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; climate change

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*

Physics, Geophysics

Honors and Awards

NSF Graduate Research Fellow	*April 2014 - present*
NSF Graduate Fellowship, Honorable Mention	*April 2012, 2013*
elected to Phi Beta Kappa	*June 2010*
elected to Sigma Pi Sigma	*June 2010*
Herbert Chen Award (UC Irvine physics)	*June 2010*
UC Irvine Excellence in Writing: Science and Technology Award	*May 2010*
Regents' Scholar, UC Irvine	*2007 - 2011*
National Merit Scholar	*2007 - 2011*
UC Irvine Dean's List	*2007 - 2011*

Publications

Edman, J.P. and Romps, D.M. (2015), Self-consistency tests of large-scale dynamics parameterizations for single-column modeling, *Journal of Advances in Modeling Earth Systems*, 7, 320334, doi:10.1002/2014MS000378.

Chiang, J.C.H, Fung, I.Y., Wu, C., Cai, Y. , Edman, J.P., Liu, Y., Day, J.A., Bhattacharya, T., Mondal, Y., and Labrousse, C.A., (2015), Role of seasonal transitions and westerly jets in East Asian paleoclimate, *Quaternary Science Reviews*, **108**, 111-129, doi:10.1016/j.quascirev.2014.11.009.

Edman, J.P. and Romps, D.M. (2014), An improved weak pressure gradient scheme for single-column modeling. *Journal of the Atmospheric Sciences*. **71**, 2415-2429. doi:10.1175/JAS-D-13-0327.1

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**: 1454-1460. doi:10.1111/j.1365-2966.2012.21335.x

Conference presentations

Edman, J.P. and Romps, D.M. (2014) Parameterizing large-scale dynamics in single-column models with the weak-pressure-gradient approximation. Oral, 31st AMS Meeting on Hurricanes and Tropical Meteorology, San Diego, Calif, 30 Mar.

Edman, J.P. and Romps, D.M. (2013) Parameterizing large-scale dynamics with the weak pressure gradient approximation. abstract A33K-07, Oral. 2013 Fall Meeting, AGU, San Francisco, Calif, 9-13 Dec.

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. 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.

Research Experience

Graduate student researcher *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 methods for parameterizing large-scale dynamics in single-column and cloud resolving models

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

- Developed 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: Dr. Elizabeth Barton
Department of Physics, University of California, Irvine

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

Teaching Experience

Graduate student instructor *January 2015 - May 2015*
L&S 70B: Global Warming
Supervisor: Professor John C.H. Chiang and Professor Nathan Sayre
Department of Earth and Planetary Science, University of California, Berkeley

Graduate student instructor *August 2013 - December 2013*
EPS 181: Atmospheric Physics and Dynamics
Supervisor: Professor David Romps
Department of Earth and Planetary Science, University of California, Berkeley

Physics 2 Teaching Assistant *September 2009 - December 2009*
Supervisor: Professor Stephen Barwick
Department of Physics, University of California, Irvine