

Erik H. Hauri

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Born April 25, 1966, Waukegan, Illinois
Married, 3 children

Home Address: 12703 Young Lane
North Potomac, MD 20878
(301) 926-8011

B.S. (Honors) 1988, University of Miami, Coral Gables, Florida
Geology, Marine Science double major; Chemistry minor
Senior Thesis: "Radiocarbon Stratigraphy of a Native
American Settlement on the St. Johns River, Volusia
County, Florida"

Ph.D. 1992, Massachusetts Institute of Technology/Woods Hole
Oceanographic Institution Joint Program in Oceanography
Thesis Title: "Geochemical and Fluid Dynamic
Investigations into the Nature of Chemical
Heterogeneity in the Earth's Mantle"

Ph.D. ADVISORS: Stanley R. Hart, Nobu Shimizu

AWARDS AND HONORS

Isaac Bashevis Singer Fellowship, University of Miami, Florida, 1984
Outstanding Scholar Award, Department of Geology, University of Miami, Florida, 1988
Phi Beta Kappa, University of Miami, Florida, 1988
Ruth and Paul Fye Award, Best Student Paper, Department of Geology and Geophysics,
MIT-Woods Hole Joint Program in Oceanography, 1992
F. G. Houtermans Medal, European Association of Geochemistry, 2000
James B. Macelwane Medal, American Geophysical Union, 2000
Fellow, American Geophysical Union, 2000
Fellow, Geochemical Society, 2015
Fellow, European Association of Geochemistry, 2015

RESEARCH INTERESTS

Geochemical evolution of the Earth's mantle, crust and hydrosphere
Systematics and evolution of volatiles and stable isotopes in planetary bodies
Fluid dynamic and chemical effects of mantle convection and melt migration
Origin and genesis of hotspot magmas

Experimental studies of isotope and trace element partitioning

PROFESSIONAL EXPERIENCE

1992-1993 Postdoctoral Investigator, Woods Hole Oceanographic Institution
1994- Staff Scientist, Department of Terrestrial Magnetism,
Carnegie Institution of Washington
1995- Directing Scientist, CIW Ion Microprobe Facility
2016 Visiting Research Scientist, Lamont-Doherty Earth Observatory

PROFESSIONAL ENGAGEMENTS

Geochemical Society
American Geophysical Union
Geological Society of America
American Astronomical Society
American Association for the Advancement of Science
Session Chair (1995), Physics and Chemistry of Mantle Plumes, 1995 IUGG Meeting
Session Chair (1996), Element Partitioning Symposium, Goldschmidt Conference
Session Chair (1999), Solid Earth's Chemistry: Global Inventories and Fluxes, Fall AGU
Panel Member (1996), Workshop on the Future of Marine Geosciences (FUMAGES),
Consortium for Oceanographic Research and Education (CORE)
Panel Member (1997-1999), Proposal Review Panel, Marine Geology and Geophysics
Program, National Science Foundation
Editorial Board (1997-2002), Contributions to Mineralogy and Petrology
Editorial Board (1999-2002), Chemical Geology
Organizing Committee (1999), Workshop on Melt Inclusions, Grenoble, France
Organizing Committee (2000), Plume 3 Conference, Hawaii
Organizing Committee (2001), V.M. Goldschmidt Conference, Hot Springs, Virginia
Co-Editor (2001), Special Issue on Melt Inclusions, Chemical Geology
Panel Member (2001), RIDGE ISS panel
Organizing Committee (2002), V.M. Goldschmidt Conference, Davos, Switzerland
Panel Member (2005) Proposal Review Panel, MARGINS Program, National Science
Foundation
Session Organizer (2008), Geochemical Systematics of Mid-Ocean Ridges, Goldschmidt
Conference
Organizer (2009) MARGINS TEI workshop on Volatiles in Subduction Zones
Organizer (2009) workshop on Deep Carbon Cycle Reservoirs & Fluxes
Session Organizer (2010), Volatiles in Planetary Interiors, Goldschmidt Conference
Session Organizer (2011), Earth's Deep Carbon Cycle, Goldschmidt Conference
Chair (2011 – present), Reservoirs & Fluxes Directorate, Deep Carbon Observatory
Member (2011 – present), Executive Committee, Deep Carbon Observatory
Nominations Committee (2015 – present), Geochemical Society

INVITED SEMINARS

California Institute of Technology, 1992
University of Miami, 1993
Carnegie Institute of Washington, 1993

University of Rhode Island, 1993
Geological Society of Washington, 1994
Rutgers University, 1994
Smithsonian Institution, 1994
University of Maryland, 1995
University of California, Berkeley, 1996
Northern Illinois University, 1997
University of Miami, 1997
California Institute of Technology, 1998
University of Maryland, 1999
Georgia Tech, 2000
Duke University, 2000
University of Chicago, 2000
IRIS Annual Meeting, 2000
University of Michigan, 2001
CNRS, Aussois, France, 2001
Yale University, 2001
The Royal Society, 2002
Lamont-Doherty Earth Observatory, 2002
Brown University, 2004
University of Paris, 2006
Brown University, 2007
NASA Lunar & Planetary Institute, 2007
University of New Mexico, 2008
University of Texas, 2010
California Institute of Technology, 2010
EarthScope in Alaska workshop, 2011
A Wet vs Dry Moon Conference, 2011
Yale University, 2012
Massachusetts Institute of Technology, 2013
Stanford University, 2015
University of Oxford, 2016
American Museum of Natural History, 2016
Columbia University, 2016

RESEARCH GRANTS (PI only)

(34 completed projects, \$5.5M funding over 20 years)

"Rhenium-Osmium Isotopic Systematics of the Oceanic Crust", NSF-Marine Geology and Geophysics, 1994 (\$ 33,390 / 1yr).

"Experimental Investigations of Entrainment Mechanisms in Mantle Plumes", NSF-Geophysics, 1994 (\$ 20,000 / 1yr).

"Melt Migration from Mantle Plumes: Geochemical Studies of Xenoliths and Associated Basalts from Oceanic Islands", NSF-Petrology & Geochemistry, 1994 (\$100,000 / 2yr).

"Establishment of an Ion Microprobe Facility at the Carnegie Institution of Washington", NSF-Academic Research Infrastructure, 1994 (\$710,900 / 3yr).

"Establishment of an Ion Microprobe Facility at the Carnegie Institution of Washington", W.M. Keck Foundation, 1995 (\$350,000 / 1yr).

"SGER: Mapping and Stratigraphic Sampling of Lavas and Mantle Xenoliths at Rapa, Austral Islands (French Polynesia)", NSF-Petrology & Geochemistry, 1997 (\$10,000 / 1 yr).

"Sulfur Isotope Systematics of MORB", NSF-Marine Geology & Geophysics, 1997 (\$184,427 / 3 yrs).

"Facility Support for the CIW Ion Microprobe Laboratory", NSF-Instrumentation and Facilities, 1998 (\$273, 451 / 3 yrs)

"A comparative elemental and isotopic study of seawater component assimilation on the East Pacific Rise (EPR) using volatiles, halogens, boron and lithium" (w/ S. Shirey, P. LeRoux), NSF-Marine Geology & Geophysics, 1999 (\$198,235 / 3 yrs)

"Development of a large-radius multicollector SIMS" (w/ L. Brown), NSF-Instrumentation & Facilities, 2000 (\$108,298 / 1 yr)

"Re-Os Investigation of Drilled Lavas from the Hawaii Scientific Drilling Project", subcontract to NSF EAR-9528544 "Scientific Drilling in Hawaii: Physics and Chemistry of Mantle Plumes: (D.J. DePaolo, E.M. Stolper & D.M. Thomas PIs) (\$218,075 / 5 yrs)

Terrestrial ^{107}Pd - ^{107}Ag Systematics: Implications for mantle circulation, core-mantle exchange and the age of the Earth, (w/ R. Carlson) (\$269,035 / 3 yrs)

Collaborative Research: Geochemistry and whole-mantle convection, (w/ P. Van Keken), (\$70,000 / 3 yrs)

Collaborative Research: Constraining the volatile and slab flux in the Izu-Bonin-Mariana margin using geothermal fluids, phenocrysts and melt inclusions, (w/ T. Fischer, D. Hilton) (\$269,286 / 3 yrs)

Collaborative Research: Partitioning of Water Between Mantle Minerals and Silicate Melts, (w/ G. Gaetani) (\$119,411 / 3 yrs)

Collaborative Research: Volatiles in Aleutian-Alaska Arc Magmas, (w/ T. Plank) (\$47,571 / 1 yr)

NSF-EAR0623208, Collaborative Research: Volatiles in Aleutian arc magmas, (w/ T. Plank), 2 years, \$104,630

NSF-OCE, Group Proposal: PLUME - A seismic experiment to image the Hawaiian hotspot and swell, (w/ S. Solomon, G. Laski, J. Orcutt, R. Detrick, J. Collins, C. Wolfe, D. Bercovici), many years (!), \$211,530

NSF-OCE0623208, Collaborative Research: The role of water in the melting of oceanic mantle, (w/ K. Kelley), 2 years, \$28,371

NASA-00000092, Abundance and distribution of volatile elements in lunar magmas (w/ A. Saal), 2 years, 11,046

NSF-OCE0646868, Collaborative Research: Experimental investigation of water solubility in arc magmas at upper mantle conditions, (w/ G. Gaetani), 3 years, \$75,000

NSF-OCE0646869, Collaborative Research: Water, trace elements and slab dehydration across the Mariana and Izu-Bonin arcs, (w/ A. Shaw), 3 years, \$50,510

NSF-EAR0738741, Collaborative Research: Chemistry of the Earth's Deep Interior, (w/ Y. Fei), 3 years, \$227,234

NSF-EAR0809733, Collaborative Research: The Geodynamics of the Andean Southern Volcanic Zone, A Geochemical Approach, (w/ A. Saal), 3 years, \$218,313

NSF-EAR0809733, In Search of the Primitive Volatile Content of Lunar Magmas, (w/ A. Saal), 3 years, \$68,426

NSF-EAR0948478, Collaborative Research: Volatile Loss During Magma Ascent and Cooling, (w/ T. Plank), 3 years, \$58,413

NASA-NNX11AB27G, Nature and Effects of Lunar Volcanic Degassing, (w/ A. Saal, M. Rutherford), 3 years, \$69,582

Alfred P. Sloan Foundation, Deep Carbon Observatory-Reservoirs & Fluxes Community #1 (w/ Bernard Marty), 2 years, \$1,500,000

- (2011-2012) this grant funded the first 2 years of scientific research in the Reservoirs & Fluxes Community of the Deep Carbon Observatory, to initiate scientific research within the community focused on the pathway that carbon follows from its emergence into the surface carbon cycle at mid-ocean ridges, its sequestration into subducting oceanic crust and its transfer back into the upper mantle at subduction zones, the release of carbon from the subducting oceanic plate, and carbon's re-emergence at the surface in the magmatic outgassing of subduction zone volcanoes. The research involved 9 different science teams composed of 17 scientists, 12 postdoctoral researchers, and 14 graduate students from 12 different countries.

Richard Lounsbery Foundation, Deep Earth Carbon Degassing (DECADE) 1 year, \$100,000

- to initiate instrument development toward automated continuous measurements of SO₂ and CO₂ gas fluxes from the world's most active volcanoes.

Alfred P. Sloan Foundation, Deep Carbon Observatory-Reservoirs & Fluxes Community #2 (w/ Bernard Marty), 2 years, \$1,250,000

- this grant funded the 2013-2014 scientific research in the Reservoirs & Fluxes Community of the Deep Carbon Observatory, to initiate scientific research within the community focused on the pathway that carbon follows from its emergence into the surface carbon cycle at mid-ocean ridges, its sequestration into subducting oceanic crust and its transfer back into the upper mantle at subduction zones, the release of carbon from the subducting oceanic plate, and carbon's re-emergence at the surface in the magmatic outgassing of subduction zone volcanoes. The research involved 9 different science teams composed of 17 scientists, 12 postdoctoral researchers, and 14 graduate students from 12 different countries. I participated in 4 of these research teams:

Carbon Inventory of Oceanic Basalts and the Oceanic Upper Mantle (w/ K. Kelley & E. Cottrell), 2 years, \$153,000 (begun w/ funds from RF#1)

- to begin an analytical program to measure directly and map the carbon flux from the mantle to the Earth's surface via the global mid-ocean ridge system, utilizing global volcanic glass collections at the Smithsonian Institution and other collections around the world that cover 85% of the global ocean ridge system

Eruption Dynamics and Carbon Footprint of Active Hawaiian Volcanoes, 2 years, \$150,000 (begun w/ funds from RF#1)

- to use submarine glasses and melt inclusions to determine the extent of volatile-element variations in the mantle sources of Hawaiian tholeiitic shield volcanoes; and to use melt inclusions and melt embayments to estimate the ascent velocities of Hawaiian eruptions.

Storage Capacity and Partitioning of Carbon in Upper Mantle Minerals (w/ M. Hirschmann), 2 years, \$60,000 (begun w/ funds from RF#1)

- to determine the storage capacity of carbon in the principal minerals of the Earth's upper mantle and transition zone, and the partitioning of carbon (and non-volatile proxy elements for carbon) between these minerals and carbonated melts

DECADE – Volcanic Deep Earth Carbon Degassing (w/ T. Fischer, A. Aiuppa, P. Allard, B. Galle), 2 years, \$500,000

- The DECADE group is an international research network dedicated to the study of carbon fluxes from the deep Earth through volcanoes. In order to sharpen global estimates of carbon fluxes out of volcanoes, over the next 6 years this group will install CO₂ monitoring networks on 25 of the world's 150 most actively degassing volcanoes and undertake related studies (direct gas sampling and analysis, melt inclusions, satellite monitoring) to provide new data for direct degassing of deep Earth carbon to the hydrosphere by volcanic emissions. Stations are currently installed at Kilauea, Etna, Montserrat, Turrialba, Poas and Masaya, with Galeras and Villarrica being installed in the 2014 austral summer.

NSF-OCE0962109, Collaborative Research: The Volatile Contents of Seamount and Intra-Transform Lavas from the EPR: Deconstructing the Aggregation Process in MORB, (w/ A. Saal), 3 years, \$57,813

- to determine the abundance of H₂O, CO₂ and other volatiles in primitive magmas from near-ridge seamounts and intra-transform spreading centers, to bypass the processes inherent in long-lived axial magma chambers and obtain a more direct measure of the extent and origin of chemical variability in the upper mantle beneath Pacific mid-ocean ridges.

NSF-EAR1049992, Diamonds Through Time and Space: Unique Windows on Mantle Evolution, (w/ S. Shirey), 3 years, \$290,992

- to understand how diamond formation is related to the broader geodynamic processes of mantle convection, subduction, and craton stabilization; to use the uniquely preserved mineral grains in diamonds to identify their sources in recycled crustal components, mantle endmembers, or the melts/fluids from which the diamonds crystallize; and to use the composition, water content and ages of inclusions to begin to assemble a picture of mantle volatile distribution in the Earth's deep interior free from the uncertainties imparted by magmatic differentiation.

NSF-EAR1145120, Hawaiian and Subplinian Volcanism: Constraints on Eruption Dynamics from Kilauea (B. Houghton, T. Plank & E. Hauri, PIs), 2 years, \$99,352

- to determine the effect of CO₂ and H₂O on the ascent, storage and eruption of Hawaiian magmas, and to evaluate possible correlations between primary magma volatile content, ascent rate, storage time and eruption energy

NASA-NNX12AH62G, Abundance, Distribution and Origin of Volatile Elements and δD in Lunar Picritic Glasses, \$110,246

- to determine the origin of water and other volatiles in the Moon's interior, as determined by concentration and isotopic composition of volatiles in lunar pyroclastic glasses and melt inclusions

(1 active grant)

Alfred P. Sloan Foundation, Deep Carbon Observatory-Reservoirs & Fluxes Community #3 (w/ Marie Edmonds), 2 years, \$1,250,000

- this grant is funding the 2014-2015 scientific research in the Reservoirs & Fluxes Community of the Deep Carbon Observatory, to initiate scientific research within the community focused on the pathway that carbon follows from its emergence into the surface carbon cycle at mid-ocean ridges, its sequestration into subducting oceanic crust and its transfer back into the upper mantle at subduction zones, the release of carbon from the subducting oceanic plate, and carbon's re-emergence at the surface in the magmatic outgassing of subduction zone volcanoes and tectonically active areas. The research involves 9 different science teams composed of 17 scientists, 12 postdoctoral researchers,

and 14 graduate students from 12 different countries. I am currently participating in three of these projects:

DECADE – Volcanic Deep Earth Carbon Degassing (w/ T. Fischer, T. Lopez, A. Aiuppa, P. Allard, N. Bobrowski, B. Galle), 2 years, \$550,000

- The DECADE group, consisting of 23 researchers from 10 countries, is an international research network dedicated to the study of carbon fluxes from the deep Earth through volcanoes. In order to sharpen global estimates of carbon fluxes out of volcanoes, over the next 6 years this group will install CO₂ monitoring networks on 25 of the world's 150 most actively degassing volcanoes and undertake related studies (direct gas sampling and analysis, melt inclusions, satellite monitoring) to provide new data for direct degassing of deep Earth carbon to the hydrosphere by volcanic emissions. Stations are currently installed at Kilauea, Etna, Montserrat, Turrialba, Poas and Masaya. In the coming 2 years, installations will be completed at Villarica (first installation destroyed by the 2014 eruption), Ubinas, Merapi, Nevado del Ruiz and White Island. A major effort ongoing within DECADE is to establish formal collaborations between the DCO and the national volcano observatories of the United States, France, Italy, Japan, Indonesia, New Zealand, Central and South America, among others.

DMGC – Diamonds and Mantle Geodynamics of Carbon (w/ G. Pearson, S. Shirey, P. Cartigny), 2 years, \$200,000

- The DMGC, consisting of 28 researchers from 11 countries, represents a new international infrastructure for diamond research to advance studies of natural diamonds, their mineral and fluid inclusions, and experiments on diamond-forming fluids/melts for the understanding of carbon mobility in Earth's mantle. Associated activities include assembly of virtual and actual diamond collections for collaborative research, a database of diamond and inclusion chemistry (Diamond DB), a training program for students and postdoctoral researchers engaged in diamond research (International Diamond School), and outreach activities through the Gemological Institute of America (GIA), the Mineralogical Society of America (MSA), and the DCO Public Engagement group.

Global Cycling of Deep Earth Carbon (w/ E. Cottrell, M. Behn, M. Spiegelman, A. Lenardic), 2 years, \$200,000

- This effort will seek to build the first deep Earth circulation model to simulate and test the distribution of carbon throughout Earth's interior. The deep Earth carbon community lacks a basic global circulation model informed by geochemical research and experiments—a model necessary to describe the distribution of carbon with the vast depths of Earth inaccessible to sampling (even by diamonds). Actualized carbon circulation models have begun at Yale (Bercovici), Rice (Lenardic), Lamont-Doherty Earth Observatory (Marc Spiegelman) and Woods Hole (Mark Behn) through RF collaboration with the geophysical fluid dynamics community. This group is beginning to model the movement of carbon within the Earth via the study the transport of magma and gas within volcanoes, within ocean ridges and subduction zones, and within the

deepest Earth via the motions of the deep interior driven by the distribution of density variations within Earth and the interaction of subducted tectonic plates with phase transitions in Earth and with Earth's core. Further participation in this effort will be forthcoming as a result of the DCO Modeling and Visualization workshop to be held at the Smithsonian Institution in the spring of 2015.

STUDENTS AND POSTDOCS ADVISED

Students

Alberto Saal (1996-1999) Ph.D., Woods Hole Oceanographic Institution
Rhea Workman (2002-2005) Ph.D., Woods Hole Oceanographic Institution
Matthew Jackson (2005-2008) Ph.D., Woods Hole Oceanographic Institution
Adam Sarafian (2015 – present), Ph.D. candidate, Woods Hole Oceanographic Institution

Postdocs

John Lassiter (1996-1999) NSF Fellow
William Minarik (1997-1999) DTM-GL Joint Fellow
Aaron Pietruszka(1998-2001) DTM Fellow
Karl Kehm (1999-2001) DTM-NASA Astrobiology Fellow
James Van Orman (2000-2002) DTM-GL Joint Fellow
Petrus LeRoux (2000-2003) NSF Associate
Katherine Kelley (2003-2005) DTM Fellow
Alison Shaw (2003-2005) NSF Associate
Maria Schönbacher (2003-2005) NSF Associate
Julie O'Leary (2007-2009) DTM Fellow
Matthew Jackson (2008-2009) DTM Fellow
Frances Jenner (2011-2013) DTM Fellow
Marion LeVoyer (2012-2015) Deep Carbon Observatory Fellow
Jared Marske (2012-2015) Deep Carbon Observatory Fellow
Kei Shimizu (2016 – present) Deep Carbon Observatory Fellow
Jonathan Tucker (2016 – present) Deep Carbon Observatory Fellow

PUBLICATIONS

152 publications

9,012 citations, H-index = 53 (Web of Science)

11,566 citations, H-index = 59 (Google Scholar)

Hauri, E.H., Geochemical and fluid dynamic investigations in the nature of chemical heterogeneity in the Earth's mantle, PhD thesis, Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, <http://hdl.handle.net/1912/5485>.

Hart, S.R., Hauri, E.H., Oschmann, L.A., Whitehead, J.A. Mantle plumes and entrainment: the isotopic evidence, *Science*, **256**, 517-520, 1992.

Hauri, E.H., Hart, S.R. Re-Os isotope systematics of HIMU and EMII oceanic island basalts from the south Pacific Ocean, *Earth Planet. Sci. Lett.*, **114**, 353-371, 1993.

- Hauri, E.H., Shimizu, N., Dieu, J.J., Hart, S.R. Evidence for carbonatite metasomatism in the oceanic upper mantle, *Nature*, **365**, 221-227, 1993.
- Hauri, E.H., Whitehead, J.A., Hart, S.R. Fluid dynamic and geochemical aspects of entrainment in mantle plumes, *J. Geophys. Res.*, **99**, 24,275-24,300, 1994.
- Hauri, E.H., Hart, S.R. Constraints on melt segregation from mantle plumes: a trace element study of peridotite xenoliths from Savai'i, Western Samoa, *J. Geophys. Res.*, **99**, 24,301-24,321, 1994.
- Hauri, E. H., Wagner, T. P. Grove, T. L. Experimental and natural partitioning of Th, U, Pb and other trace elements between garnet, clinopyroxene and basaltic melts, *Chem. Geol.*, **117**, 149-166, 1994.
- Eiler, J.M., K.A. Farley, J.W. Valley, E.M. Stolper, E.H. Hauri, and H. Craig, Oxygen isotope evidence against bulk recycled sediment in the mantle sources of Pitcairn Island lavas, *Nature* 377, 138-141, 1995.
- Hauri, E. H., & Hart, S. R., Correction to "Constraints on melt migration from mantle plumes: A trace element study of peridotite xenoliths from Savai'i, Western Samoa" by Erik H. Hauri and Stanley R. Hart. *J. Geophys. Res.* 100, 2003, 1995.
- Hauri, E. H., Lassiter, J. C., DePaolo, D. J. Osmium isotope systematics of drilled lavas from Mauna Loa, Hawaii, *J. Geophys. Res.* 101, 11793-11806, 1996.
- Hauri, E.H. Major element variability in the Hawaiian mantle plume, *Nature* 382, 415-419, 1996.
- Eiler, J.M., K.A. Farley, J.W. Valley, E.H. Hauri, H. Craig, S.R. Hart, and E.M. Stolper, Oxygen isotope variations in ocean island basalt phenocrysts, *Geochim. Cosmochim. Acta* 61, 2281-2293, 1997.
- Hauri, E.H. and S.R. Hart, Rhenium abundance and systematics in oceanic basalts, *Chem. Geol.* 139, 185-205, 1997.
- Hauri, E.H. Melt migration and mantle chromatography, 1: simplified theory and conditions for chemical and isotopic decoupling, *Earth Planet. Sci. Lett.* 153, 1-19, 1997.
- Hauri, E.H., and Kurz, M.D. Melt migration and mantle chromatography, 2: a time-series Os isotope study of Mauna Loa volcano, Hawaii, *Earth Planet. Sci. Lett.* 153, 21-36, 1997.
- Wagner, T.P., Clague, D.A., Hauri, E.H. and Grove, T.L. Trace element abundances of high-MgO glasses from Kilauea, Mauna Loa and Haleakala volcanoes, Hawaii, *Contrib. Mineral. Petrol.* 131, 13-21, 1998.
- Mandeville, C.W., Sasaki, A., Saito, G., Faure, K., King, R., and Hauri, E. Open system degassing of sulfur from Krakatau 1883 magma, *Earth Planet. Sci. Lett.* 160, 709-722, 1998.
- Lassiter, J.C., and Hauri, E.H., Osmium isotope variations in Hawaiian lavas: evidence for recycled oceanic lithosphere in the Hawaiian plume, *Earth Planet. Sci. Lett.* 164, 483-496, 1998.
- Righter, K., and Hauri, E.H., Compatibility of Re in garnet during mantle melting and magma genesis, *Science* 280, 1737-1741, 1998.
- Saal, A. E., Hart, S. R., Shimizu, N., Hauri, E.H., and Layne, G.D., Pb isotopic variability in melt inclusions from oceanic island basalts, Polynesia, *Science* 282, 1481-1484, 1998.

- Hauri, E.H., Pearson, D.G., Bulanova, G.P. and Milledge, H.J., Microscale variations in C and N isotopes within mantle diamonds revealed by SIMS, *Proc. 7th Int. Kimberlite Conf.* 7, 341-347, 1999.
- Farquhar, J., Hauri, E.H., Wang, J. New insights into carbon fluid chemistry and graphite precipitation: SIMS analysis of granulite-facies graphite from Ponmudi, South India, *Earth Planet. Sci. Lett.* 171, 607-621, 1999.
- Stern, C. R., Kilian, R., Olker, B., Hauri, E. H. and Kyser, T. K. Evidence from mantle xenoliths for relatively thin (<100 km) continental lithosphere below the Phanerozoic crust of southernmost South America, *Lithos* 48, 217-235, 1999.
- Hauri, E. H. One more time, from the top, *Nature* 402, 468-471, 1999.
- Taylor, L. A., R. A. Keller, G. A. Snyder, W. Wang, W. D. Carlson, E. H. Hauri, T. McCandless, K. R. Kim, N. V. Sobolev and D. M. Bezborodov, Diamonds and their mineral inclusions, and what they tell us: a detailed “pull-apart” of a diamondiferous eclogite, *Int. Geol. Rev.* 42, 959-983, 2000.
- Hart, S. R., H. Staudigel, A. A. P. Koppers, J. Blusztajn, E. T. Baker, R. Workman, M. Jackson, E. Hauri, M. Kurz, K. Sims, D. Fornari, A. Saal and S. Lyons, Vailulu’u undersea volcano: the new Samoa, *Geochem. Geophys. Geosys.* 2000GC0001082000, 2000.
- Lassiter, J.C., Hauri, E.H., Reiners, P.W. and Garcia, M.O., Generation of Hawaiian post-erosional lavas by melting of a mixed lherzolite-pyroxenite source, *Earth Planet. Sci. Lett.* 178, 269-284, 2000.
- Carlson, R. W. and Hauri, E.H., Extending the ¹⁰⁷Pd-¹⁰⁷Ag chronometer to low-Pd/Ag meteorites with multicollector plasma-ionization mass spectrometry, *Geochem. Cosmochim. Acta* 65, 1839-1848, 2001.
- Koch-Müller, M., Y. Fei, E.H. Hauri, Z. Liu, Location and quantitative analysis of OH in coesite, *Phys. Chem. Mineral.* 28: 693-705, 2001.
- Carlson, R. W., E. H. Hauri and C. M. O’D. Alexander, Matrix-induced isotopic mass fractionation in the ICP-MS, in “Plasma Source Mass Spectrometry: the New Millennium”, G. P. Holland and S. D. Tanner (eds.), Royal Society of Chemistry, Cambridge, pp. 288-297, 2001.
- Hauri, E. H., J. Wang, J. E. Dixon, P. L. King, C. Mandeville and S. Newman. SIMS Investigations of volatiles in silicate glasses, 1: Calibration, matrix effects and comparisons with FTIR, *Chem. Geol.* 183, 99-114, 2002.
- Hauri, E. H. SIMS Investigations of volatiles in silicate glasses, 2: Abundances and isotopes in Hawaiian melt inclusions, *Chem. Geol.* 183, 115-141, 2002.
- Hauri, E. H., J. Wang, D. G. Pearson and G. Bulanova, Microanalysis of $\delta^{13}\text{C}$, $\delta^{15}\text{N}$ and N abundances in diamonds by secondary ion mass spectrometry, *Chem. Geol.* 185, 149-163, 2002.
- Bulanova, G. P., D. G. Pearson, E. H. Hauri and B. J. Griffin, C and N isotopic systematics within a sector-growth diamond from the Mir kimberlite, Yakutia, *Chem. Geol.* 188, 105-123, 2002.
- Van Keken, P.E., E.H. Hauri and C.J. Ballentine, Mantle mixing: generation, preservation and destruction of chemical heterogeneity, *Ann. Rev. Earth Planet. Sci.* 30, 493-525, 2002.
- Hauri, E. H., Osmium isotopes and mantle convection, *Phil. Trans. R. Soc. London A.* 360, 2371-2382, 2002.

- Ballentine, C. J., van Keken, P. E., Porcelli, D. and Hauri, E. H., Numerical models, geochemistry and the zero-paradox noble gas mantle, *Phil. Trans. R. Soc. London A.*, 360, 2611-2632, 2002.
- Hauri, E.H., Kent, A.J.R. and N. Arndt, Melt inclusions at the millennium; toward a deeper understanding of magmatic processes, *Chem. Geol.* 183, 1-4, 2002.
- Pietruszka, A.J., R.W. Carlson and E.H. Hauri, Precise and accurate measurement of ^{226}Ra - ^{230}Th - ^{238}U disequilibria in volcanic rocks using plasma ionization multicollector mass spectrometry (MC-ICPMS), *Chem. Geol.* 188, 171-191, 2002.
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