

Curriculum Vitae

Vincent J Salters

April 19, 2013

General Information

University address: Earth, Ocean & Atmospheric Science
College of Arts and Sciences
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Florida State University
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Professional Preparation

1989 Ph.D., Massachusetts Institute of Technology. Major: Geochemistry.
Supervisor: S. R. Hart.

Vincent Salters. (1989). *The Use of Hf-isotopes and High Field Strength Elements to Constrain Magmatic Processes and Magma Sources*. Unpublished doctoral dissertation, Massachusetts Institute of Technology.

Professional Experience

1994–present Professor, Earth, Ocean & Atmospheric Sci, Florida State University.

Teaching

Courses Taught

Dynamic Earth (GLY1000)
Igneous and Metamorphic Petrology (GLY3310-C)
Advanced Topics in Geochemistry (GLY5297)
Doctoral Seminar (GLY6982)
Principles of Geochemistry (GLY4240)
Graduate Seminar (GLY5931)
Advanced Topics in Geochemistry (GLY5298)

Doctoral Committee Chair

Mallick, S., graduate. (2011).
Tibbetts, N. J., graduate. (2010).
Roy, R., doctoral candidate.
Eller, V. A., doctoral student.
Wang, Z., doctoral student.

Doctoral Committee Member

Khawaja, S. N., graduate. (2012).
Gaboardi, M. M., graduate. (2009).
Biasatti, D. M., graduate. (2009).
Ghosh, S., graduate. (2008).
Das, R., graduate. (2006).
Dial, A. R., doctoral student.

Doctoral Committee University Representative

Hamdan, R. M., graduate. (2012).
Bair, M. D., graduate. (2011).
Mahjoor, P., graduate. (2009).
Akob, D. M., graduate. (2008).
Stojanovic, M., graduate. (2008).
Mileham, M. L., graduate. (2008).
Heerboth, M. S., graduate. (2007).
Purcell, J. M., graduate. (2007).
Farst, C. M., doctoral candidate.
Flores, M. E., doctoral candidate.
Javanmard, H., doctoral candidate.
Ferrari, A., doctoral student.
Lewis, A. T., doctoral student.

Master's Committee Member

Pekeroglu, E., graduate. (2012).
Rolison, J. M., graduate. (2012).
Han, X., graduate. (2011).
Whiting, S. E., graduate. (2009).
Sankar, R. D., graduate. (2009).
Ebling, A. M., student.

Research and Original Creative Work

Publications

Refereed Journal Articles

- Rolison, J. M., Landing, W. M., Luke, W., Cohen, M., & Salters, V. J. M. (2013). Isotopic composition of species-specific atmospheric Hg in a coastal environment. *Chemical Geology*, 336, 37-49.
- Panneerselvam, K., Macfarlane, A. W., & Salters, V. J. M. (2012). Reconnaissance Lead Isotope Characteristics of the Blackbird Deposit: Implications for the Age and Origin of Cobalt-Copper Mineralization in the Idaho Cobalt Belt, United States. *Economic Geology*, 107(6), 1177-1188.
- Panneerselvam, K., Macfarlane, A. W., & Salters, V. J. M. (2012). Reconnaissance Lead Isotope Characteristics of the Blackbird Deposit: Implications for the Age and Origin of Cobalt-Copper Mineralization in the Idaho Cobalt Belt, United States. *Economic Geology*, 107(6), 1177-1188.
- Salters, V. J. M., Mallick, S., Hart, S. R., Langmuir, C. E., & Stracke, A. (2011). Domains of depleted mantle: New evidence from hafnium and neodymium isotopes. *Geochemistry Geophysics Geosystems*, 12, Q08001. doi:doi:10.1029/011GC003617
- Salters, V. J. M., & Sachi-Kocher, A. (2010). An ancient metasomatic source for the Walvis Ridge basalts. *Chemical Geology*, 273(3-4), 151-167.
- Das, R., Salters, V. J. M., & Odom, A. L. (2009). A case for in vivo mass-independent fractionation of mercury isotopes in fish. *Geochemistry Geophysics Geosystems*, 10, Q11012.
- Stern, J. C., Sonke, J. E., & Salters, V. J. M. (2007). A capillary electrophoresis-ICP-MS study of rare earth element complexation by humic acids. *Chemical Geology*, 246(3-4), 170-180.
- Sonke, J. E., & Salters, V. J. M. (2007). Capillary electrophoresis-high resolution sector field inductively coupled plasma mass spectrometry. *Journal of Chromatography a*, 1159(1-2), 63-74.
- Bizimis, M., Griselin, M., Lassiter, J. C., Salters, V. J. M., & Sen, G. (2007). Ancient recycled mantle lithosphere in the Hawaiian plume: Osmium-Hafnium isotopic evidence from peridotite mantle xenoliths. *Earth and Planetary Science Letters*, 257(1-2), 259-273.

- Panneerselvam, K., Macfarlane, A. W., & Salters, V. J. M. (2006). Provenance of ore metals in base and precious metal deposits of central Idaho as inferred from lead isotopes. *Economic Geology*, *101*(5), 1063-1077.
- Salters, V., Blichert-Toft, J., Fekiacova, Z., Sachi-Kocher, A., & Bizimis, M. (2006). Isotope and trace element evidence for depleted lithosphere in the source of enriched Ko'olau basalts. *Contributions to Mineralogy and Petrology*, *151*(3), 297-312.
- Sonke, J., & Salters, V. (2006). Lanthanide-humic substances complexation. I. Experimental evidence for a lanthanide contraction effect. *Geochimica et Cosmochimica Acta*, *70*(6), 1495-1506.
- Bizimis, M., Sen, G., Salters, V., & Keshav, S. (2005). Hf-Nd-Sr isotope systematics of garnet pyroxenites from Salt Lake Crater, Oahu, Hawaii: Evidence for a depleted component in Hawaiian volcanism. *Geochimica et Cosmochimica Acta*, *69*(10), 2629-2646.
- Albarede, F., Stracke, A., Salters, V., Weis, D., Blichert-Toft, J., Telouk, P., & Agranier, A. (2005). Comment to "Pb isotopic analysis of standards and samples using a Pb-207-Pb-204 double spike and thallium to correct for mass bias with a double-focusing MC-ICP-MS" by Baker et al. *Chemical Geology*, *217*(1-2), 171-174.
- Cooper, W., Llewelyn, J., Bennett, G., & Salters, V. (2005). Mass spectrometry of natural organic phosphorus. *Talanta*, *66*(2), 348-358.
- Jacob, D., Bizimis, M., & Salters, V. (2005). Lu-Hf and geochemical systematics of recycled ancient oceanic crust: evidence from Roberts Victor eclogites. *Contributions to Mineralogy and Petrology*, *148*(6), 707-720.
- Patchett, P., Vervoort, J., Soderlund, U., & Salters, V. (2004). Lu-Hf and Sm-Nd isotopic systematics in chondrites and their constraints on the Lu-Hf properties of the Earth. *Earth and Planetary Science Letters*, *222*(1), 29-41.
- Salters, V., & Stracke, A. (2004). Composition of the depleted mantle. *Geochemistry Geophysics Geosystems*, *5*, Q05004. doi:doi:10.102003GC000597/
- Sonke, J., & Salters, V. (2004). Determination of neodymium-fulvic acid binding constants by capillary electrophoresis inductively coupled plasma mass spectrometry (CE-ICP-MS). *Journal of Analytical Atomic Spectrometry*, *19*(2), 235-240.
- Bizimis, M., Sen, G., & Salters, V. (2004). Hf-Nd isotope decoupling in the oceanic lithosphere: constraints from spinel peridotites from Oahu, Hawaii. *Earth and Planetary Science Letters*, *217*(1-2), 43-58.

- Sonke, J., & Salters, V. (2004). Disequilibrium effects in metal speciation by capillary electrophoresis inductively coupled plasma mass spectrometry (CE-ICP-MS); theory, simulations and experiments. *Analyst*, *129*(8), 731-738.
- Sonke, J., Furbish, D., & Salters, V. (2003). Dispersion effects of laminar flow and spray chamber volume in capillary electrophoresis-inductively coupled plasma-mass spectrometry: a numerical and experimental approach. *Journal of Chromatography*, *1015*(1-2), 205-218.
- Stracke, A., Zindler, A., Salters, V., McKenzie, D., & Gronvold, K. (2003). The dynamics of melting beneath Theistareykir, northern Iceland. *Geochemistry Geophysics Geosystems*, *4*, 8513. doi:doi:10.1029/2002GC000347
- Bizimis, M., Salters, V., & Dawson, J. (2003). The brevity of carbonatite sources in the mantle: evidence from Hf isotopes. *Contributions to Mineralogy and Petrology*, *145*(3), 281-300.
- Stracke, A., Bizimis, M., & Salters, V. (2003). Recycling oceanic crust: Quantitative constraints. *Geochemistry Geophysics Geosystems*, *4*, 8003.
- Stracke, A., Zindler, A., Salters, V., McKenzie, D., Blichert-Toft, J., Albarede, F., & Gronvold, K. (2003). Theistareykir revisited. *Geochemistry Geophysics Geosystems*, *4*, 8507.
- Wang, Y., Hsieh, Y., Landing, W., Choi, Y., Salters, V., & Campbell, D. (2002). Chemical and carbon isotopic evidence for the source and fate of dissolved organic matter in the northern Everglades. *Biogeochemistry*, *61*(3), 269-289.
- Salters, V., & Dick, H. (2002). Mineralogy of the mid-ocean-ridge basalt source from neodymium isotopic composition of abyssal peridotites. *Nature*, *418*(6893), 68-72.
- Salters, V., Longhi, J., & Bizimis, M. (2002). Near mantle solidus trace element partitioning at pressures up to 3.4 GPa. *Geochemistry Geophysics Geosystems*, *3*, 1038. doi:doi:10.10292001GC000148
- Bizimis, M., Salters, V., & Bonatti, E. (2000). Trace and REE content of clinopyroxenes from supra-subduction zone peridotites. Implications for melting and enrichment processes in island arcs. *Chemical Geology*, *165*(1-2), 67-85.
- Stracke, A., Salters, V. J. M., & Sims, K. W. W. (1999). Assessing the presence of garnet-pyroxenite in the mantle sources of basalts through combined hafnium-neodymium-thorium isotope systematics. *Geochemistry Geophysics Geosystems*, *1*, 1006.
- Salters, V., & Longhi, J. (1999). Trace element partitioning during the initial stages of melting beneath mid-ocean ridges. *Earth and Planetary Science Letters*, *166*(1-2), 15-30.

- Salters, V., & Longhi, J. (1999). Trace element partitioning during the initial stages of melting beneath mid-ocean ridges. *Earth and Planetary Science Letters*, 166(1-2), 15-30.
- Salters, V., & White, W. (1998). Hf isotope constraints on mantle evolution. *Chemical Geology*, 145(3-4), 447-460.
- Godfrey, L., Lee, D., Sangrey, W., Halliday, A., Salters, V., Hein, J., & White, W. (1997). The Hf isotopic composition of ferromanganese nodules and crusts and hydrothermal manganese deposits: Implications for seawater Hf. *Earth and Planetary Science Letters*, 151(1-2), 91-105.
- Godfrey, L., White, W., & Salters, V. (1996). Dissolved zirconium and hafnium distributions across a shelf break in the northeastern Atlantic Ocean. *Geochimica et Cosmochimica Acta*, 60(21), 3995-4006.
- Salters, V. (1996). The generation of mid-ocean ridge basalts from the Hf and Nd isotope perspective. *Earth and Planetary Science Letters*, 141(1-4), 109-123.
- KELEMEN, P., SHIMIZU, N., & SALTERS, V. (1995). Extraction of Mid-Ocean-Ridge Basalt from the Upwelling Mantle by Focused Flow of Melt in Dunite Channels. *Nature*, 375(6534), 747-753.

Refereed Proceedings

- Gionfriddo, C., Bizimis, M., Sen, I., & Salters, V. (2010). Chalcophile elements in peridotites as a proxy for sulfide mineralization during serpentinization. In *Conference on Goldschmidt 2010 - Earth, Energy, and the Environment, Knoxville, TN* (pp. A334). *Geochimica et Cosmochimica Acta*.
- Tibbetts, N. J., Bizimis, M., Longo, M., Keshav, S., Salters, V. J. M., & Mccammon, C. A. (2010). Apparent oxygen fugacity structure beneath O'ahu, Hawai'i. In *Conference on Goldschmidt 2010 - Earth, Energy, and the Environment, Knoxville, TN* (pp. A1045). *Geochimica et Cosmochimica Acta*.
- Bizimis, M., Salters, V. J. M., Huang, S., & Clague, D. (2008). 1 Ga old plume-derived peridotite xenoliths from Kauai, Hawaii. In *18th Annual V M Goldschmidt Conference, Vancouver, Canada* (pp. A87). *Geochimica et Cosmochimica Acta*.
- Salters, V., Mallick, S., Bizimis, M., & Langmuir, C. (2008). Local and global scale systematics in the MORB source chemistry. In *18th Annual V M Goldschmidt Conference, Vancouver, Canada* (pp. A820). *Geochimica et Cosmochimica Acta*.

- Stern, J. C., Sonke, J. E., & Salters, V. J. M. (2008). Thorium complexation by humic acid: Results from ligand competition experiments. In *18th Annual V M Goldschmidt Conference, Vancouver, Canada* (pp. A898-A898). *Geochimica et Cosmochimica Acta*.
- Salters, V. J. M., & Bizimis, M. (2006). Recycled depleted lithosphere in the enriched mantle? In *16th Annual V M Goldschmidt Conference, Melbourne, Australia* (pp. A553). *Geochimica et Cosmochimica Acta*.
- Salters, V., & Li, X. (2004). Hafnium and neodymium isotopes in oceanic basalts. In *14th Annual V M Goldschmidt Conference, Copenhagen, Denmark* (pp. A554-A554). *Geochimica et Cosmochimica Acta*.
- Salters, V., & Sonke, J. (2004). Capillary electrophoresis-inductively coupled plasma mass spectrometry: A new technique to quantify lanthanide-humic acid equilibria and kinetics. In *227th National Meeting of the American-Chemical Society, Anaheim, CA* (pp. U1201). Abstracts of Papers of the American Chemical Society.
- Wang, Y., Hsieh, Y., Landing, W., Choi, Y., Salters, V., & Campbell, D. (2002). Chemical and carbon isotopic evidence for the source and fate of dissolved organic matter in the northern everglades. In *Spring American Geophysical Union Meeting* (pp. U592). Abstracts of Papers of the American Chemical Society.

Contracts and Grants

Contracts and Grants Funded

- Salters, Vincent J (PI). (Feb 2012–Jan 2015). *Collaborative Research: HF-Isotopes as Tracers of Highl*. Funded by National Science Foundation. (1155579). Total award \$292,735.
- Landing, William M (PI), Salters, V. J., & Humayun, M. (Apr 2011–Mar 2013). *Acquisition of a Sector Magnet ICPMS*. Funded by National Science Foundation. (1061354). Total award \$250,000.
- Landing, William M (PI), Salters, V. J., & Odom, A. L. (Mar 2010–Dec 2012). *Mercury Isotopes In The Pensacola Bay Watershed*. Funded by Electric Power Research Instit. (EP-P33676/C15484). Total award \$175,613.
- Salters, Vincent J (PI). (Sep 2009–Aug 2013). *Collaborative Research: Isotopic Investigation of Gakkel*. Funded by National Science Foundation. (0930429). Total award \$357,312.
- Salters, Vincent J (PI). (Apr 2007–Mar 2012). *Hafnium Isotope Constraints Of Normal MORB*. Funded by National Science Foundation. (0648484). Total award \$289,000.

Salters, Vincent J (PI), & Bizimis, M. (Dec 2006–Nov 2010). *Nb/Ta Fractionations as Tracer of Subduction*. Funded by National Science Foundation. (0635864). Total award \$299,076.

Salters, Vincent J (PI). (Sep 2005–Aug 2006). *Support for Teachers for Teachers (GIFT) Workshop*. Funded by National Science Foundation. (0549571). Total award \$12,000.

Salters, Vincent J (PI), Burnett, W. C., Landing, W. M., Froelich, P. N., Jr., & Humayun, M. (Sep 2005–Aug 2007). *Plasma Mass Spectrometer for Earth and Ocean Sciences*. Funded by National Science Foundation. (0521201). Total award \$287,294.