

Andrew T. Fisher

Earth and Planetary Sciences Department, A209
University of California, Santa Cruz
1156 High Street
Santa Cruz, CA 95064

(831) 459-5598 (direct)
(831) 459-4089 (main office)
(831) 459-3074 (fax)
afisher@ucsc.edu

Education:

1984-89

Ph. D., University of Miami,

Marine Geology and Geophysics,

1980-84

B. S., Stanford University, Geology

Positions Held:

2003- Professor

Department of Earth and Planetary Sciences, UCSC;
also Institute for Geophysics and Planetary Physics
(Affiliated with Depts. of Environmental Studies, Ocean
Sciences, and Environmental Toxicology)

1999-03 Associate Professor:

Department of Earth Sciences, UCSC

1995-99 Assistant Professor:

Department of Earth Sciences, UCSC

1994-95 Graduate Faculty:

Department of Geological Sciences, Indiana University

1993-95 Associate Scientist:

Department of Geological Sciences and Indiana
Geological Survey

1993 Visiting Assistant Professor:

Department of Geophysics
Texas A & M University

1989-93 Adjunct Assistant Professor:

Department of Geophysics
Texas A & M University

1989-93 Staff Scientist:

Ocean Drilling Program, Texas A & M University

1988 Exploration Geologist:

Shell Western E & P, Inc.

Selected Honors and Synergistic Activities:

- Fellow of the Geological Society of America; JOI-USSSP Distinguished Lecturer; NSF-RIDGE Distinguished Lecturer; UCSC College 8 Service Award
- Teaches courses in Hydrology, Groundwater, Geological Principles, and Groundwater Modeling
- Supervised 27 undergraduate researchers during 2000-07, including seven REU scholars; UCSC Earth Sciences Department undergraduate faculty advisor, 1998-2001; graduate advisor: 2005-08
- Thirty-five invited presentations during 2000-07, including seven to non-scientific groups
- Seven oceanographic expeditions as chief or co-chief scientist, eight ocean drilling expeditions

Selected recent references (* student or former student co-author):

Fisher, A. T., Becker, K., Davis, E. E., Borehole-to-borehole hydrologic response across 2.4 km in the upper oceanic crust: implications for crustal-scale properties, *J. Geophys. Res.*, doi:10.1029/2007JB005447, 2008.

*Hutnak, M., **A. T. Fisher**, R. Harris, C. Stein, K. Wang, G. Spinelli, M. Schindler, H. Villinger, and E. Silver, 2008, Surprisingly large heat and fluid fluxes driven through mid-plate outcrops on 21–24 Ma seafloor, *Nature Geoscience*, doi: 10.1038/ngeo264, 2008.

* Ruehl, C., **A. T. Fisher**, M. Los Huertos, S. Wankel, C. Kendall, C. Hatch*, and C. Shennan. 2007. Nitrate dynamics within the Pajaro River, a nutrient-rich, losing stream. *Journal of North American Benthological Society*, 26(2): 191-206, 2007.

*Hutnak, M., **A. T. Fisher**, The influence of sedimentation, local and regional hydrothermal circulation, and thermal rebound on measurements of heat flux from young seafloor, *J. Geophys. Res.*, 112, B12101, doi:10.1029/2007JB005022., 2007.

* Hatch, C. E., **A. T. Fisher**, J.S. Revenaugh, J. Constantz, and C. Ruehl, 2006. Quantifying surface water - ground water interactions using time series analysis of streambed thermal records: method development, *Wat. Resour. Res.*, 42(10): 10.1029/2005WR004787, 2006.

* Ruehl, C., **A. T. Fisher**, C. Hatch, M. Los Huertos, G. Stemler*, and C. Shennan. 2006. Differential gauging and tracer tests resolve seepage fluxes in a strongly-losing stream. *Journal of Hydrology*, 300: 235-248.

*Hutnak, M., **A. T. Fisher**, L. Zuhlsdorff, V. Spiess, P. Stauffer, and C. W. Gable, Hydrothermal recharge and discharge guided by basement outcrops on 0.2-3.6 Ma seafloor east of the Juan de Fuca Ridge: observations and numerical models. *Geochemistry, Geophysics, Geosystems*, 7, Q07002, doi:10.1029/2006GC001242, 2006.

Fisher, A. T., Marine hydrogeology: future prospects for major advances, *Hydrogeol. J.*, 13: 69-97, DOI: 10.1007/s10040-004-0400-y, 2005.

Fisher, A. T., and Von Herzen, R. P., Models of hydrothermal circulation within 106 Ma seafloor: Constraints on the vigor of fluid circulation and crustal properties below the Madeira Abyssal Plain, *Geochem., Geophys., Geosystems*, 6(11): 10.1029/2005GC001013, 2005.

*Spinelli, G.A., and **Fisher, A. T.**, Hydrothermal circulation within rough basement on the Juan de Fuca Ridge flank, *Geochem., Geophys., Geosystems*, 5 (2), Q02001, doi:10.1029/2003GC000616, 2004.

Fisher, A. T., Stein, C. A., Harris, R. N., Wang, K., Silver, E. A., *Pfender, M., *Hutnak, M., Cherkaoui, A., *Bodzin, R., Villinger, H., Abrupt thermal transition reveals hydrothermal boundary and role of seamounts within the Cocos Plate, *Geophys. Res. Lett.*, 30 (11), 1550, doi:10.1029/2002GL016766, 2003.

Fisher, A., E.E. Davis, *Hutnak, M., Spiess, V., Zühlsdorff, L., Cherkaoui, A., *Christiansen, L., *Edwards, K.M., Macdonald, R., Villinger, H., Mottl, M., Wheat, C. G., and Becker, K., 2003, Hydrothermal circulation across 50 km on a young ridge flank: the role of seamounts in guiding recharge and discharge at a crustal scale, *Nature*, 421: 618-621, 2003.

Collaborators in last 48 months:

Becker, K. (U Miami); Bekins, B. (USGS), Clark, J. (UCSB); Constantz, J. (USGS); Cowen, J. (U Hawaii); Deshon, H. (University of Memphis); Davis, E. E. (PGC); Gable, C.W. (LANL); Edwards, K. (USC); Harris, R.N. (OSU); Johnson, H. P., (UW), Los Huertos, M. (CSUMB), Martinez, F. (U Hawaii); Pfender, M. (Federal Institute for Geosciences and Natural Resources); Ruppel, C. (USGS); Silver, E.A. (UCSC); Speiss, V. (University of Bremen); Stein, C. (University of Illinois Chicago); Villinger, H. (University of Bremen); Von Herzen, R.P. (WHOI); Wang, K. (Pacific Geoscience Center); Zuehlsdorff, L. (Norsar, Norway)

Graduate Advisor of co-PI:

Becker, K. (University of Miami)

Graduate Advisees of co-PI (as primary advisor):

Calla Schmidt, Andrew Racz, Tess Russo, Priya Ganguli, Christine Hatch (Ph. D., 2007; UNR), Mike Hutnak (Ph. D., 2007; USGS), Robert Sigler (M.S., 2007; CSUMB), Aaron Powers (M.S., 2007; Neilson Consulting), Greg Stemler (M.S., 2005, Geomatrix, Inc.), Chris Ruehl (M.S., 2004; UC Davis), Patrice Friedmann (M.S., 2003: Marina Coast Water District), Glenn Spinelli (Ph.D., 2002; NMT), Emily Giambalvo (Ph.D., 2001; Sandia), Joshua Stein (Ph.D., 2000; Sandia), Danielle Widemann (M.S., 2000, Sonoma County School District), Jonathan Lear (M.S., 2000; Balance Hydrologics), Jon Erskine (M.S., 1998; Northgate Consultants)