Jason Melbourne, Ph.D.

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Education

Doctor of Philosophy, Astrophysics, UC Santa Cruz (2006)
Thesis: *The Optical and Infrared Evolution of Galaxies*. (Advisors, C. Max, D.C. Koo)

Master of Arts, Astronomy, Wesleyan University (2001)
Thesis: *Metal Abundances in KISS Galaxies*. (Advisor, J.J. Salzer).

Bachelor of Arts, Physics and Astronomy double major, UC Berkeley (1995)

Appointments

Postdoctoral Fellow, California Institute of Technology (2007-present)

Postdoctoral Fellow, Center for Adaptive Optics, UC Santa Cruz (2006-2007)

Grants

Panchromatic Hubble Andromeda Treasury, HST Multi-Cycle Treasury Program, 828 Orbits, HST-GO-12055.21 **Co.I. and Caltech P.I.** of sub-award $30,126 (2011).

Panchromatic Hubble Andromeda Treasury, HST Multi-Cycle Treasury Program, 828 Orbits, HST-GO-12055.21 **Co.I. and Caltech P.I.** of sub-award $28,718 (2010).

The Sites and Triggers of Star Formation in Large Disk Galaxies Since z=1, HST Archival Grant, AR-10965. **P.I.** $53,000 over 1 year (2006)

Selected Successful Proposals

The Local Group Infrared Cluster Survey, Keck adaptive optics imaging of clusters in M31 and M33 to constrain stellar evolution models. **P.I.** (2010)

Rest-frame Optical Spectroscopy of z=2 Dust Obscured Galaxies, Palomar Near-IR Spectroscopy with TripleSpec, **P.I.** (2009)

Resolved Stellar Populations of Dwarf Galaxies with Keck Adaptive Optics, Keck Laser Guide Star Adaptive Optics Imaging. **P.I.** (2008)

A Calibration Database for Stellar Models of Asymptotic Giant Branch Stars, HST Near-IR Imaging with WFC3, SNAP-11719, **Co. I.** (2008)

The Spatial Distribution of Warm Dust and PAH in Luminous Infrared Galaxies, Gemini Mid-IR Imaging with TReCS, **P.I.** (2008-09)

The Morphologies of z=2 Dust Obscured Galaxies, Keck Adaptive Optics Near-IR Imaging with NIRC2, **Co.I.** (2007)

Rest-frame Optical Morphologies of Galaxies in GOODS. Keck Laser Guide Star, Adaptive Optics Near-IR Imaging with NIRC2, **Co. I.** (2005-06)

Selected Recent Talks

The Far-IR Spectral Energy Distributions of z=2 Dust Obscured Galaxies; Not your Average z=2 ULIRGs
Conference: Through the Infrared Looking Glass, Pasadena CA (September 2011)

Black Hole Masses and Star Formation Rates of z=2 Dust Obscured Galaxies Revealed with Keck OSIRIS Integral Field Spectrscopy
Conference: The Starbust-AGN Connection: Madrid, Spain (September 2011)

Infrared Luminosities of AGB and RHeB Stars from HST WFC3: Implications for Measuring Stellar Masses of Galaxies
Colloquium, UC San Diego (May 2011), UCLA (May 2011), UC Irvine (April 2011), Columbia (March 2011), Harvard (March 2011)

The Contribution of Asymptotic Giant Branch Stars to the Infrared Luminosities of Galaxies: Implications for Measuring Stellar Masses of Galaxies
Conference, Vienna, Austria (September 2010)

Dust Obscured Galaxies at z=2
Colloquium, University of Hawaii (September 2010)

The Local Group Infrared Cluster Survey
Colloquium, UC Santa Cruz (April 2010)

Asymptotic Giant Branch Stars as Probes of Star Formation History
Conference, SAO, Russia (September 2009)

Rest-Frame Optical Spectral Diagnostics of z=2 Dust Obscured Galaxies
Conference, Charlottesville VA (September 2009)

Resolving Populations of Evolved Stars in Nearby Galaxies
AAS Meeting, Adaptive Optics Special Session, Pasadena CA (June 2009)

Morphologies of z=2 Dust Obscured Galaxies
Keck Science Meeting, University of California, Santa Cruz (September, 2008)

Probing the Decline of Star Formation Since z=1, with AO, Spitzer, and HST
Colloquium, University of Wisconsin, Madison (August 2008)

Exploring the Optical and Infrared Evolution of Galaxies
Colloquium, Institute for Astronomy, University of Hawaii, Manoa (October 2006)

The Center for Adaptive Optics Treasury Survey: Combining Adaptive Optics and Hubble Space Telescope Images to Study Distant Galaxies
Colloquium, Lawrence Berkeley National Laboratory (June 2006)

Teaching Experience

Adjunct Professor, *General Physics Laboratory,* Pomona College, Claremont, California (2010 -2011)
Introductory undergraduate physics lab. I developed two of the labs, (1) RC Circuits and Vision Biophysics, and (2) Introduction to Ray Optics and Optical Design. I helped test and design the other 20 labs, placing a focus on defining content and process goals. I helped to create a science writing assignment that mimics a conference proceeding. I designed and taught a mini-lecture with student involvement at the start of each lab.

Director and Lead Instructor, *Think Like an Astronomer,* Glendale Community College, Glendale, California (2010)
In an effort to promote science literacy, I have developed a 5-session astronomy short course for the general public. This course introduces major themes in astronomy through inquiry-based activities, and exquisite astronomical images.

Adjunct Professor*, Introduction to Astronomy Lecture and Lab Courses,*
Mt San Antonio Community College, Pomona, California (2009)
I developed and taught the curriculum, for this lecture and lab course, including a semester long Sun tracking lab, and a galaxy morphology inquiry activity.

Director and Lead Instructor, *The Keck Adaptive Optics Workshop,*
University of California Santa Cruz, Santa Cruz, California (2008)
I organized instructors and funding for a workshop on Keck adaptive optics instrumentation and observational techniques for the Caltech and UC Community.

Lead Instructor, *The Center for Adaptive Optics (CfAO) Mainland Short Course*
University of California Santa Cruz, Santa Cruz, California (2005)
A one-week course on astronomy, light, and optics to prepare undergraduates for summer research positions in the CfAO.

Teaching Assistant, University of California Santa Cruz (2001-2002)

Selected Students Advised

Gautam Upadhya, Caltech Summer Undergraduate Research Fellow (2011)
Tracking the Evolved Stars of M33 with Adaptive Optics Imaging in the Near-Infrared.

John Forbes, Caltech Summer Undergraduate Research Fellow (2009-2010)
Spatially Resolved Stellar Populations of z=1 Luminous Infrared Galaxies.

Steven Dabic, Caltech Summer Undergraduate Research Fellow (2008)
Inside-out Disk Growth in Intermediate Redshift Galaxies.

Abhiram Chivikula, Caltech Summer Undergraduate Research Fellow (2008)
Spectral Energy Distributions of High Redshift Dust-Obscured Galaxies.

Selected Professional Service

Referee, *The Astronomical Journal, The Astrophysical Journal, Publications of the Astronomical Society of the Pacific (2005-present)*

Science Organizing Committee*, Massive Galaxies 3,* Tucson, Arizona (2010)

NSF Panel Member, *Astronomy and Astrophysics Grants*, Arlington, Virginia (2007-2008)

Director and Lead Instructor, *The Keck Adaptive Optics Workshop,* University of California Santa Cruz, (2008)

Science Advisor, *The California Math and Science Project,* Watsonville, California (2005)