

Tenured Associate Scientist
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EDUCATION

Ph.D., Geology, Massachusetts Institute of Technology, Cambridge MA, 1996
 Thesis Advisor: T.L. Grove

M.S., Geology, State University of New York at Albany, 1990
 Thesis Advisor: S.E. DeLong

B.S., Geology with minor in English, University of Massachusetts at Amherst, 1985

RESEARCH INTERESTS

Experimental phase equilibrium and kinetic studies of geologic and biogenic materials. Effects of volatiles on magmatic processes. Connectivity and mobility of melts and fluids in crustal and mantle rocks. Thermodynamic properties of silicate melts. Thermodynamic and crystal-chemical controls on trace element partitioning. Petrology and geochemistry of the upper mantle. Early evolution of terrestrial planets. Biomineralization and paleoproxy development.

PROFESSIONAL EXPERIENCE

Tenured Associate Scientist January 2009 – Present	Woods Hole Oceanographic Institution
Director of the Northeast National Ion Microprobe Facility January 2010-Present	
Associate Scientist October 2004 – January 2009	Woods Hole Oceanographic Institution
Assistant Scientist December 2000 – October 2004	Woods Hole Oceanographic Institution
Visiting Investigator June 2014-Present	Department of Terrestrial Magnetism
Research Affiliate June 2011 – Present	Massachusetts Institute of Technology
Research Scientist August 1998 – November 2000 Supervisor: E.B. Watson	Rensselaer Polytechnic Institute
Postdoctoral Scholar September 1996 - July 1998 Postdoctoral Supervisor: E.M. Stolper	California Institute of Technology
Postdoctoral Associate June - August 1996 Postdoctoral Supervisor: T.L. Grove	Massachusetts Institute of Technology
Research Assistant Sept 1990 - Aug 1992; Jan 1993-May 1996	Massachusetts Institute of Technology
Teaching Assistant Sept - Dec 1992	Massachusetts Institute of Technology
Research Assistant Sept 1989 - Aug 1990	State University of New York at Albany

Teaching Assistant
Sept 1987 - Aug 1989

State University of New York at Albany

AWARDS AND HONORS

Mineralogical Society of America Fellow	2017
Meierjürgen Fellowship, University of Oregon	2016
Earth, Planets, and Space Excellent Reviewer Award	2014
Un enseignant-invite, Université Blaise Pascal	2012
Caltech O.K. Earl Prize Postdoctoral Fellowship	1996
WHOI Postdoctoral Fellowship (declined)	1996
NSF Postdoctoral Fellowship (declined)	1996
Dwornik Planetary Geosciences Best Student Paper Award (honorable mention)	1996

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science
American Geophysical Union
Geochemical Society
Geological Society of America
Mineralogical Society of America

TEACHING/EDUCATION

Doctoral Students Supervised and Their Projects

Alice Alpert	<i>Little Ice Age sea surface temperatures in the Atlantic</i>
Claire Bucholz	<i>Volatiles in olivine-hosted melt inclusions</i>
Lynne Elkins	<i>Trace element partitioning during pyroxenite melting</i>
Thomas DeCarlo	<i>U/Ca as a proxy for seawater carbonate ion concentration</i>
Emily Sarafian	<i>Determination of H₂O-undersaturated peridotite solidus</i>

Guest PhD Students Supervised and Their Projects

Will Miller	<i>Crustal accretion in Iceland</i>
Yuxiang Zhang	<i>Okinawa Trough lavas</i>

Postdoctoral Fellows Supervised and Their Projects

Alicia Cruz-Uribe	<i>Melting of mélange diapirs</i>
Rinat Gabitov	<i>Aragonite precipitation and paleoproxies</i>
Veronique Le Roux	<i>H₂O distribution in subducted sediments</i>
Yung-Hsin Liu	<i>Diffusion of lithium in clinopyroxene</i>
Julie O'Leary	<i>H₂O solubility in basalt at upper mantle conditions</i>
Ayla Pamukcu	<i>Magma ascent rates</i>
Zhengrong Wang	<i>Interaction between eclogite melt and mantle olivine</i>

Undergraduate Students (Fellows or Visiting) Supervised and Their Projects

Alexandra Castillejo	<i>Magma ascent rates</i>
Thomas DeCarlo	<i>Rayleigh-based, multi-element coral thermometry</i>
Nadine Doiron	<i>Vapor bubble formation in olivine-hosted melt inclusions</i>
Bianka Grosshaeuser	<i>Aragonite precipitation and paleoproxies</i>
Janelle Homburg	<i>Fe isotope fractionations in extraterrestrial materials</i>
Alexandra Nordyke	<i>Magma storage and transport</i>

WHOI/Southampton Exchange Students Supervised and Their Projects

David Spofforth	<i>Partitioning of U between aragonite and seawater</i>
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General Exam/Thesis Committee

Max Collinet (MIT)	
Erin Writer (U. Wyoming)	Ph.D. 2017
Alexandra Mitchell (MIT)	Ph.D. 2016
Kevin Miller (U. Maryland)	Ph.D. 2015
Lijing Yao (Brown University)	Ph.D. 2015
Evelyn Mervine	Ph.D. 2012
Michael Krawczynski	Ph.D. 2011
Chris Waters	Ph.D. 2010
Michael Holcomb	Ph.D. 2010
Lynne Elkins	Ph.D. 2008
Jessica Warren	Ph.D. 2007
Michael Braun	Ph.D. 2004
Astri Kvassnes	Ph.D. 2004
Marc Hesse	M.S. 2002

Teaching

MIT/WHOI Joint Graduate Program course on *Solid Earth Geochemistry* (WHOI/MIT 12.756), Fall semester every other year.

MIT/WHOI Joint Graduate Program course on *Igneous Processes at Ocean Plate Margins* (WHOI/MIT 12.716), Fall semester every other year.

MIT/WHOI Joint Graduate Program course on *Kinetics and Mass Transport* (WHOI/MIT 12.718), Spring semester every other year.

MIT/WHOI Joint Graduate Program course on *Marine Geodynamics* (WHOI/MIT 12.753), Spring 2005; Spring 2013.

Participated in WHOI Marine Geodynamics field trip to the Isle of Rum. June, 2002

Led WHOI Marine Geodynamics field trip to Chaine des Puys. June 2013

PROFESSIONAL ACTIVITIES

WHOI Activities

Mentoring Committee for Forrest Horton	2018-Present
Geochemistry/Petrology Search Committee (Chair)	2016-2017
Mentoring Committee for Sune Nielsen	2015-2017
Mentoring Committee for Veronique Le Roux	2013-2018
Mentoring Committee for Weifu Guo	2011-2018
NENIMF Director	2010-Present
Mentoring Committee for Horst Marschall	2011-2016
Mentoring Committee for Jessica Tierney	2013-2015
SIMS Analyst Search Committee (Chair)	2010
Metamorphic Petrology Search Committee (Chair)	2009-2010
Isotope Geochemistry Search Committee	2009-2010
Mentoring Committee for Alison Shaw	2006-2010
Geology and Geophysics Department Safety Committee	2001-2016
Geology and Geophysics Department Merit Review Committee	2006
Joint Program Admissions Committee	2006-2008
Petrology/Geochemistry Search Committee	2004
Ad Hoc Department Chair Search Committee	2003
Geology and Geophysics Department Colloquium Series (Convener)	2001-2002

Outside Activities

- Associate Editor for *Science Advances* 2017-Present
- Associate Editor for *Geochemistry, Geophysics, Geosystems* 2006-2009
- Member of NASA Cosmochemistry proposal review panel 2005; 2009
- Convener of Goldschmidt Workshop on *Mineral-Hosted Melt Inclusion: How Do We Read The Stories They Have To Tell?* 2018
- Co-convener of *Melt, gas, and redox evolution in magmatic systems: Commemorating the accomplishments of John R. Holloway (1940-2017)*, special session, 2018 Goldschmidt Conference.
- Convener of *Cycling of carbon, sulfur, and other redox-sensitive elements at convergent margins*, special session, 2015 Goldschmidt Conference.
- Convener of *Melt, volatiles, and the oxidation state of iron in planetary mantles*, special session, 2014 Fall AGU.
- Co-Convener of *Biogenic carbonates: From biocalcification to geochemical proxies*, special session, 2014 Fall AGU
- Co-Convener of *The occurrence, genesis and evolution of alkaline magmas*, special session, 2012 Goldschmidt Conference.
- Co-Convener of 2009 MARGINS Subduction Factory Theoretical and Experimental Institute on volatiles.
- Convener of *From Subduction Zones to Mantle Plumes: High Field Strength Elements as Geochemical Tracers of Crustal Recycling*, special session, 2008 Fall AGU.
- Convener of *The Agent of Mass Transfer in Subduction Zones: Fluid, Melt, or Supercritical?* special session, 2005 Fall AGU.
- Convener of *Melting and Melt Transfer in the Mantle: Thermodynamic and Transport Models*, special session, 2001 Goldschmidt Conference.
- Convener of *Magmatic Sulfide in the Crust, Mantle, and Core*, special session, 1999 Spring AGU.

INVITED PRESENTATIONS

Special Symposia/Workshops

- Goldschmidt Conference Special Session on Volatiles (Keynote) 2019
- 16th International Sym on Experimental Min, Pet, and Geochem (Keynote) 2018
- Goldschmidt Conference Special Session on Diffusion (Keynote) 2017
- 6th Kaplan Workshop on Trace Element Partitioning (Keynote) 2017
- Goldschmidt Conference Special Session on Magmatic Systems 2014
- Goldschmidt Conference Special Session on Volcanic Processes (Keynote) 2013
- 21st Biennial Conference of the Coastal and Estuarine Research Federation 2011
- Fall AGU Special Session on Volatiles in Magmas 2010
- Fall AGU Special Session on Melt Inclusions 2008
- Inclusions in Minerals and Processes in the Earth's Mantle (Keynote) 2005
- State of the Arc Conference (Keynote) 2003
- Fall AGU Special Session on Melt Inclusions 2002
- Goldschmidt Conference Special Session on Mantle Melting 2002
- Spring AGU Special Session on Trace Element Partitioning and Diffusion 2002
- MARGINS Subduction Factory Workshop (Keynote) 2000

Spring AGU Special Session on Advances in High Pressure Petrology	1998
CHiPR Workshop to Define the Future of Silicate Melt Research	1997
Fall AGU Special Session on Dehydration of Subducting Slabs	1997
Goldschmidt Conference Special Session on Mantle Melting	1994

Other Invited Talks

Washington University	2019
University of Oregon	2016
Oregon State University	2016
Virginia Tech	2016
Department of Terrestrial Magnetism	2015
University of South Carolina	2015
University of Cape Town	2014
University of Wyoming	2013
Université Blaise Pascal	2012
University of Massachusetts at Amherst	2012
Pennsylvania State University	2011
Boston University	2011
Geological Society of Washington	2010
Smithsonian Institution	2010
Geophysical Lab	2010
University of Bristol	2010
Yale University	2008
Scripps Institution of Oceanography	2007
American Museum of Natural History	2007
Brown University	2004
Geophysical Lab	2003
University of Massachusetts at Amherst	2000
University of Chicago	1999
Harvard University	1998
State University of New York at Albany	1998
University of Nevada at Las Vegas	1997
California Institute of Technology	1997

PUBLICATIONS

Research Papers

*Indicates that first author is student or postdoc

Sims, KWW, Aster, R, **Gaetani, GA**, Blichert-Toft, J, Phillies, EH, Wallace, PJ, Mattioli, GS, Rasmussen, DJ, Boyd, ES, 2019, Mount Erebus Volcano: An Unparalleled Natural Laboratory to Study Alkaline Magmatism and Open-Conduit Volcano Behavior. Submitted to *Volcanism in Antarctica: 200 Million Years of Subduction, Rifting and Continental Break-Up*. Geological Society of London Memoir, Geological Society of London.

*Miller, WGR, MacLennan, J, Shorttle, O, **Gaetani, GA**, Le Roux, V, and Klein, F, 2019, Estimating the carbon content of the deep mantle with Icelandic melt inclusions. Submitted to *Earth Planet Sci Lett*.

*Sarafian, AR, Nielsen, SG, Marschall, HR, **Gaetani, GA**, Hauri, EH, Righter, K, Berger, EL, 2019, The water and fluorine content of 4 Vesta. Submitted to *Geochim Cosmochim Acta*

- *Phillips, EH, Sims, KW, Blichert-Toft, J, Aster, **Gaetani, GA**, RC, Kyle, PR, Wallace, PJ, and Rasmussen, DJ, 2018, The nature and evolution of mantle upwelling at Ross Island, Antarctica. *Earth Planet Sci Lett.* 498: 38-53
- *Cruz-Uribe, AM, Marschall, HR, **Gaetani, GA**, and Le Roux, V, 2018, Generation of alkaline magmas in subduction zones by partial melting of mélange diapirs. *Geology*, 46:343-346.
- *Mitchell, AL, **Gaetani, GA**, O'Leary, JA, and Hauri, E, 2017, H₂O solubility in basalt at upper mantle conditions. *Contrib Mineral Petrol*, 172, doi:10.1007/s00410-017-1401-x.
- *Rasmussen, DJ, Kyle, PR, Wallace, PJ, Sims, KWW, **Gaetani, GA**, and Phillips, EH, 2017, Understanding degassing and transport of CO₂-rich alkalic magmas at Ross Island, Antarctica using olivine-hosted melt inclusions. *J Petrol*, 58:841-862.
- *Sarafian, AR, Nielsen, SG, Marschall, HR, **Gaetani, GA**, Hauri, EH, Richter, K, Sarafian, E, 2017, Angrite meteorites record the onset and flux of water to the inner solar system. *Geochim Cosmochim Acta*, 212:156-166.
- *Sarafian, AR, Hauri, EH, McCubbin, FM, Lapen, TJ, Berger, E, Nielsen, SG, Marschall, HR, **Gaetani, GA**, Richter, K, Sarafian, EK, 2017, Early accretion of water and volatile elements to the inner solar system: Evidence from Angrites. *Phil Trans Roy Soc A* 375, doi: 10.1098/rsta.2016.0209.
- *Sarafian, EK, **Gaetani, GA**, Hauri, EH, and Sarafian AR, 2017, Experimental constraints on the damp peridotite solidus and oceanic mantle potential temperature. *Science*, 355:942-945.
- *Alpert, AE, Cohen, AL, Oppo, DW, DeCarlo, TM, **Gaetani, GA**, Hernandez-Delgado, EA, Winter, A, and Gonneea, ME, 2017, 20th century warming of the tropical Atlantic captured by SrU paleothermometry. *Paleoceanography*, 32:146-160.
- *Miller, KJ, Zhu, W-L, Montesi, LGJ, **Gaetani, GA**, Le Roux, V, 2016, Experimental evidence for melt partitioning between olivine and orthopyroxene in partially molten harzburgite. *J. Geophys. Res. – Solid Earth*, 121:5776-5793.
- *DeCarlo, TM, **Gaetani, GA**, Cohen, AL, Foster, GL, Alpert, AE, and Stewart, J, 2016, Coral Sr-U thermometry. *Paleoceanography*, 31, 626-638.
- Gaetani, GA**, 2016, The behavior of Fe³⁺/ΣFe during partial melting of spinel lherzolite. *Geochim Cosmochim Acta* 185:64-77.
- Hart, SR, and **Gaetani, GA**, 2016, Experimental determination of Pb partitioning between sulfide melt and basalt melt as a function of P, T and X. *Geochim Cosmochim Acta*, 185:9-20.
- Holcomb, M, DeCarlo, TM, **Gaetani, GA**, McCulloch, M, 2016, Factors affecting B/Ca ratios in synthetic aragonite. *Chem Geol*, 437:67-76.
- *DeCarlo, TM, **Gaetani, GA**, Holcomb, M, and Cohen, AL, 2015, Experimental determination of factors controlling U/Ca of aragonite precipitated from seawater: implications for interpreting coral skeleton. *Geochim Cosmochim Acta*, 162:151-165.
- *Sarafian, E, Evan, RL, Collins, J, Elsenbeck, J, **Gaetani, GA**, Gaherty, JB, Hirth, G, Lizarralde, D, 2015, The electrical structure of the central Pacific upper mantle constrained by the NoMelt experiment. *Geochem, Geophys, Geosys*, 16, doi:10.1002/2014GC005709.

- Gaetani, GA**, O'Leary, JA, Koga, KT, Hauri, EH, Rose-Koga, EF, and Monteleone, BD 2014, Hydration of mantle olivine under variable water and oxygen fugacity conditions. *Contrib Mineral Petrol*, 167, doi:10.1007/s00410-014-0965-y.
- *Miller, KJ, Zhu, W-L, Montesi, LGJ, and **Gaetani GA**, 2014, Experimental quantification of permeability for partially molten mantle rocks. *Earth Planet Sci Lett.*, 388:273-282.
- Saenger, C, Wang, Z, **Gaetani, GA**, Cohen, AL, and Lough, JM, 2013, The influence of temperature and "vital effects" on magnesium isotopic variability in *Porites* corals. *Chemical Geology*, 360-361:105-117.
- *Bucholz, CE, **Gaetani, GA**, Behn, MD, and Shimizu, N, 2013, Post-entrapment modification of volatiles and oxygen fugacity in olivine-hosted melt inclusions. *Earth Planet Sci Lett.*, 374:145-155.
- Wang, Z, **Gaetani, GA**, Liu, C, and Cohen, AL, 2013, Oxygen isotope fractionation between aragonite and seawater: developing a novel kinetic isotope fractionation model. *Geochim Cosmochim Acta*, 117:232-251.
- Wang, Z, Hu, P, **Gaetani, GA**, Liu, C, Saenger, CP, Cohen, AL and Hart, SR, 2013, Experimental calibration of Mg isotope fractionation between aragonite and seawater. *Geochim Cosmochim Acta*, 102:113-123.
- Gaetani, GA**, O'Leary, JA, Shimizu, N, Bucholz, CE, and Newville, M, 2012, Rapid re-equilibration of H₂O and oxygen fugacity in olivine-hosted melt inclusions. *Geology*, 40:915-918.
- Zhu, W-L, **Gaetani, GA**, Fusses, F, Montési, LGJ, and De Carlo, F, 2011, Microtomography of partially molten rocks: Three-dimensional melt distribution in mantle peridotite. *Science* 332:88-91.
- Gaetani, GA**, Cohen, AL, Wang, Z, and Crusius, J, 2011, Rayleigh-based, multi-element coral thermometry: a biomineralization approach to developing climate proxies. *Geochim Cosmochim Acta* 75:1920-1932.
- *Gabitov, RI, Schmidt, AK, Rosner, M, McKeegan, K, **Gaetani, GA**, Cohen, AL, Watson, EB, and Harrison, TM, 2011, In situ ⁷Li/⁶Li, Li/Ca, and Mg/Ca analyses of synthetic aragonites. *Geochem, Geophys, Geosys.* 12, Q03001, doi:10.1029/2010GC003322.
- Cohen, AL, and **Gaetani, GA**, 2010, Ion partitioning and the geochemistry of coral skeletons: solving the mystery of the vital effect. In *Ion Partitioning in Ambient-Temperature Aqueous Systems*, edited by Prieto, M. and Stoll, H. M., pp. 377-397 European Mineralogical Unions Notes v. 11.
- *O'Leary, J, **Gaetani, GA**, and Hauri, EH, 2010, The effect of tetrahedral Al³⁺ on the partitioning of water between clinopyroxene and silicate melt. *Earth Planet Sci Lett.* 297:111-120.
- Cohen, A.L, McCorkle, D.C., de Putron, S., **Gaetani, G.A.**, and Rose, K.A., 2009, Morphological and compositional changes in the skeletons of juvenile corals reared in acidified seawater: insights into the biomineralization response to ocean acidification. *Geochem, Geophys, Geosys.* 10, Q07005, doi:10.1029/2009GC002411.
- *Wang, Z, and **Gaetani, GA**, 2008, Partitioning of Ni between olivine and siliceous eclogite partial melt: Experimental constraints on the mantle source of Hawaiian basalts. *Contrib Mineral Petrol.* 156:661-678.
- Gaetani, GA**, Asimow, PD, and Stolper, EM, 2008, A model for rutile saturation in silicate melts with applications to eclogite partial melting in subduction zones and mantle plumes. *Earth Planet Sci Lett* 272:720-729.

- *Gabitov, RI, **Gaetani, GA**, Watson EB, Cohen, AL and H. L. Ehrlich, 2008, Experimental determination of growth rate effect on U^{6+} and Mg^{2+} partitioning between aragonite and fluid at elevated U^{6+} concentration. *Geochim Cosmochim Acta* 72:4058-4068.
- *Elkins, LJ, **Gaetani, GA**, and Sims, KWW, 2008, Partitioning of U and Th during garnet pyroxenite partial melting: Constraints on the source of alkaline ocean island basalts. *Earth Planet. Sci. Lett.* 265:270-286.
- Cohen, AL, **Gaetani, GA**, Lundälv, T, Corliss, BH and George, RY, 2006, Compositional variability in the cold-water Scleractinian, *Lophelia pertusa*: new insights into "vital effects". *Geochem, Geophys, Geosys* 7, Q12004, doi:10.1029/2006GC001354.
- Gaetani, GA**, and Cohen, AL, 2006, Element partitioning during precipitation of aragonite from seawater: a framework for understanding paleoproxies. *Geochim Cosmochim Acta*, 70:4617-4634.
- Hauri, EH, **Gaetani, GA**, and Green, TH, 2006, Partitioning of water in the Earth's upper mantle at H_2O -undersaturated conditions. *Earth Planet. Sci. Lett.* 248:715-734.
- Hart, SR, and **Gaetani, GA**, 2006, Mantle Pb paradoxes: The sulfide solution. *Contrib Mineral Petrol.* 152:295-308.
- Gaetani, GA**, 2004, The influence of melt structure on trace element partitioning near the peridotite solidus. *Contrib. Mineral. Petrol.* 147:511-527.
- Gaetani, GA**, and Grove, TL, 2003, Experimental constraints on melt generation in the mantle wedge. In *Inside the Subduction Factory*, edited by J.M. Eiler, pp. 107-134. AGU Geophysical Monograph Series v. 138.
- Grove, TL, Elkins-Tanton, LT, Parman, SW, Chatterjee, N, Muentener, O, and **Gaetani, GA**, 2003, Fractional crystallization and mantle melting controls on calc-alkaline differentiation trends. *Contrib. Mineral. Petrol.* 145:515-533.
- Gaetani, GA**, Kent, AJR, Grove, TL, Hutcheon, ID, and Stolper, EM, 2003, Mineral/melt partitioning of trace elements during hydrous peridotite partial melting. *Contrib. Mineral. Petrol.* 145:391-405.
- Gaetani, GA**, and Watson, EB, 2002, Modeling the major-element evolution of olivine-hosted melt inclusions. *Chem. Geol.* 183:25-41.
- Gaetani, GA**, and Watson, EB, 2000, Open system behavior of olivine-hosted melt inclusions. *Earth Planet. Sci. Lett.*, 183:27-41.
- Gaetani, GA**, and Grove, TL, 1999, Wetting of mantle olivine by sulfide melt: Implications for Re/Os ratios in mantle peridotite and late-stage core formation. *Earth Planet. Sci. Lett.*, 169:147-163.
- Gaetani, GA**, Asimow, PD, and Stolper, EM, 1998, Determination of the partial molar volume of SiO_2 in silicate liquids at elevated pressures and temperatures: A new experimental approach. *Geochim. Cosmochim. Acta.*, 62:2499-2508.
- Gaetani, GA**, and Grove, TL, 1998, The influence of water on melting of mantle peridotite. *Contrib. Mineral. Petrol.*, 131:323-346.
- Gaetani, GA** and Grove, TL, 1997, Partitioning of moderately siderophile elements among olivine, silicate melt, and sulfide melt: Constraints on core formation in the Earth and Mars. *Geochim. Cosmochim. Acta*, 61:1829-1846.
- Gaetani, GA**, and Grove, TL, 1995, Partitioning of rare earth elements between clinopyroxene and silicate melt: Crystal-chemical controls. *Geochim. Cosmochim. Acta.*, 59:1951-1962.

Gaetani, GA, DeLong, SE, and Wark, DA, 1995, Petrogenesis of basalts from the Blanco Trough, northeast Pacific: Inferences for off-axis melt generation. *J. Geophys. Res.*, 100:4197-4214.

Gaetani, GA, Grove, TL, and Bryan, WB, 1994, Experimental phase relations of basaltic andesite from Hole 839b under hydrous and anhydrous conditions. In Hawkins, J., Parson, L., Allan, J., et al., *Proceedings of the Ocean Drilling Program, Scientific Results*, 135:557-564.

Gaetani, GA, Grove, TL, and Bryan, WB, 1993, The influence of water on the petrogenesis of subduction-related igneous rocks. *Nature*, 365:332-334.

Other Publications

Hauri, EH, van Keken, P, Fischer, K, Manning, C, and **Gaetani, GA**, 2010, MARGINS theoretical and experimental institute: volatiles in the subduction factory. *MARGINS Newsletter* 24:7-12.

Hauri, EH, Shaw, A, **Gaetani, GA**, Plank, T, Kelly, K, Wade, J, and O'Leary, J, 2007, Understanding the role of water flux in arc systems. *MARGINS Newsletter* 18:1-5.

Gaetani, GA, 1998, Igneous petrology. *Science*, 282:1834-1835.

Abstracts

*Pamukcu, AS, **Gaetani, GA**, Klein, F, Le Roux, V, Wallace, PJ, and Sims, KW, 2018, Assessing magma storage depths and ascent rates for alkaline lavas from the Erebus volcanic province (Antarctica). Abstract V33B-05 presented at 2018 Fall Meeting, AGU, Washington DC, 10-14 Dec.

Marchitto, TM, **Gaetani, GA**, Uchikawa, J, Zeebee, R, 2018, Abiotic experimental constraints on the aragonite Li/Mg thermometer. Abstract PP44A-05 presented at 2018 Fall Meeting, AGU, Washington DC, 10-14 Dec.

Gaetani, GA, Bucholz, CE, Ghiorso, MS, Klein, F, Le Roux, V, Maclennan, J, Moore, LR, Sims, KW, and Wallace, PJ, 2018, Magma reservoir depths and ascent rates: Insights from olivine-hosted melt inclusions. SOTA7 Abstracts and Program.

Gaetani, GA, Bucholz, CE, Le Roux, V, Klein, F, Wallace, PJ, Sims, KW, and Ghiorso, MS, 2018, Determining magma ascent rates from diffusive D/H fractionation in olivine-hosted melt inclusions. Mineral-hosted melt inclusions: How do we read the stories they have to tell? p. 19.

Gatti, E, Bucholz, CE, Guan, Y, Zhang, Y, **Gaetani, GA**, and Eiler, J, 2018, δD variations in olivine-hosted melt inclusions due to post-entrapment processes: A case study from Baffin Island picrites. Mineral-hosted melt inclusions: How do we read the stories they have to tell? p. 20.

Monteleone, B, and **Gaetani, GA**, 2018, Using the Cameca IMS 1280 SIMS at WHOI to measure volatile concentrations and hydrogen isotopic compositions within melt inclusions and glasses of variable composition. Mineral-hosted melt inclusions: How do we read the stories they have to tell? p. 24.

*Pamukcu, AS, Gualda, GAR, Rivers, ML, Le Roux, V, **Gaetani, GA**, and Anderson, AT, 2018, Melt inclusion faceting: What – and how – can we learn from melt inclusion morphologies? Mineral-hosted melt inclusions: How do we read the stories they have to tell? p. 13.

*Zhang, Y, **Gaetani, GA**, Pamukcu, A, and Monteleone, B, 2018, Hydration induced hydrogen isotope fractionation in olivine-hosted melt inclusions: An experimental

study. Mineral-hosted melt inclusions: How do we read the stories they have to tell?
p. 29.

- Gatti, E, Bucholz, CE, Guan, Y, Zhang, Y, **Gaetani, GA**, and Eiler, J, 2018, δD variations in olivine-hosted melt inclusions due to post-entrapment processes: A case study from Baffin Island picrites. *Goldschmidt Abstracts*, 2018.
- *Sarafian, EK, **Gaetani, GA**, Hauri, EH, and Sarafian AR, 2018, Experimental determination of the H₂O-undersaturated peridotite solidus from 1.0 to 2.5 GPa using olivine sphere hygrometers. 16th International Conference on Experimental Mineralogy, Petrology, and Geochemistry Program and Abstracts, p. 116.
- *Mitchell, AL, **Gaetani, GA**, O'Leary, JA, and Hauri, EH, 2018, Experimental determination of H₂O solubility in basalt at upper mantle conditions. 16th International Conference on Experimental Mineralogy, Petrology, and Geochemistry Program and Abstracts, p. 98.
- *Phillips, EH, Sims, KW, Blichert-Toft, J, Aster, RC, Kyle, PR, **Gaetani, GA**, Wallace, PJ, and Rasmussen, DJ, 2017, The nature and evolution of mantle upwelling at Ross Island, Antarctica. *Geological Society of America Abstracts with Programs* 49(6) doi: 10.1130/abs/2017AM-300869.
- Gaetani, GA**, Bucholz, CE, Le Roux, V, Klein, F, Wallace, PJ, Sims, KWW, Ghiorso, MS, 2017, Determining magma ascent rates from diffusive D/H fractionation in olivine-hosted melt inclusions. 2017 *Goldschmidt Conference*, 13-18 August.
- Gaetani, GA**, Le Roux, V, Klein, F, Moore, LR, Bodnar, RJ, MacLennan, J, 2017, X-ray tomography-based reconstruction of total CO₂ in olivine-hosted melt inclusions. 2017 *Goldschmidt Conference*, 13-18 August.
- *Sarafian, AR, Nielsen, SG, Marschall, HR, **Gaetani, GA**, Hauri, EH, Righter, K, Berger, EL, 2017, Volatile contents of 4-Vesta: evidence from unequilibrated eucrites. 2017 *Goldschmidt Conference*, 13-18 August.
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