERITAS*
- 2010 Oct. **Invited**, Meeting of University of California Santa Cruz Society of Physics Students, *The Extreme Universe, Observations of Very High Energy Phenomena with VERITAS*

ASTRONOMICAL OBSERVATIONAL AND INSTRUMENTAL EXPERIENCE

VERITAS Observatory	110+ nights of very high energy gamma-ray observations
Shane 3-m Observatory	15 nights - optical spectroscopy
Nickel 1-m Observatory	5 nights - optical photometry
Arecibo Observatory	7 nights - radio 21cm line survey spectroscopy

GRANTED PRINCIPLE INVESTIGATOR PROPOSALS (FUNDED)

2014 Fermi Cycle 7 Guest Investigator: <i>Using Gamma-ray Blazars for Cosmological Insight</i>	archival data
2013 Hubble Space Telescope COS: <i>Disentangling Signatures of Ultra-high-energy Cosmic Rays from a Unique Gamma-ray Blazar</i>	7 orbits granted
2013 Hubble Space Telescope STIS: <i>PG 1424+240: Too Distant to be Seen?</i>	5 orbits granted
2013 Fermi Cycle 6 Guest Investigator: <i>Joint analysis of Fermi/LAT and NuSTAR observations of blazars</i>	archival data
2012 Hubble Space Telescope COS: <i>Determining the Redshift of the Blazar 3C 66A for Studies of the Extragalactic Background Light</i>	3 orbits granted

GRANTED PRINCIPLE INVESTIGATOR PROPOSALS (UNFUNDED)s

2014: NuSTAR	<i>Observations of IES 1959+650</i>	40 ks
2014: NuSTAR	<i>Observations of PKS 1424+240</i>	40 ks
2014: VERITAS	Multiple: Very High Energy Blazar Observations	36 hours
2014 Swift	<i>NuSTAR Simultaneous Observations of IES 1959+650</i>	4ks
2013 Swift	<i>NuSTAR Simultaneous Observations of IES 0229+200</i>	5ks
2013 VERITAS	Directory Discretionary Time Request: <i>VERITAS Exposure of PKS 1424+240</i>	70 hours
2013 VERITAS	Directory Discretionary Time Request: <i>Simultaneous TeV X-ray Observations of Mrk 501</i>	19 hours
2013 Swift	<i>Target of Opportunity Observations of PKS 1424+240</i>	24ks
2013 VERITAS	Multiple: Very High Energy Blazar Observations	110 hours
2012 VERITAS	Multiple: Very High Energy Blazar Observations	30 hours
2012 Swift	<i>Target of Opportunity Observations of IES 1959+650</i>	5ks
2012 VERITAS	Multiple: Very High Energy Blazar Observations	50 hours
2011 VERITAS	Multiple: Very High Energy Blazar Observations	40 hours
2010 VERITAS	Multiple: Very High Energy Blazar Observations	120 hours
2010 IRAM	<i>A Search for CO emission from low redshift blazars</i>	64 hours
2009 VERITAS	Multiple: Very High Energy Blazar Observations	200 hours