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Education:

1972 BS, University of Wisconsin, Madison
1981 BA, San Francisco State University
1985 Ph.D., University of California, San Diego

Positions Held:

2001-pres Senior Scientist, Dept. of Geology and Geophysics, WHOI
2010-pres Adjunct Professor, University of Maryland
2007-2010 IPA in the Ocean Drilling Program, Division of OCE at NSF
2001 Visiting Professor, Institut de Physique du Globe de Paris
1991-2001 Associate Scientist (tenured 1995), Dept. of Geology and Geophysics, WHOI
1998 Green Scholar, Green Foundation for Earth Sciences, IGPP, SIO
1987 Office of Naval Research Young Investigator
1987-1991 Assistant Scientist, Dept. of Geology and Geophysics, WHOI
1986-1987 Post-doctoral Scholar, Dept. of Geology and Geophysics, WHOI

Professional Experience:

2008 Ridge 2000 Distinguished Lecturer
2004 Co-Convenor, Ridge 2000 Mid-Atlantic Ridge Workshop, Providence
2002 Chair, Mentoring Taskforce, WHOI
2002-2004 Executive Committee, Ridge 2000
2000-2002 Executive Committee, U.S. Science Advisory Committee for IODP
2001 Committee Chair, Workshop on Data Management for Marine Geology and Geophysics
2000 Co-Convenor, Ridge 2000 Integrated Studies Workshop, Chicago
2000 Co-Convenor, Ridge 2000 Exploratory Studies Workshop, Albuquerque
1995-1999 Chair, Joint Committee for Marine Geology and Geophysics, MIT/WHOI
1988-1994 Associate Editor, Journal of Geophysical Research (Solid Earth)

Recent Scientific Committees:

2011-pres UNOLS Council
2011-2013 IEDA Data Policy Committee
2007-2010 NSF representative on IODP Council/International Working Group Plus
2006 NRC committee: Archiving Environmental and Geospatial Data at NOAA
2003-2004 InterRidge Steering Committee
2002- 2004 RIDGE 2000 Steering Committee
2002- 2004 RIDGE 2000 Executive Committee
2002-2003 NRC Committee to Review NOAA's National Geophysical Data Center
2000-2002 United States Science Advisory Committee (USSAC)
2000-2002 USSAC Executive Committee

2001 Centers of Ocean Sciences Education Excellence (COSEE) Implementation Steering Committee

National/International Workshops – Last 15 years:

2012 AGU's Science Policy Conference
2012 AGU Science Communication Training Workshop
2011 NCSE's National Conference on Science, Policy, and the Environment: Our Changing Oceans
2011 NOAA OER Atlantic Basin Workshop, URI Coastal Institute
2010 Reaching the Mantle Frontier Workshop, Carnegie Institution, Washington, DC
2009 INVEST – IODP New Ventures in Exploring Scientific Targets, Bremen Germany
2008 The Next Decade of the Seismogenic Zone Experiment, Mt. Hood, OR
2004 Ridge 2000 Mid-Atlantic Ridge Workshop, co-convener, Providence
2004 Seismo-Acoustic Applications in Marine Geology and Geophysics, Organizing Committee, Woods Hole
2004 Backarc Basins and Spreading Systems Workshop, Jeju Island, Korea
2003 COSEE National meeting, Washington, D.C.
2003 Cabled Regional Observatory meeting, invited, San Francisco
2003 Opportunities and Contributions of Asian Countries to the InterRidge Next Decade Initiative, invited, Beijing
2001 Data Management in Marine Geology and Geophysics Workshop, co-convener, La Jolla
2000 Ridge 2000 Integrated Studies Workshop, co-convener, Chicago
2000 Ridge 2000 Exploratory Studies Workshop, co-convener, Albuquerque
1999 Ridge 2000 Meeting, Newport
1999 RIDGE School invited lecturer, Cyprus
1999 Iceland Rift Zones Workshop, Iceland
1999 DEveloping Submergence SCience for the Next Decade: DESCEND Workshop, NSF

Panel Member/Proposal Reviewer:

National Science Foundation
National Oceanic and Atmos. Admin.
Hawaii Undersea Research Lab.
NERC – UK

Field Work – last 24 years:

2013 Chief Scientist, Mapping and sampling 16.5°N at the Mid-Atlantic Ridge, using AUV Sentry, TowCam, surface instruments, and dredges.
2012 Chief Scientist, Hydrophone deployment in the equatorial Atlantic.
2009 Co-Chief Scientist, Multibeam survey of the Galapagos triple junction.
2008 Co-Chief Scientist, Magnetic survey of the Galapagos triple junction.
2005 Chief Scientist, Geophysical survey of 13°N at the MAR.
2002 Co-Chief Scientist, Survey and sample Incipient Rift, 2°40'N at the EPR.

- 2001 Chief Scientist, Turnaround hydrophone array, multibeam mapping, camera work.
- 2000 Chief Scientist, Turnaround of hydrophone array, multibeam mapping.
- 1999 Co-Chief Scientist, Deployment of autonomous hydrophones in the North Atlantic
- 1998 Chief Scientist, DSL-120 kHz, ARGO-II survey, Puna Ridge, Hawaii.
- 1996 Participant, TOBI surveys MAR, 29° N, J.Cann and D.Blackman, co-Chief Scientists
- 1995 P.I., On land, Iceland, map/sample volcanic features.
- 1993/94 P.I., On land, Big Island of Hawaii, relate volcanic structures to those observed in sonar images of the seafloor.
- 1992 Co-Chief scientist, RRS Charles Darwin - TOBI surveys/Dredging of the axial zone of the MAR 24°-30°N.
- 1991 Participant, R/V T. Washington - SeaBeam/SeaMARCII surveys of the southern EPR, P. Lonsdale, Chief Scientist
- 1990 Participant, R/V M. Ewing - Hydrosweep/TOBI side-scan survey of the Reykjanes Ridge, L. Parson and R. Searle, co-Chief Scientists

Educational Public Web Sites Developed and Implemented:

- Puna Ridge Web Site, www.punaridge.org Goal: to integrate education and research by taking students and the public to sea “virtually” on a funded research cruise.
- Women Exploring the Oceans, www.womenoceanographers.org Goal: to engage the public and school children in the day-to-day lives of women in marine science.
- WHOI’s site for the New England Center for Ocean Sciences Education Excellence (NE-COSEE) partnership. Included information on NE-COSEE at WHOI activities, on-going projects and resources for scientists

Invited Talks - last 15 years:

- 2015 University of Maryland, Construction and evolution of the oceanic crust at the slow-spreading Mid-Atlantic Ridge
- 2015 NSF, Construction and evolution of the oceanic crust at the slow-spreading Mid-Atlantic Ridge
- 2014 WHOI Geodynamics seminar, Development of detachment faults at intermediate magma supply
- 2013 DESSC meeting, Development of detachment faults at intermediate magma supply, Fall AGU
- 2012 Smith, D. K.; The Unduly Complex Galapagos Triple Junction, Lamont Doherty Earth Observatory
- 2012 Smith, D. K.; The Unduly Complex Galapagos Triple Junction, University of New Hampshire (postponed for family reasons)
- 2010 Smith, D. K.; Opportunities in Ocean Drilling, Ocean Drilling Workshop, Fall AGU
- 2008 Smith, D. K., An Unexpected Graveyard of Core Complexes at the Mid-Atlantic Ridge, University of Rhode Island

- 2008 Smith, D. K., Blue Hill, Maine: New Wrinkles in the Fabric of the Seafloor, Marine Environmental Research Institute
- 2008 Smith, D. K., An Unexpected Graveyard of Core Complexes at the Mid-Atlantic Ridge, Arizona State University, Tempe
- 2008 Escartin, J.; Smith, D. K.; Cann, J.; Schouten, H., Role of detachment faulting in lithospheric accretion along slow-spreading ridges (MAR 12-35°N), EGU
- 2007 D. Smith, Marie Tharp's Crystal Ball, Marie Tharp symposium, Lamont Doherty Earth Observatory
- 2007 D. Smith, H. Schouten, J. Escartin, J. Cann, Unexpected Widespread Detachment Faulting During Formation of Lithosphere at the Northern Mid-Atlantic Ridge, Fall AGU
- 2007 J. Escartin, D. Smith, H. Schouten, J. Cann, Quantifying the role of active detachment faulting on lithospheric accretion along the Mid-Atlantic Ridge, Fall AGU
- 2004 Smith, D. K., Mid-ocean ridges: volcanoes under the sea, Seoul National University, Seoul, Korea
- 2003 Smith, D. K., Hydroacoustic studies of ocean ridge earthquakes, Beijing University, Beijing
- 2002 Smith, D. K., Monitoring low-level seismicity at the Mid-Atlantic Ridge using autonomous hydrophones, University of Massachusetts, Boston
- 2001 Smith, D. K., Monitoring low-level seismicity at the Mid-Atlantic Ridge using autonomous hydrophones, University of Paris
- 2000 Smith, D. K., Diking and eruption at a slow-spreading mid-ocean ridge, University of Rhode Island
- 2000 Smith, D. K., L. A. Dolby, E. Schiele, Education and ocean exploration, Ocean Sciences Meeting
- 2000 Smith, D. K., Lava depocenters on the summit of the Puna Ridge, Kilauea Volcano, Hawaii, University of New Hampshire
- 1999 Smith, D. K., Eruption characteristics at slow-spreading ridges, Georgia Institute of Technology
- 1999 Smith, D. K., Puna Ridge revisited, Scripps Institution of Oceanography
- 1999 Smith, D. K., Diking and eruption at a slow-spreading mid-ocean ridge, Lamont-Doherty Earth Observatory
- 1999 Smith, D. K., Volcanism at mid-ocean ridges, RIDGE School, Cyprus

Publications:

- Cann, J. R., D. K. Smith, J. Escartin, and H. Schouten, 2015, Tectonic evolution of 200 km of Mid-Atlantic Ridge over 10 million years - interplay of volcanism and faulting: *Geochem. Geophys. Geosyst.*, in revision.
- Carbotte, S.M., D. K. Smith, M. Cannat, and E. M. Klein, 2015, Tectonic and Magmatic Segmentation of the Global Ocean Ridge System: Synthesis of Observations and Definition of a Spreading Cell: *Geol. Soc. London, Special Volume, Magmatic Rifting and Active Volcanism*, 420, <http://dx.doi.org/10.1144/SP420.5>.

- Parnell-Turner, R., J. Cann, D.K. Smith, H. Schouten, D. Yoerger, C. Palmiotto, A. Zheleznov, H. Bai, 2014, Sedimentation rates test models of oceanic detachment faulting: *Geophys. Res. Letts.*, 41, 7080–7088, doi:10.1002/2014GL061555.
- Smith, D.K., Schouten, H., Dick, H.J.B., and Cann, J.R. and the scientific party of R/V Knorr 210-05, 2014, Development and evolution of detachment faulting along 50 km of the Mid-Atlantic Ridge near 16.5°N: *Geochem. Geophys. Geosyst.*, 15, doi:10.1002/2014GC005563.
- Smith, D.K., Schouten, H., Zhu, W., and Montesi, L., 2013, The recent history of the Galapagos Triple Junction preserved on the Pacific plate, *Geochem. Geophys. Geosyst.*, *Earth Planet Sci. Letts.*, 371-372, p6-15, <http://dx.doi.org/10.1016/j.epsl.2013.04.018>.
- Smith, D.K., 2013, Mantle spread across the sea floor, *Nature Geoscience*, 6, p. 247-248, doi:10.1038/ngeo1786.
- Smith, D.K., Escartín, J., Schouten, H., and Cann, J.R., 2012, Active long-lived faults emerging along slow-spreading mid-ocean ridges: *Oceanography*, v. 25, p. 94-99.
- Collins, J.A., Smith, D.K., and McGuire, J.J., 2012, Seismicity of the Atlantis Massif detachment fault, 30°N at the Mid-Atlantic Ridge: *Geochem. Geophys. Geosyst.*, p. in press.
- Dziak, R.P., Bohnenstiehl, D.R., and Smith, D.K., 2012, Hydroacoustic monitoring of oceanic spreading centers – past, present, and future.: *Oceanography*, v. 25, p. 116-127.
- Smith, D.K., 2011, Grid(s) of multibeam bathymetry at Galapagos Triple Junction: *Integr. Earth Data Appl.*, v. Palisades, New York, , p. doi:10.1594/IEDA/100005.
- Smith, D.K., Schouten, H., Zhu, W., Montési, L., and Cann, J.R., 2011, Distributed deformation ahead of the Cocos-Nazca Rift at the Galapagos Triple Junction: *Geochem. Geophys. Geosyst.*, v. 12, p. doi:10.1029/2011GC003689.
- Mitchell, G.A., Montési, L.G.J., Zhu, W., Smith, D.K., and Schouten, H., 2011, Transient rifting north of the Galápagos Triple Junction: *Earth Planet. Sci. Letts.*, v. 307, p. 461-469.
- Schouten, H., Smith, D.K., Cann, J.R., and Escartin, J., 2010, Tectonic versus magmatic extension in the presence of core complexes at slow-spreading ridges from a visualization of faulted seafloor topography: *Geology*, v. 38, p. 615-618; doi: 10.1130/G30803.1.
- Smith, D.K., Exon, N., Barriga, F., and Tatsumi, Y., 2010, Forty years of successful international collaboration in scientific ocean drilling: *EOS*, v. 91, p. 383-394.
- Llanes, P., Herrara, R., Gomez, M., Munoz, A., Acosta, J., Uchupi, E., and Smith, D.K., 2009, Geological evolution of the volcanic island La Gomera, Canary Islands, from analysis of its geomorphology: *Mar. Geology*, v. 264, p. 123-139, doi:10.1016/j.margeo.2009.05.001.
- Schouten, H., Smith, D.K., Montési, L., Zhu, W., and Klein, E.M., 2008, Unstable Northern Rifts of the Galapagos Triple Junction, Eastern Equatorial Pacific: *Geology*, p. 330-342, doi:10.1130/G24431A.1.
- Smith, D.K., Escartin, J., Schouten, H., and Cann, J.R., 2008, Fault rotation and core complex formation: Significant processes in seafloor formation at slow-spreading mid-ocean ridges (Mid-Atlantic Ridge, 13-25°N): *Geochem. Geophys. Geosyst.*, v. 9, p. Q03003, doi:10.1029/2007GC001699.
- Escartín, J., Smith, D.K., Cann, J., Schouten, H., Langmuir, C.H., and Escrig, S., 2008, Central role of detachment faults in accretion of slow-spread oceanic lithosphere: *Nature*, v. 455, p. 790-794, doi:10.1038/nature07333.
- Smith, D.K., Cann, J.R., and Escartin, J., 2006, Widespread active detachment faulting and core complex formation near 13°N on the Mid-Atlantic Ridge: *Nature*, v. 442, p. doi:10.1038/nature04950.

- Williams, C.M., Stephen, R.A., and Smith, D.K., 2006, Hydroacoustically-recorded seismicity at the intersection of the Atlantis (30°N) and Kane (23°40'N) Transform Faults with the Mid-Atlantic Ridge: *Geochem. Geophys. Geosyst.*, v. 7, Q06015, p. DOI 10.1029/2005GC001127.
- Gregg, P.T., Lin, J., and Smith, D.K., 2006, Segmentation of transform systems on the East Pacific Rise: Implications for earthquakes processes at fast-slipping oceanic transform faults: *Geology*, v. 34, p. doi: 10.1130/G22212.1, 289-292.
- Acosta, J., Uchupi, E., Smith, D.K., Munoz, A., Herranz, P., Palomo, C., Llanes, P., and Ballesteros, M., 2005, Comparison of volcanic rifts on La Palma and El Hierro, Canary Islands and the Island of Hawaii: *Mar. Geophys. Res.*, v. 24, p. 59-90.
- Smith, D.K., and Lemmond, P., 2005, Oceanographic Telecommuting: Going to Sea Virtually: *EOS*, v. 86, p. 333-334.
- Klein, E.M., Smith, D.K., Williams, C.M., and Schouten, H., 2005, Counter-rotating microplates at the Galapagos triple junction, eastern equatorial Pacific Ocean: *Nature*, v. 433, p. 855-858.
- Cann, J.R., and Smith, D.K., 2005, Evolution of volcanism and faulting in a segment of the Mid-Atlantic Ridge at 25°N: *Geochem. Geophys. Geosyst.*, v. 6, p. DOI 10.1029/2005GC000954.
- Dziak, R.P., Bohnenstiehl, D.R., Matsumoto, H., Fox, C.G., Smith, D.K., Tolstoy, M., T.-K., L., Haxel, J.H., and Fowler, M.J., 2004, P- and T-Wave Detection Thresholds, Pn Velocity Estimate, and Detection of Lower Mantle and Core P-Waves on Ocean Sound-Channel Hydrophones at the Mid-Atlantic Ridge: *Bull. Seism. Soc. Am.*, v. 94, p. 665-677, DOI: 10.1785/0120030156.
- Dziak, R.P., Smith, D.K., Bohnenstiehl, D.R., Fox, C.G., Desbruyeres, D., Matsumoto, H., Tolstoy, M., and Fornari, D.J., 2004, Evidence of a recent magma dike intrusion at the slow-spreading Lucky Strike segment, Mid-Atlantic Ridge: *J. Geophys. Res.*, v. 109, p. doi:10.1029/2004JB003141.
- Smith, D.K., Escartin, J., Cannat, M., Tolstoy, M., Fox, C.G., Bohnenstiehl, D., and Bazin, S., 2003, Spatial and temporal distribution of seismicity along the northern Mid-Atlantic Ridge (15°-35°N): *J. Geophys. Res.*, v. 108, p. doi: 10.1029/2002JB001964.
- Gregg, T.K.P., and Smith, D.K., 2003, Volcanic investigations of the Puna Ridge, Hawaii: relations of lava flow morphologies and underlying slopes: *J. Vol. Geotherm. Res.*, v. 126, p. 63-77.
- Bohnenstiehl, D.R., Tolstoy, M., Smith, D.K., Dziak, R.P., and Fox, C.G., 2003, Time-clustering behavior of spreading-center seismicity between 15-35N on the Mid-Atlantic Ridge: Observations from hydroacoustic monitoring: *Phys. Earth Planet. Int.*, v. 138, p. 147-161.
- Escartín, J., Smith, D.K., and Cannat, M., 2003, Parallel bands of seismicity at the Mid-Atlantic Ridge, 12-14N: *Geophys. Res. Letts.*, v. 30, p. doi:10.1029/2003GL017226.
- Perfit, M.R., Cann, J.R., Fornari, D.J., Engels, J., Smith, D.K., Ridley, W.I., and Edwards, M., 2003, Consequences of steam formation by seawater-lava interaction during submarine eruptions at mid-ocean ridges: *Nature*, v. 426, p. 62-65.
- Smith, D.K., Tolstoy, M., Fox, C.G., Bohnenstiehl, D.R., Matsumoto, H., and Fowler, M.J., 2002, Hydroacoustic monitoring of seismicity at the slow-spreading Mid-Atlantic Ridge: *Geophys. Res. Letts.*, v. 29, p. doi: 10.1029/2001GL013912.

- Smith, D.K., Kong, L.S.L., Johnson, K.T.M., Reynolds, J., and al., e., 2002, Volcanic structure of the Puna Ridge, Kilauea Volcano, in Takahashi, E., and al., e., eds., Evolution of Hawaiian Volcanoes: Recent Progress in Deep Underwater Research, Volume 128: Washington, D. C., AGU Monograph, p. 125-142.
- Zhu, W., Smith, D.K., and Montesi, L., 2002, Effects of regional slope on viscous flows: A preliminary study of submarine terrace emplacement at submarine volcanic rift zones: J. Vol. Geotherm. Res., v. 119, p. 145-159.
- Johnson, K.T.M., Reynolds, J., Smith, D.K., Kong, L.S.L., and Vonderhaar, D., 2002, Petrological systematics of submarine lavas from the Puna Ridge, Hawai'i: Implications for rift zone plumbing and magmatic processes, in al., E.T.e., ed., AGU Monograph: Evolution of Hawaiian Volcanoes: Recent Progress in Deep Underwater Research, Volume 128: Washington, D. C., AGU Monograph, p. 143-160.
- Dziak, R.P., Fox, C.G., Smith, D.K., Matsumoto, H., Bohnenstiehl, D., Haxel, J., and Fowler, M., 2002, Evidence of probable magmatic episode at the Lucky Strike Setment, Mid-Atlantic Ridge, March 2001: InterRidge News, v. 11, p. 29-31.
- MacLeod, C.J., Escartín, J., Banerji, D., Banks, G.J., Gleeson, M., Irving, D.H.B., Lilly, R.M., McCaig, A., Niu, Y.-L., Allerton, S., and Smith, D.K., 2002, Direct geological evidence for oceanic detachment faulting: The Mid-Atlantic Ridge, 15°45'N: Geology, v. 30, p. 279-282.
- Bohnenstiehl, D.R., Tolstoy, M., Dziak, R.P., Fox, C.G., and Smith, D.K., 2002, Aftershock sequences in the mid-ocean ridge environment: An analysis using hydroacoustic data: Tectonophysics, v. 354, p. 49-70.
- Smith, D.K., Tivey, M.A., Gregg, P., and Kong, L.S., 2001, Magnetic anomalies along the submarine Puna Ridge, Kilauea Volcano, Hawaii.: J. Geophys. Res., v. 105, p. 2721-2736.
- Parfitt, E., Gregg, T., and Smith, D.K., 2001, A comparison between subaerial and submarine fissure eruptions at Kilauea Volcano, Hawaii: J. Vol. Geotherm. Res., v. 113, p. 213-242.
- Jaroslow, G.E., Smith, D.K., and Tucholke, B.E., 2000, Record of seamount production and off-axis evolution in the North Atlantic Ocean, 25°25'-27°10'N: J. Geophys. Res., v. 105, p. 2721-2736.
- Smith, D.K., Tivey, M.A., and Schouten, H., 1999, Locating the spreading axis along 80 km of the Mid-Atlantic Ridge south of the Atlantis Transform: J. Geophys. Res., v. 104, p. 7599-7612.
- Smith, D.K., and Cann, J.R., 1999, Constructing the upper crust of the Mid-Atlantic Ridge; a reinterpretation based on the Puna Ridge, Kilauea Volcano: J. Geophys. Res., v. 104, p. 25379-25399.
- Blackman, D.K., Cann, J.R., Janssen, B., and Smith, D.K., 1998, Origin of extensional core complexes: Evidence from the Mid-Atlantic Ridge at Atlantis Fracture Zone: J. Geophys. Res., v. 103, p. 21,315-21,333.
- Cann, J.R., Blackman, D.K., Smith, D.K., McAllister, E., Janssen, B., Mello, S., Avgerinos, E., Pascoe, A.R., and Escartín, J., 1997, Corrugated slip surfaces formed at North Atlantic ridge-transform intersections: Nature, v. 385, p. 329-332.
- Spencer, S., Smith, D.K., Cann, J.R., Lin, J., and McAllister, E., 1997, Structure and stability of non-transform discontinuities on the Mid-Atlantic Ridge between 24°N and 30°N: Mar. Geophys. Res., v. 19, p. 339-362.
- Smith, D.K., Humphris, S.E., Tivey, M.A., and Cann, J.R., 1997, Viewing the morphology of the Mid-Atlantic Ridge from a new perspective: EOS, v. 26, p. 265, 269.

- Smith, D.K., 1996, Comparison of the shapes and sizes of seafloor volcanoes on Earth and “Pancake” domes on Venus: *J. Vol. Geotherm. Res.*, v. 73, p. 47-64.
- Head, J.W., Wilson, L., and Smith, D.K., 1996, Mid-ocean ridge vent morphology and structure: Evidence for dike widths, eruption rates, and evolution of eruptions and axial volcanic ridges: *J. Geophys. Res.*, v. 101, p. 28,265-28280.
- Little, S.A., and Smith, D.K., 1996, Fault scarp identification in side-scan sonar and bathymetry images from the Mid-Atlantic Ridge using wavelet-based digital filters: *Mar. Geophys. Res.*, v. 18, p. 741-755.
- Smith, D.K., Humphris, S.E., and Bryan, W.B., 1995, A comparison of eruptive units at the Reykjanes Ridge and the Mid-Atlantic Ridge, 24-30N: *J. Geophys. Res.*, v. 100, p. 22485-22498.
- Magde, L., and Smith, D.K., 1995, Seamount volcanism at the Reykjanes Ridge: Relationship to the Iceland hotspot: *J. Geophys. Res.*, v. 100, p. 8449-8468.
- Smith, D.K., Cann, J.R., Dougherty, M.E., Lin, J., Spencer, S., MacLeod, C., Keeton, J., McAllister, E., Brooks, B., Pascoe, R., and Robertson, W., 1995, Mid-Atlantic ridge volcanism from deep-towed side-scan sonar images, 25°-29°N: *J. Vol. Geotherm. Res.*, v. 67, p. 233-262.
- Cann, J.R., and Smith, D.K., 1994, Volcanoes of the mid-ocean ridges and the building of new ocean crust: *Endeavour, New Series*, v. 18, p. 61-66.
- Smith, D.K., and Cann, J.R., 1993, Building the crust at the Mid-Atlantic Ridge: *Nature*, v. 365, p. 707-715.
- Bemis, K.G., and Smith, D.K., 1993, Production of small volcanoes in the Superswell region of the South Pacific: *Earth Planet. Sci. Letts.*, v. 118.
- Little, S.A., Carter, P.H., and Smith, D.K., 1993, Wavelet analysis of a bathymetric profile reveals anomalous crust: *Geophys. Res. Letts.*, v. 20, p. 1915-1918.
- Parson, L.M., Murton, B.J., Searle, R.C., Booth, D., Evans, J., Field, P., Keeton, J., Laughton, A., McAllister, E., Millard, N., Redbourne, L., Rouse, I., Shor, A., Smith, D.K., Spencer, S., Summerhayes, C., and Walker, C., 1993, En echelon axial volcanic ridges at the Reykjanes Ridge: A life cycle of volcanism and tectonics: *Earth Planet. Sci. Letts.*, v. 117, p. 73-97.
- Smith, D.K., and Cann, J.R., 1992, The role of seamount volcanism in crustal construction at the Mid-Atlantic Ridge (24°N-30°N): *J. Geophys. Res.*, v. 97, p. 1645-1658.
- Smith, D.K., 1991, Seamount abundances and size distributions, and their geographic variations: *Rev. Aq. Sci.*, v. 5, p. 197-210.
- Smith, D.K., and Cann, J.R., 1990, Hundreds of small volcanoes on the median valley floor of the Mid-Atlantic Ridge: *Nature*, v. 344, p. 427-431.
- Smith, D.K., and Shaw, P.R., 1990, Seafloor topography: a record of a chaotic dynamical system?: *Geophys. Res. Lett.*, v. 17, p. 1541-1544.
- Shaw, P.R., and Smith, D.K., 1990, Robust description of statistically heterogeneous seafloor topography through its slope distribution: *J. Geophys. Res.*, v. 95, p. 8705-8722.
- Smith, D.K., and Shaw, P.R.S., 1989, Using topographic slope distribution to infer seafloor patterns: *IEEE J. Oc. Eng.*, v. 14, p. 338-347.
- Smith, D.K., 1988, Shape analysis of Pacific seamounts: *Earth Planet. Sci. Letts.*, v. 90, p. 457-466.
- Smith, D.K., and Jordan, T.H., 1988, Seamount statistics in the Pacific Ocean: *J. Geophys. Res.*, v. 93, p. 2899-2918.

- Shaw, P.R., and Smith, D.K., 1987, Statistical methods for seafloor topography: Geophys. Res. Lett., v. 14, p. 1061-1064.
- Smith, D.K., and Jordan, T.H., 1987, The size distribution of Pacific seamounts: Geophys. Res. Letts., v. 14, p. 1119-1121.
- Kim, I.I., Smith, D.K., Menard, H.W., Orcutt, J.A., and Jordan, T.H., 1987, Seismic reflection site survey: correlation with physical properties, in Menard, H.W., Natland, J.H., Jordan, T.H., and Orcutt, J.A., eds., Init. Repts. DSDP, 91: Washington, U.S. Government Printing Office.
- Jordan, T.H., Menard, H.W., and Smith, D.K., 1983, Density and size distribution of seamounts in the eastern Pacific inferred from wide-beam sounding data: J. Geophys. Res., v. 88, p. 10508-10518.