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Education

B.S. (Geology) Case Institute of Technology (CWRU), 1972
M.S. (Geology) State University of New York at Albany (SUNYA), 1975
Ph.D. (Geology) State University of New York at Albany, 1977

Work Experience

Professor, Department of Earth Sciences, Syracuse University, August 2006-present
Department Chair and Jessie Page Heroy Professor, Department of Earth Sciences, Syracuse University, 2007-2013
Fellow, Geological Society of America, 2006
Professor, Division of Earth & Ocean Sciences, Nicholas School of the Environment & Earth Sciences, Duke University, 1996-2006
Department Chair, Department of Earth & Ocean Sciences, Duke University, 1996-2000
Research Fellow, Danish Lithosphere Center, 1994-2000
Professor, Department of Geology, Duke University, 1992-1996
Associate Professor, Department of Geology, Duke University, 1986-92
Associate Scientist, Department of Geology and Geophysics, Woods Hole Oceanographic Institution, 1984-86
Summer Faculty Fellow, Department of Geology & Planetology, Jet Propulsion Lab, California Institute of Technology, 1984 and 1985
Assistant Scientist, Department of Geology & Geophysics, Woods Hole Oceanographic Institution, 1980-84
Postdoctoral Scholar, Woods Hole Oceanographic Institution, 1979-80
Postdoctoral Fellow, University of Toronto, 1977-79

Research Interests

The focus of my research is structural and tectonic analysis of rift and transform plate boundaries. investigations of contental extensional terranes, rifted continental margins, Iceland and mid-ocean ridges provide overlapping perspectives on crustal accetion across a spectrum of environments dominated by magmatic construction and mechanical deformation. I use outcrop-scale data collected from a wide range of research approaches including field geology, drone imaging, and seafloor investigations using submarines, ROV's, and AUV's to constrain larger-scale tectonic processes. The cross-pollination of data and processes from different environments helps to provide a more comprehensive understanding of crustal accretion on Earth and other planetary bodies.

Committee Responsibilities

Fellow of the Geological Society of America; American Geophysical Union; International Association of Structural and Tectonic Geologists; Working Group on Mediterranean Ophiolites

Major Publications

Karson, J.A., D.J. Fornari, D.S. Kelley, and M.J. Perfit, *Photographic Atlas of the Seafloor and Oceanic Crust* (working title), Cambridge University Press, 2015

Siler, D.L. and J.A. Karson, Segment-scale scale crustal accretion processes in Iceland, *Tectonics*, in preparation, 2013.

Karson, J.A., Geology of the Oceanic Crust, in Bickford, M.E., Geological Society of America, Special Paper, in preparation, 2015.

Worman, S.L., Pratson, L.F., Darrah, T.H., Karson, J.A. and Klein, E.M., A model for free H2 gas production by serpentinized peridotite within oceanic lithosphere globally, *Geology*, submitted, 2015.

Horst, A. J., R. J. Varga, J. S. Gee, J. A. Karson, Diverse magma flow directions during construction of sheeted dike complexes at fast- to superfast-spreading centers, *Earth Planet Sci. Let., 408,* 119-131, 2014.

Edwards, B.R., J.A. Karson, R.J. Wysocki, E. Lev, I. Bindemen and U. Kueppers, Insights on lava-ice/snow interactions from large-scale basaltic melt experiments, *Geology,* doi:10.1130/G34305.1, 2013.

Karson, J.A., K.L.C. Bell, A.F. Nanfito, D. Joyce, M. Cunha, J. Cristobo and E. Manhon, In search of serpentinization on Gorringe Bank, in Bell, K.L.C., K. Elliot, C. Martinez and S.A. Fuller, eds., New Frontiers in Ocean Exploration: The *E/V Nautilus* and NOAA Ship *Okeanos Explorer* 2011 Field Season, *Oceanography, 25* (1), supplement, 38-39, 2012.

Karson, J.A. and R.J. Wysocki, Do-it-Yourself Lava Flows: Science, art, and education in the Syracuse University Lava Project, *EARTH, 57, 9, 38-45*, 2012

Lev, E., M. Spiegelman, R.J. Wysocki, and J.A. Karson, Investigating lava flow rheology using video analysis and numerical flow models, *J. Volcanology Geothermal Res., 247-248, 62-73,* 2012.

Siler, D.L. and J.A. Karson, Focused subsidence during Tertiary crustal construction in the magmatic rift zones of Iceland: Structure and stratigraphy of the Vatnsdalur Flexural Basin, *Geol. Soc. Amer. Bull., 124*, doi:10.1130/B30562.1, 2012.

Horst, A.J., R.J. Varga, J. Gee and J. Karson, Paleomagnetic constraints on constructional deformation of superfast-spread oceanic crust exposed at Pito Deep Rift, *J. Geophys. Res*., *116*, B12103, doi:10.1029/2011JB008268, 2011.

Christeson, G.L., J.A. Karson, and K.D. McIntosh, Mapping of seismic layer 2A/2B boundary above the sheeted dike unit at intermediate-spreading crust exposed near the Blanco Transform,*Geochemistry, Geophysics, Geosystems (G-Cubed), 11*, Q03015, doi: 10.1029/2009GC002864, 2010.

Hayman, N.W. and J.A. Karson, Faulting and hydrothermal alteration in superfast spread crust of the East Pacific Rise exposed at Pito Deep, *G-cubed 10*, Q02013, doi:10.1029/2008GC002319, 2009.

Pollock, M.A., E.M. Klein, J.A. Karson and D.S. Coleman, Compositions of dikes and lavas from the Pito Deep Rift: Implications for accretion at superfast spreading centers, *Journal of Geophysical Research 114*, B03207, doi:10.1029/2007JB005436, 2009.
Siler, D.L. and J.A. Karson, Three-dimensional structure of inclined sheet swarms: Implications for crustal thickening and subsidence in the volcanic rift zones of Iceland, *J. Volcanology Geothermal Res., 188*, 333–346, 2009.