Jacob Edman

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Current

PhD Candidate, Department of Earth and Planetary Science — *2012-Present*
University of California, Berkeley

Research Interests

Atmospheric dynamics, tropical convection

Education

University of California, Irvine,

B.S., Physics — *June 2011*
B.S., Earth and Environmental Sciences — *June 2011*

- *Summa Cum Laude*, Honors in Physics, Campuswide Honors
- Honors Thesis in Physics, "Exploring the link between close companions and star formation history of isolated galaxies using SDSS data releases 6 and 7"

University of Edinburgh, United Kingdom — *Fall 2010*

Studied Physics, Geophysics

Honors and Awards

NSF Graduate Fellowship, Honorable Mention — *April 2012, 2013*

elected to Phi Beta Kappa — *June 2010*

elected to Sigma Pi Sigma — *June 2010*
- Physics Honor Society

Herbert Chen Award — *June 2010*
- Outstanding 3rd year in the UC Irvine physics department

UC Irvine Excellence in Writing: Science and Technology Award — *May 2010*

UC Irvine Dean's List — *2007 - 2011*

UC Irvine Campuswide Honors Program — *2007 - 2011*

Regents' Scholar, UC Irvine — *2007 - 2011*

National Merit Scholar — *2007 - 2011*

Research Experience

PhD Student — *August 2012 - Present*
Advisor: Professor David Romps
Department of Earth and Planetary Science, University of California, Berkeley

- Investigating the fundamental dynamics of tropical convention, including the response of tropical convection to climate change.
- Developing improved methods for parameterizing large-scale dynamics in single-column and cloud resolving models

Junior Specialist — *July 2011 - July 2012*
Supervisor: Professor James Famiglietti
UC Center for Hydrologic Modeling

- Develop high-resolution land surface and hydrologic models to better understand the response of California's hydrologic cycle to future climate change

Undergraduate researcher *September 2008 - June 2011*
Advisor: Professor Elizabeth Barton
Department of Physics, University of California, Irvine

- Studied galaxy evolution and triggered star formation using data from Sloan Digital Sky Survey

Richard Branson Sustainability Group *January 2011 - March 2011*

- Worked cooperatively with the Center for Unconventional Security Affairs to research ways to reduce outdoor water use in Southern California
- Submitted research and recommendations for expanding "smart timer" rebate programs to the Irvine Ranch Water District

Student Researcher *June 2010 - August 2010*
Advisor: Dr. Friedemann Freund
SETI Institute/NASA Ames Research Center

- Participated in the NSF-funded Research Experience for Undergraduates
- Conducted an independent project studying paleomagnetic signatures surrounding mid-ocean ridges

Undergraduate Research Assistant *October 2007 - June 2008*
Advisor: Professor Roger McWilliams
Department of Physics, University of California, Irvine

- Assisted graduate and undergraduate students with their research projects
- Main projects included a study of the properties of Xenon plasma and the construction of a one-atmosphere uniform glow discharge plasma generator

Publications

Edman, J. P., Barton, E. J. and Bullock, J. S. (2012), Exploring the links between star formation and minor companions around isolated galaxies. Monthly Notices of the Royal Astronomical Society, 424: 14541460. doi: 10.1111/j.1365-2966.2012.21335.x

Conference presentations

Solander, K., Edman, J., Lo, M, Reager, J.T., Thomas, B, David, C, Famiglietti, J.S., Singh, R.S., and Miller, N.L. Simulating reservoir operations in California for use in a coupled land-surface and human impacts model (CLM-HUM). abstract GC41A-0959:, Poster. 2012 Fall Meeting, AGU, San Francisco, Calif. 3-7 Dec.

Edman, J.P., Lo, M., and Famiglietti, J.S.. A high-resolution hydrologic model of California. abstract H41C-1045, Poster. 2011 Fall Meeting, AGU, San Francisco, Calif. 5-9 Dec.

Famiglietti, J. S.; Lo, M.; Kim, H.; Edman, J.; Sanders, B. F.; Castle, S.; Liu, Z.; Miller, N. L.; Singh, R. S.; Valentine, D. W.; Zaslavsky, I.. Accelerating the Development of Land Surface Hydrological Modeling to Address Societal Needs: Application of an Integrated Data and Modeling Framework to California. abstract GC34B-08, oral presentation at 2011 Fall Meeting, AGU, San Francisco, Calif. 5-9 Dec.

Edman, J.P., Freund, F.T., and Zhao, X. Magnetic Asymmetry of Mid-Ocean Ridges. abstract OS21C-1532, Poster. 2010 Fall Meeting, AGU, San Francisco, Calif. 13-17 Dec.