

Kristin Rose Kulas

Contact Information

Division of Physics & Astronomy
University of California, Los Angeles
430 Portola Plaza, Mail Code 154705
Los Angeles, CA 90095-4705
Website: www.astro.ucla.edu/~kkulas/

Office: Knudsen Hall 6-171
Knudsen Hall 3-145J
Phone: (310) 825-1666 (6-171)
(310) 794-5582 (3-145J)
Email: kkulas@astro.ucla.edu

Education

University of California, Los Angeles: Los Angeles, California USA

- Ph.D. track graduate student, Astrophysics, 09/2007 – 08/2012 (expected graduation date)
- M.S., Astronomy, 06/2009
- Main Advisor: Dr. Ian S. McLean
- Science Advisor: Dr. Alice Shapley

University of California, San Diego: La Jolla, California USA

- B.S., Physics with a specialization in Astrophysics, 09/2004 – 12/2006
- Advisor: (06/2006-12/2006) Dr. Tom Murphy
- Advisor: (03/2005-09/2005) Dr. Paolo Padoan

Sierra College: Rocklin, California USA

- A.S., Physics; A.S. Natural Sciences; A.A. Liberal Arts, 08/2001 – 12/2003

Research and Teaching Experience

University of California, Los Angeles:

Graduate Student Researcher

06/2008-present

- Instrumentation: I am leading the work on the characterization of the Hawaii2-RG detector, as well as working on the development of the detector systems, for MOSFIRE (**M**ulti-**O**bject **S**pectrometer **F**or **I**nfra**R**ed **E**xploration). MOSFIRE will be going on the Keck Telescope in Hawaii. (<http://irlab.astro.ucla.edu/mosfire/index.html>).

- Extragalactic Infrared Spectroscopy: I am currently studying multiple-peaked Ly α emission from star-forming galaxies at a redshift of $\sim 2-3$. With H α ($z \sim 2$) and [OIII] ($z \sim 3$) measurements provide critical constraints on the possible models that could create these profiles. These accurate models will be able to provide a greater understanding of galaxy feedback processes.

Teaching Assistant

F07, W08, S08, S09, W10, S10

- Led weekly labs for Astronomy 3, Introduction to Astronomy, which includes students from all disciplines and ages.

Teaching Assistant Coordinator (TAC)

Fall 2008

- Assisted with a class designed to help first year physics and astronomy graduate students learn how to teach labs and discussion sections in a confident manner.

University of California, Santa Cruz

Lab Design

08/2008 & 08/2009

- Designed an inquiry-based lab for the summer session of Astronomy 2 at UC, Santa Cruz through the CfAO's ISEE program. The lab was a total of six hours and was focused on teaching about the components that make up a spiral galaxy. The components that were investigated by the students were: gas, dust, stars, super massive black holes, and dark matter. A paper has been written about implementation of this lab and is published in the ASP Conference Series.

University of California, San Diego

Undergraduate Research

- (06/2006-12/2006) Programmed in C/C++ for the APOLLO program; specifically looking at the PSF of guide stars, as well as working on issues with fringing due to the optics of the instrument.
- (03/2005-09/2005) Programmed in IDL to create simulations to look at how the interstellar medium interacts depending on different grain sizes, speeds, and densities.

Lead Teaching Assistant

Winter 2007

- Lead the Physics 1A labs, which focused on mechanics. This lab was meant primarily for pre-medicine students. Duties included teaching labs, showing the other lab TA's how the lab was supposed to be conducted, and office hours.

- Taught the labs for the physics 1A, 1B, and 1C for two years and one quarter. The 1 series was meant primarily for the pre-medicine students at UC, San Diego. The labs covered a range of topic from mechanics, to electromagnetism, to optics.

Conference Posters & Proceedings

- Montgomery, R., **Kulas, K.**, (December 2010). *The Design and Implementation of the Galaxy Component Inquiry*. Presented at Learning From Inquiry in Practice: Santa Cruz, California. Astronomical Society of the Pacific, 2010, pg. 120
- McLean, I. S., Steidel, C., Epps, H., Matthews, K., Adkins, S., Konidaris, N., Weber, B., Aliado, T., Brims G., Canfield, J., Cromer, J., Fucik, J., **Kulas, K.**, Mace, G., Magnone, K., Rodriguez, H., Wang, E., and Weiss, J. (June 2010). *Design and Development of MOSFIRE: the Multi-Object Spectrometer for Infrared Exploration at the Keck Observatory*. Presented at SPIE 2010, San Diego California. Proc. SPIE 7735, 77351E (2010), DOI:10.1117/12.856715
- **Kulas, K.**, Shapley, A., Hainline, K., Kollmeier, J. (May 2010). *Kinematics of Multiple-Peaked Lyman Alpha Emission in Star-Forming Galaxies at $z \sim 2-3$* . Presented at 216th American Astronomical Society Meeting: Miami, FL.
- **Kulas, K.**, McLean, I. S. (January 2010). *Evaluation of the ASIC-Controlled H2-RG Science Grade Detector for MOSFIRE*. Presented at 215th Annual American Astronomical Society Meeting: Washington, DC.
- McLean, I. S., Steidel, C., Matthews, K., Epps, H., Adkins, S., Konidaris, N., **Kulas, K.**, & Collaborators (September 2009). *MOSFIRE: The Multi-Object Spectrometer For Infra-Red Exploration*. Presented at Keck Science Meeting 2009: Pasadena, California.
- **Kulas, K.**, McLean, I. S. (January 2009). *Evaluation of the ASIC-Controlled H2-RG Detector for MOSFIRE*. Presented at 213th Annual American Astronomical Society Meeting: Long Beach, California.

Organizations

American Astronomical Society

- Member from 08/2008 - Present.

Astronomy Live! - University of California, Los Angeles

- Co-Coordinator and founder of the UCLA Astronomy Outreach Program, Astronomy Live! (06/2009 – Present). Our goal is to inform the local community about the makings of our Universe in a fun, interactive way. We have our annual Exploring Your Universe event, which is free to the public. As well, we visit local schools to engage students interactively about astronomy. For more information please visit <http://www.astro.ucla.edu/~outreach/>

Astrophysics Club - University of California, San Diego

- President (09/2005-06/2006) and Vice President (09/2004-08/2005) of the Astrophysics Club. The main duties were to organize speakers to talk about their current research, as well as organize educational trips, such as visits to Palomar Telescope.