

Rita C. Economos
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Professional Experience:

- Assistant Professor, August, 2014, Southern Methodist University
- Staff Research Scientist, October, 2012 – June, 2014, University of California, Los Angeles, CA
- Post-doctoral Researcher, August 2010 – Sept. 2012, University of California, Los Angeles, CA
- Post-doctoral Researcher, July 2009 – June 2010, Indiana Univ.-Purdue Univ. Indianapolis, IN

Education:

- Ph.D., 2009, University of Southern California, Los Angeles, CA
- B.A., 2001, Mount Holyoke College, South Hadley, MA, Graduated Cum Laude

Grants and Awards:

- National Geographic Research and Exploration Grant, 2012
- National Science Foundation, Doctoral Dissertation Enhancement Proposal, 2008
- USC, College of Arts, Letters and Sciences summer travel fellowship, 2008
- USC, College of Arts, Letters and Sciences diversity fellowship, 2007
- Geological Society of America, research grant, 2007
- Earth Sciences Department award for teaching excellence, 2003, 2004, 2007, 2008
- Research Grant (2004,5), USC Dept of Earth Sciences, graduate student research fund
- Keck Fellowship, for academic excellence, 2003 from USC

Teaching Experience:

- **Instructor:** *Indiana University-Purdue University Indianapolis*
- Introduction to Geochemistry for graduate/senior undergraduate students
- **Teaching assistant and course developer:** *University of Southern California*
- Structural Geology, Petrology, Nature of Scientific Inquiry, Multimedia in the Core: The intersection of science and public policy
- **Teaching Assistant:** *University of Southern California*
- Mineralogy, Planet Earth, Crisis of a Planet

Mapping Experience:

- Sesia Valley, Ivrea-Verbano Zone, March 2013
- Joshua Tree National Park, California, March, June 2009
- Gobi-Tianshan intrusive complex, Gobi-Altai Province, Mongolia, July-August 2006, 2007, 2008
- Chandman Massif, Gobi-Altai Province, Mongolia July-August, 2005
- Tuolumne Batholith, Central Sierra Nevada Mountains, California, July-August, 2004
- Sierra San Pedro Martir, Baja California, Mexico, May, 2004

Extra-departmental activities:

- Workshop Organizer, Goldschmidt, Fall 2014, Arc Magmatism and Crustal Forensics in the Andes, Geological, Geochemical, Geophysical and Geochronological Perspectives
- Workshop Organizer, 2011, 2012, 2013 UCLA Ion Microprobe workshop for graduate students
- Session Chair, AGU, Fall 2011, Merging signals from the volcanic and plutonic realms
- Participant, Biennial Geochemical SIMS workshop, 2011
- Session Chair, Goldschmidt, 2010, Accessory Phase Elemental and Isotopic Geochemistry: Micro-Analytical Tools and Petrologic Applications
- Session Chair, AGU, Fall 2008, Arc Crustal Cross-Sections: Studies in the 4d Evolution of Arcs
- Participant, AGU, Fall 2008, Minerals, Inclusions and Volcanic Processes Short-course

Publications:

Franz, H.B., Kim, S-t., Farquhar, J.M., Day, J.M., **Economos, R.C.**, McKeegan, K.D., Schmitt, A.K., Irving, A.J., Hoek, J., Dottin, J., (2014) Isotopic links between atmospheric chemistry and the deep sulfur cycle on Mars, *Nature* vol. 508, 364-368.

Barth, A.P., Wooden, J.L., Jacobsen, C.E., **Economos, R.C.** (2013) Detrital Zircon as a proxy for tracking the magmatic arc system: The California arc example, *Geology*, vol. 41, no. 2, p. 223-226.

Economos, R.C., Paterson, S.R., Said, L.O., M.N. Ducea, Anderson, J.L., Padilla, A.J. (2012) Gobi-Tianshan connections: Isotopes and field observations from an early Permian arc complex in SW Mongolia. *Geological Society of America Bulletin*, Vol 124, no. 11-12, p. 1688-1701.

Paterson, S.R., Okaya, D., Memeti, V., **Economos, R.C.**, Miller, R.J., (2011) Magma addition and flux calculations of incrementally constructed magma chambers in continental margin arcs: Combined field, geochronologic and thermal modeling studies. *Geosphere*, Vol. 7, 1439-1468.

Economos, R.C., Paterson, S.R., Erdmann, S., Miller, J., Memeti, V., Zak, J., (2010) Causes of compositional diversity in a lobe of the Half Dome Granodiorite, Tuolumne Batholith, Central Sierra Nevada, CA. *Earth and Environment Transactions of the Royal Society of Edinburgh*, Vol. 100, p. 173 – 183.

Economos, R.C., Hanzl, P., Hrdlickova, K., Berianek, D., Said, L.O., Gerdes, A., Paterson, S.R., (2009) Geochemical and structural constraints on the magmatic history of the Chandman Massif of the eastern Mongolian Altay Range, SW Mongolia. *Journal of Geosciences*, Vol. 53, p. 335-352.

In Press: Carley, T., Miller, C., Wooden, J., Padilla, A.J., Schmitt, A.K., **Economos, R.C.**, Bindeman, I., Jordan, B. Iceland is not a magmatic analog for the Hadean: Evidence from the zircon record. **Earth and Planetary Science Letters**

In Revision: **Economos, R.C.**, Barth, A.P., Wooden, J.L., Paterson, S.R., Wiegand, B., Anderson, J.L., Roell, J.L., Palmer, E.F., Ianno, A.J., Howard, K.A. Geochemical evolution of the structurally stratified crust of a continental arc crustal section in the Eastern Transverse Ranges, California. **Journal of Petrology**.

In Preparation: **Economos, R.C.** and Boehnke, P. Sulfur concentration and isotope zoning in apatite crystals: implications and applications. **Science**

Peters, T.J., Simon, J.I., Jones, J.H., Usui, T., Moriwaki, R., **Economos, R.C.**, Schmitt, A.K., McKeegan, K.D. Tracking the Martian mantle olivine signature in olivine-hosted melt inclusions of two depleted shergottite meteorites, Yamato 980459 and Tissint. **Earth and Planetary Science Letters**

Selected Abstracts:

Economos, R.C., Boehnke, P. (2014) Sulfur concentration and isotope zoning in apatite crystals: implications and applications, Goldschmidt Annual Meeting, Sacramento, CA June 2014.

Lackey, J.S., Miller, J.S., **Economos, R.C.**, Davies, G.R. (2014) O-Hf isotope records in the Sierra Nevada Batholith. Goldschmidt Annual Meeting, Sacramento, CA June, 2014.

Economos, R.C., Quick, J.E., Sinigoi, S., de Silva, S. (2013) Zircon oxygen isotopes reveal Ivrea-Verbano Zone source characteristics of the Sesia Valley Caldera. AGU Fall Meeting, Dec 9-13, 2013.