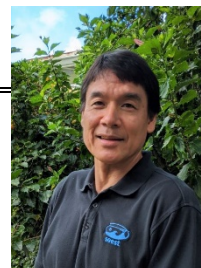


## Garrett Apuzen-Ito

## Curriculum Vitae

Professor and Chair of the Department of Earth Sciences  
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### Biographical Sketch

I earned my PhD in Marine Geology and Geophysics from the MIT-Woods Hole Joint Program in Oceanography in 1996, and have since served on the faculty of UC Davis (2000-2002) before holding my current faculty position at the University of Hawaii. My research emphasizes numerical modeling to understand the physical processes associated with convection and magma generation at oceanic hotspots, the interaction of faulting and magmatism at mid-ocean ridges, and the formation of accretionary prisms at subduction zones. I also analyze geophysical data to study the structure of the asthenosphere, lithosphere and crust.

### Professional History

2021-present Chair, Dept. of Earth Sciences, SOEST, Univ. of Hawaii, Honolulu, HI  
2011-present Professor, Dept. of Earth Sciences, SOEST, Univ. of Hawaii, Honolulu, HI  
2005-2010 Associate Professor, Dept. of Geology and Geophysics, SOEST, Univ. of Hawaii, Honolulu, HI  
2002-2005 Assistant Professor, Dept. of Geology and Geophysics, SOEST, Univ. of Hawaii, Honolulu, HI  
2000-2001 Assistant Professor, Department of Geology, Univ. of California, Davis, CA  
1996-1999 SOEST Young Investigator, Department of Geology and Geophysics, University of Hawaii, Honolulu, HI  
1990-1996 Research Assistant, MIT/WHOI Joint Program in Oceanography, Woods Hole, MA  
1992 Teaching Assistant, Massachusetts Institute of Technology, Cambridge, MA  
1989-1990 Research Staff Assistant, Astrophysics Group, Lawrence Berkeley Laboratory, Berkeley, CA  
1987-1989 Teaching Assistant, Department of Physics, Colorado College, Colorado Springs, CO

### Education

Ph. D. 1996 MIT/WHOI Joint Program in Oceanography, Dissertation- *Mantle Plume-Midocean Ridge Interaction: Geophysical Observations and Mantle Dynamics* (Adviser: Jian Lin)  
B.A. 1989 Colorado College (Major-Physics)

### Research Interests

Lithosphere mechanics, faulting, and deformation at mid-ocean ridges and subduction zones  
Mantle convection and magma generation at hotspots and mid-ocean ridges  
Geophysical studies of the structure of the crust and upper mantle  
Geothermal energy resources

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## Instructional and Mentoring Activities

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### Courses Instructed (see [www.soest.hawaii.edu/GG/FACULTY/ITO](http://www.soest.hawaii.edu/GG/FACULTY/ITO) for example syllabi)

ERTH102/SUST113 *Quantifying Global and Environmental Change*, S22  
ERTH/OCN312 *Advanced Mathematics for Scientists and Engineers*, F21, F23  
ERTH413/613 *Introduction to Statistics and Data Analysis*, S21  
ERTH303 *Structural Geology*, F20, F22  
ERTH632 *Geophysics- Gravity, Magnetism, and Heat Flow*, S20, F22  
ERTH413/613 *Introduction to Statistics and Data Analysis*, S20, S21  
ERTH101: *Dynamic Earth*, S15, F16, S19  
ERTH150: *Introduction to Quantitative Earth & Environmental Science*, F18  
GG304: *Physics of the Earth and Planets*, S2, S04, S05, S07, S09  
ERTH/OCN312: *Advanced Mathematics For Scientists and Engineers I*, F10, F12, F15, F17, F19GG410:  
*Undergraduate Seminar*, S06, F09, S12  
G413: *Geological Data Analysis*, F13, F14, F16

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GG450: *Geophysical Methods*, S10  
GG610: *Graduate Seminar*, S06, F09, F14  
GG612: *Accelerated Introduction to Geology II* (co-instructor) S10, S11  
GG632: *Gravity, Magnetism, and Heat Flow*, F03, F05, F09, F11, S13, S18  
GG681: *Continuum Mechanics and Geodynamics* F98, F02, F04, S08  
GG711: *Graduate Seminar, Magma and Mantle Dynamics*, F97, F06  
GG740: MGeo Seminar, S17, S18

### Student Committees (\*=students for whom I was the primary adviser)

18 Ph. D. Thesis committees: Sherman 1999, \*Blacic 2001, Ike S07, Kim F07, Vanderkluyzen 2008, Eason 2008, \*Mittelstaedt 2008, \*Bianco 2009; Weiss 2016; \*Howell 2017, Lackey 2020, Shiro 2017-2021; Ward 2018-2021, Brouwer 2022-present, Popenhagen 2022-present, Benyshek 2022-present, Wynn 2022-present  
16 M. S. Thesis committees: Muller 1999, Cushman, 2003; Sugimoto 2003; Bianco 2005, Delorey 2005; Rotella 2008; \*Flinders 2009; Natarov, 2010; \*Howell 2013; Tioga, 2015; Sigurdardottir 2016, \*Pleus 2018; G. Brouwer, 2020; \*Lach 2018-20, \*Douglas 2019-2021; Andrea Tonato-2022, \*L. McKinney 2020-current, White 2022-present  
3 MGeo committees: \*Waller 2015, K. Gerstnecker 2018, \*E. Leroux 2018  
16 Comprehensive Examination committees: \*Blacic 2001; Cushman, 2002; Sugimoto 2003; Ike 2004, \*Mittelstaedt 2004; \*Bianco 2004; Vanderkluyzen 2004, Eason 2005, Kim 2006, Klawonn 2009; Janebo 2012; \*Howell 2012; Fitch 2013; Tilley 2018; Ward 2019; Chornkrathok, 2020; Takazawa, 2020; MacGregor 2021  
5 Qualifying Examination committees: Sugimoto 2002; \*Mittelstaedt 2003, Oakley 2004; Natarov 2009, Ward 2018

### Post-doctoral Researchers Advised

J. Schierjott (primary adviser), 2020-2023  
A. Gallego (primary adviser), 2010-2012  
M. Ballmer (primary adviser), 2010-2013  
D. Eason (co-adviser), 2009-2011  
S. Ingle (SOEST Young Investigator, co-adviser), 2008  
W. Chazey (co-adviser), 2005

### Students Advised

L. McKinney (primary adviser), M.S., UH 2020-present  
D. Douglas (primary adviser), M.S., UH 2019-2021  
M. Lach (primary adviser), M.S., UH 2019-2021  
A. Goecker (primary adviser), Undergraduate REU, UH, summer 2022  
S. Alemany (primary adviser), Undergraduate REU, UH, summer 2021  
E. Leroux (primary adviser), MGeo, UH 2017-2018  
A. Pleus (primary adviser), M.S., UH 2016-2018  
M. Wilner (primary adviser), Undergraduate REU, UH, summer 2019  
M. Hunt (primary adviser), Undergraduate REU, UH, summer 2019  
L. Harris (primary adviser), Undergraduate REU, UH, summer 2018  
P. Regensburger (primary adviser), Undergraduate REU, UH, summer 2017  
T. Sigurdardottir (primary adviser), M.S. UH, 2016  
D. Waller (primary adviser), MGeo, UH 2014-2016  
S. Howell (primary adviser), M.S. UH 2010-2013; Ph.D. 2013-2017  
A. Flinders (primary adviser), M.S. UH 2007-2009  
T. Bianco (primary adviser), M.S., UH, 2002-2004 and Ph. D. 2004-2009  
E. Mittelstaedt (primary adviser), Ph. D., UH, 2002-2008  
T. Blacic (primary adviser), Ph.D., UC Davis, 2000-present  
S. Safaya (primary adviser), Undergraduate, UC Davis 2001  
J. Muller (co-adviser for part of M.S. thesis), M.S., UH, 98-99

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I. Johanson (primary adviser), Undergraduate REU, UH, summer 98  
M. J. Raddick (primary adviser), Undergraduate REU, UH, summer 99  
M. Chandler (primary adviser), Undergraduate, UH 98-99  
L. Dulay (primary adviser), Undergraduate, UH, 97-98

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### Research and Scholarly Activities

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#### Grant Funding

<u>Source: Title</u>	<u>Dates</u>	<u>Amount</u>
NSF-OCE Collaborative Research: An Open Access Experiment to Seismically Image Galapagos Plume-Ridge Interaction (PI)	3/15/20-2/29/24	\$327,816
NSF-OCE "Collaborative Research: Tectono-magmatic Controls on the Origin and Evolution of Mid-Ocean Ridge Segmentation at Slow-to-Intermediate Spreading Rates"	9/1/19-8/31/23	\$314,748
NSF-OCE "Collaborative Research: Collaborative Research: Seismic Imaging of Volcano Construction, Underplating and Flexure Along the Hawaii-Emperor Seamount Chain" (co-I.)	6/1/18-5/31/21	\$477,439
HI State Dept of Health- Safe Drinking Water Branch (co-P.I.)	3/13/18-4/30/19	\$80,000
NSF-OCE The Rheology of the Lithosphere Beneath the Hawaiian Ridge (P.I.)	8/1/16-7/31/18	\$225,931
DOE "Comprehensive analysis of Hawaii's geothermal potential through Play Fairway integration of geophysical, geochemical, and geological data" (co-P.I.)	10/1/14-3/31/19	\$1,537,733
NSF-OCE "Beyond the 'Classical' Mantle Plume Concept: Upwelling Dynamics, Seismic Structure, and Partial Melting of Thermochemical Plumes," (P.I.)	8/1/12-7/31/14	\$175,738
NSF- OCE Collaborative Research: 3-D geodynamic models of tectono-magmatic extension at mid-ocean ridges: Variations in magmatism, faulting, and morphology at the segment scale (P.I.)	4/1/12-3/31/15	\$229,721
NSF-EAR The Geological, Geochemical, and Geophysical Evolution of the Galapagos Archipelago and Other Ocean Island Provinces: A Proposal for an International, Multidisciplinary, Field-based Symposium (Co-I.)	5/1/10-4/30/12	\$0
NSF-OCE Collaborative Research: Hotspot Rift Interaction & Geochemistry of the North Atlantic Mantle: A U.S.-Norwegian Expedition to Sample the Aegir Ridge "Hole" in the Iceland Hotspot (P.I.)	9/1/09-8/31/11	\$162,094
NSF-EAR Computational Upgrade for the SOEST Geophysics and Tectonics Group (Co-P.I.)	8/1/09-7/31/10	\$70,000
NSF-EAR/OCE Collaborative Research: Geodynamic Solutions for Seismic Observations of Iceland Hotspot-Ridge Interaction (P.I.)	5/1/09-4/30/12	\$327,483
NSF-OCE The Mantle Melt Column and Melt Migration Revealed by Deglaciation Melting Beneath Iceland's Western Rift Zone (Co-P.I.)	8/1/09-7/31/11	\$295,743
UH/Maui High Performance Computer Center: Engagement Grant, "Hawaiian Island Model from Coupled 3D Mantle Dynamics and Melting"	1/1/07-1/31/07	\$27,834
NSF-EAR/OCE Secondary Hawaiian Hotspot Volcanism: What, When, Where, and Why? (Co-P.I.)	10/1/05-9/30/08	\$588,516

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NSF-EAR: Dynamics and Melting of a Heterogeneous Mantle: Importance to the Geochemical Variability of Hotspot and Mid-Ocean Ridge Magmas (P.I.)	4/15/05-4/14/08	\$208,133
NSF-OCE: Hotspot-Ridge Interaction: Shaping the Geometry of Mid-Ocean Ridges (P.I.)	8/1/04-7/31/07	\$206,716
NSF-OCE: Collaborative Research: Integrated Petrological, Geophysical, and Numerical Modeling Constraints on Crustal and of Mantle Processes along the Galapagos Spreading Center (Co-P.I.)	1/1/04-12/31/05	\$316,877
NSF-OCE: Upgrade of SOEST MG&G Computing Facility (P.I.)	3/01/02-2/28/05	\$109,880
NSF-OCE: Collaborative Research: Constructing Self-Consistent Geodynamic and Seismological Models of the Iceland Mantle Plume (P.I.)	6/1/02-5/31/04	\$21,041

**Publications** (First authors are \*student or †post-docs whom I advised. For electronic copies, visit [www.soest.hawaii.edu/GG/FACULTY/ITO/Publications.html](http://www.soest.hawaii.edu/GG/FACULTY/ITO/Publications.html)).

81. †Schierjott, J., **G. Ito**, M. D. Behn, X. Tian, T. Morrow, B. J. P. Kaus, J. Escartín (2023) How transform faults shear influences where detachment faults form near mid-ocean ridges, *Nature Sci. Rep.*, <https://doi.org/10.1038/s41598-023-35714-3>
80. **Ito, G.** (2022) Honing in on the climate signal in seafloor topography, *Proc. Natl. Acad. Sci.*, 119 (32) e2209199, <https://www.pnas.org/doi/full/10.1073/pnas.2209199119> (non-peer reviewed).
79. **Ito, G.** (2021) Oceanic fault zones reconstructed, *Nature News and Views*, 591, 376-377 (non-peer reviewed).
78. **Ito, G.** and G. F. Moore (2021) Widths of imbricate thrust blocks and the strength of the front of accretionary wedges and fold-and-thrust belts, *Tectonophysics*, 799, <https://doi.org/10.1016/j.tectono.2020.228704>.
77. \*Guest, I., **G. Ito**, M.O. Garcia, H. Hellebrand (2020), Extensive magmatic heating of the lithosphere beneath the Hawaiian Islands inferred from Salt Lake Crater mantle xenoliths, *Geochem. Geophys. Geosyst.*, <https://doi.org/10.1029/2020GC009359>
76. \*Pleus, A., **G. Ito**, P. Wessel. & L. N. Frazer (2020). Rheology and thermal structure of the lithosphere beneath the Hawaiian Ridge inferred from gravity data and models of plate flexure, *Geophys. J. Int.*, in press.
75. Lautze, N., **G. Ito**, D. Thomas, N. Frazer, S. J. Martel, N. Hinz, D. Tachera, G. Hill, H. A. Pierce, P. E. Wannamaker, T. Martin (2020) Play Fairway analysis of geothermal resources across the State of Hawai'i: 4. Updates with new groundwater chemistry, subsurface stress analysis, and focused geophysical surveys, *Geothermics*, 86, 101798, <https://doi.org/10.1016/j.geothermics.2019.101789>.
74. \*Howell, S. M., J.-A. Olive, **G. Ito**, M. D. Behn, J. Escartín, B. Kaus (2019) Seafloor expression of oceanic detachment faulting reflects gradients in mid-ocean ridge magma supply. *Earth Planet. Sci. Lett.*, 516, 176-189, <https://doi.org/10.1016/j.epsl.2019.04.001>.
73. \*Weiss, J., **G. Ito**, B. J. Brooks, J. Arthur-Olive, G. F. Moore, J. H. Foster (2018) Formation of the frontal thrust zone of accretionary wedges by top-down propagation of the protothrusts, *Earth Planet. Sci. Lett.*, 495, 87-100, <https://doi.org/10.1016/j.epsl.2018.05.010>.
72. Bruno, B. C., J. Engels, **G. Ito**, J. Gillis-Davis, H. Dulai, G. Carter, C. Fletcher, D. Botjer-Wilson (2017) Two-stage exams: a powerful tool for reducing the achievement gap in undergraduate oceanography and geology classes, *Oceanography*, 30(2), <https://doi.org/10.5670/oceanog.2017.241>.
71. Lautze, N., D. Thomas, N. Hinz, D. Waller, N. Frazer, **G. Ito** (2017), Play fairway analysis of geothermal resources across the state of Hawaii: 3. Use of development viability criterion to prioritize future exploration targets, *Geothermics*, <https://doi.org/10.1016/j.geothermics.2017.07.005>. (PDF)

70. Lautze, N., D. Thomas, N. Hinz, **G. Ito**, N. Frazer, D. Waller (2017), Play fairway analysis of geothermal resources across the state of Hawaii: 1. Geological, geophysical, and geochemical datasets, *Geothermics*, <https://doi.org/10.1016/j.geothermics.2017.02.001>. (PDF)
69. **Ito, G.**, N. Frazer, N. Lautze, D. Thomas, N. Hinz, D. Waller, R. Whittier, E. Wallin (2017), Play fairway analysis of geothermal resources across the state of Hawaii: 2. Resource probability mapping, *Geothermics*, 70, 393-405, doi:10.1016/j.geothermics.2016.11.004 (PDF).
68. Garcia, M. O., D. Weis, B. R. Jicha, G. Ito, D. Hanano (2016), Petrology and geochronology of lavas from Ka'ula Volcano: Implications for rejuvenated volcanism of the Hawaiian mantle plume, *Geochim. Cosmochim. Acta*, 185, 278-301
67. Ballmer, M. D., L. Schumacher, V. Lekic, C. Thomas, **G. Ito** (2016), Compositional layering within the large low shear-wave velocity provinces in the lower mantle, *Geochem. Geophys. Geosys.*, doi: 10.1002/2016GC006605 (URL)
66. \*Howell, S. M., **G. Ito**, M. D. Behn, F. Martinez, J.-A. Olive, J. Escartín (2016), Magmatic and tectonic extension at the Chile Ridge: Evidence for mantle controls on ridge segmentation, *Geochem. Geophys. Geosys.*, 17, doi: 10.1002/2016GC006380 (PDF, URL)
65. Olive, J.-A., M. D. Behn, E. Mittelstaedt, **G. Ito**, B. Z. Klein (2016) The role of elasticity in simulating long-term tectonic extension, *Geophys. J. Int.*, 205, 728-743 (PDF).
64. Olive, J.-A., M. D. Behn, **G. Ito**, W. R. Buck, J. Escartín (2016) Response to Comment on "Sensitivity of seafloor bathymetry to climate-driven fluctuations in mid-ocean ridge magma supply", *Science*, 352 (6292), 1405, doi:10.1126/science.aaf2021. (URL and URL to comment by Huybers et al. 2016).
63. Olive, J.-A., Behn, M.D., **Ito, G.**, Buck, W.R., Escartin, J., and S. Howell, Sensitivity of seafloor bathymetry to climate-driven fluctuations in mid-ocean ridge magma supply, *Science*, 350(6258), 2015. [Link to reprint](#). Additional coverage: [Science](#), [LDEO / Columbia University](#), and [Ars Technica](#).
62. Garcia, M. O., D. Weis, L. Swinnard, **G. Ito**, A. Pietruszka (2015) Petrology and geochemistry of volcanic rocks from the South Kaua'i Swell Volcano, Hawai'i: Implications for the lithology and composition of the Hawaiian Mantle Plume, *J. Petrol.* 56, 6, 1173-1197, doi: 10.1093/petrology/egv033 (URL).
61. Kelly, C., J. R. Smith, J. Miller, J. Tree, B. Boston, M. Garcia, **G. Ito**, J. Taylor, F. Lichowski, D. Wagner, J. Leonard, B. Dechnik, D. Leurs (2015), New insights from Seafloor mapping of Hawaiian Marine Monument, *Eos*, 96, doi:10.1029/2015EO030235, 28 May 2015, (URL).
60. †Ballmer, M. D., P. E. van Keken, **G. Ito** (2015), Hotspots, Large Igneous Provinces, and Melting Anomalies, in: *Treatise of Geophysics*, 2nd edition, (editor G. Schubert), volume 7 "Mantle Dynamics", (editor D. Bercovici), 393-459, Elsevier, Amsterdam.
59. **G. Ito**, R. Dunn, A. Li (2015), The origin of shear-wave splitting beneath Iceland, *Geophys. J. Int.*, 201, 1297-1312, doi:10.1093/gji/gvv078. (PDF and URL)
58. †Ballmer, M. D., **G. Ito**, C. Cheng (2015), Asymmetric dynamical behavior of thermochemical plumes and implications for Hawaiian lava composition, in *Hawaiian volcanoes: From Source to Surface*, eds. R. Carey, V. Cayol, M. Poland, D. Weis, Chapter 3, *Geophys. Monogr* 208, Amer. Geophys. Union, John Wiley & Sons, Inc, Washington D.C., 10.1002/9781118872079.ch3, (URL)
57. **Ito, G.**, and T. Bianco (2014), Patterns in Galápagos magmatism arising from the upper mantle dynamics of plume-ridge interaction, in *The Galápagos as a Laboratory for the Earth Sciences*, edited by K. S. Harpp, et al., Chapter 13, *Geophys. Monogr.*, 204, Amer. Geophys. Union, Washington D. C., 245-261.
56. Canales, J. P., R. A. Dunn, **G. Ito**, R. S. Detrick, V. Sallarès (2014) Effect of variations in magma supply on the crustal structure of mid-ocean ridges: insights from the Western Galápagos Spreading Center, in *The Galápagos as a Laboratory for the Earth Sciences*, edited by K. S. Harpp, et al., Chapter 17, *Geophys. Monogr.*, 204, Amer. Geophys. Union, Washington D. C.

55. **Ito, G.**, R. Dunn, A. Li, C. J. Wolfe, A. Gallego, Y. Fu (2014), Seismic anisotropy and shear wave splitting associated with mantle plume-plate interaction, *J. Geophys. Res.*, 119, doi:10.1002/2013JB010735 ([URL](#))
54. Martel, S. J., G. M. Stock, **G. Ito** (2014), Mechanics of relative and absolute displacements across normal faults, and implications for uplift and subsidence along the eastern escarpment of the Sierra Nevada, California, Origin and Evolution of the Sierra Nevada and Walker Lane Theme Issue, *Geosphere*, 10(2), 243-263, doi:10.1130/GES00968.1. ([URL](#))
53. \*Howell, S. M., **G. Ito**, A. J. Breivik, A. Rai, R. Mjelde, B. Hanan, K. Sayit, and P. Vogt (2014), The origin of the asymmetry in the Iceland hotspot along the Mid-Atlantic Ridge from continental breakup to present-day, *Earth Planet. Sci. Lett.*, 392, 143-153 (<http://dx.doi.org/10.1016/j.epsl.2014.02.020>).
52. †Gallego, A., **G. Ito**, R. A. Dunn (2013) Investigating seismic anisotropy beneath the Reykjanes Ridge using models of mantle flow, crystallographic evolution, and surface wave propagation, *Geochem. Geophys. Geosys.*, doi:10.1002/ggge.20204.
51. †Ballmer, M. D., **G. Ito**, C. J. Wolfe, S. C. Solomon (2013), Double layering of a thermochemical plume in the upper mantle beneath Hawaii, *Earth Planet. Sci. Lett.*, 376, 155-164.
50. **Ito, G.**, M. O. Garcia, J. R. Smith, B. Taylor, A. Flinders, B. Jicha, S. Yamasaki, D. Weis, L. Swinnard, C. Blay (2013), A low-relief shield volcano origin for the South Kaua'i Swell, *Geochem. Geophys. Geosys.*, doi: 10.1002/ggge.20159.
49. Flinders, A. F., **G. Ito**, M. O. Garcia, J. M. Sinton, J. Kauahikaua, B. Taylor (2013), Intrusive dike complexes, cumulate cores, and the extrusive growth of Hawaiian volcanoes, *Geophys. Res. Lett.*, 40 (13), 3367-3373, doi:10.1002/grl.50633. (See also [Research Spotlight, in AGU-EOS Sept. 10, 2013](#))
48. \*Bianco, T. A., **G. Ito**, J. van Hunen, J. J. Mahoney, M. D. Ballmer (2013) Geochemical variations at ridge-centered hotspots caused by variable melting of a veined mantle plume, *Earth Planet. Sci. Lett.*, 371-372, 171-201.
47. Garcia, M. O., D. Hanano, A. Flinders, D. Weis, **G. Ito**, M. D. Kurz (2012) Age, geology, geophysics, and geochemistry of Mahukona Volcano, Hawai'i, *Bull. Volcanol.* doi:10.1007/s00445-012-0602-4
46. Fu, Y. V., A. Li, **G. Ito**, S.-H. Hung (2012) Waveform modeling of shear wave splitting from anisotropic models of Iceland, *Geochem. Geophys. Geosys.*, 12, 6, Q12001, doi:10.1029/2012GC004369
45. Garcia, M. O., D. Hanano, A. Flinders, D. Weis, G. Ito, M. D. Kurz (2012) Age, geology, geophysics, and geochemistry of Mahukona Volcano, Hawai'i, *Bull. Volcanol.* doi:10.1007/s00445-012-0602-4
44. \*Bianco, T. A., **G. Ito**, J. van Hunen, M. D. Ballmer, J. J. Mahoney (2011) Geochemical variations at intraplate hot spots caused by viable melting of a veined mantle plume, *Geochem. Geophys. Geosys.*, 12, 7, Q0AC13, doi:10.1029/20111GC003658.
43. †Ballmer, M. D., **G. Ito**, J. van Hunen, P. J. Tackley (2011), Small-scale convection induces spatio-temporal variability in Hawaiian hotspot volcanism, *Nature Geosc.*, doi:10.1038/NNGEO1187.
42. \*Mittelstaedt, **G. Ito**, J. van Hunen, (2011), Repeat ridge jumps associated with plume-ridge interaction, melt transport and ridge migration, *J. Geophys. Res.* 116, B01102, doi:10.1029/2010JB007604.
41. Greene, A., M. O. Garcia, **G. Ito**, D. Weis, M. Kuga, J. Robinson (2010), Low-volume submarine tholeiitic volcanism (ca. 4.9 to 3.6 Ma) West of Ka'ena Ridge, Hawai'ian Islands—Significance of Loa-type volcanism in the Hawai'ian plume, *Geochem. Geophys. Geosys.*, 115, B08412, doi:10.1029/2010GC003233
40. \*Flinders, A., **G. Ito**, M. O. Garcia (2010), Gravity anomalies of the Northern Hawaiian Islands: Implications on the shield evolutions of Kauai and Niihau, *J. Geophys. Res.*, 115, B08412, doi:10.1029/2009JB006877.
39. †Ingle, S., **G. Ito**, J. J. Mahoney, W. Chazey III, J. Sinton, M. Rotella, D. M. Christie (2010) Mechanisms of geochemical and geophysical variations along the western Galápagos Spreading Center, *Geochem. Geophys. Geosys.*, Q04003, doi:10.1029/2009GC002694.

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37. Ballmer, M. D., J. van Hunen, **G. Ito**, T. A. Bianco, and P. J. Tackley (2009), Intraplate volcanism with complex age-distance patterns - a case for small-scale sublithospheric convection, *Geochem. Geophys. Geosys.*, doi:10.1029/2009GC002386.
36. **Ito, G.**, and R. Dunn (2009), Mid-ocean ridges: Mantle convection and formation of the lithosphere, *Encyclopedia of Ocean Sciences*, 4030-4044, doi:10.1016/B978-012374473-9.00654-8.
35. Garcia, M, **G. Ito**, D. Weis, D. Geist, L. Swinnard, T. Bianco, A Flinders, B. Taylor, B. Appelgate, C. Blay, D. Hanano, I. Nobre Silva, T. Naumann, C. Maerschalk, K. Harpp, B. Christensen, L. Sciaroni, T. Tagami, and S. Yamasaki (2008), Widespread secondary volcanism near Northern Hawaiian Islands, *Eos*, 89 (52), 542-543.
34. \*Blacic, T. , **G. Ito**, A. K. Shah, J. P. Canales (2008), J. Lin, Axial high topography and partial melt in the crust and mantle beneath the Western Galapagos Spreading Center, *Geochem. Geophys. Geosys.*, 9, Q12005, doi:10.1029/2008GC002100.
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10. \*Caplan-Auerbach, J., F. Duennebier, and **G. Ito** (2000), Guyot heights and oceanic paleodepth, *J. Geophys. Res.*, 105, 2679-2698.
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8. **Ito, G.** and P. Clift, Subsidence and growth of Cretaceous Pacific plateaus (1998), *Earth Planet. Sci. Lett.*, 161, 85-100.
7. **Ito, G.**, J. Lin, and C. W. Gable (1997), Interaction between mantle plumes and migrating midocean ridges: Implications for the Galápagos plume-ridge system, *J. Geophys. Res.*, 102, 15,403-15,417.
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4. **Ito, G.**, and J. Lin (1995), Oceanic spreading center-hot spot interactions: Constraints from along-isochron bathymetric and gravity anomalies, *Geology*, 23, 657-660.
3. **Ito, G.**, and J. Lin (1995), Mantle temperature anomalies along the present and paleoaxes of the Galápagos spreading center as inferred from gravity analyses, *J. Geophys. Res.*, 100, 3733-3745.
2. **Ito, G.**, M. McNutt, and R. Gibson (1995), Crustal structure of the Tuamotu Plateau, 15°S, and implications for its origin, *J. Geophys. Res.*, 100, 8097-8114.



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1. McNutt, M. K., E. L. Winterer, W. W. Sager, J. H. Natland, and G. Ito (1990), The Darwin Rise: A Cretaceous superswell?, *Geophys. Res. Lett.*, 17, 1101-1104.

### Sea and Field Experience

*Shipboard Scientist*: Seismic refraction (active source with ocean bottom seismometers), single channel seismic reflection, and dredging the extinct Aegir Ridge axis, *R/V Hakon Mosby*, May-June 2010

*Student-cruises*: Shipboard scientist on 2 and chief scientist on 1 5-day cruises doing multi-beam mapping and collecting gravity and magnetics data, and dredging around the Hawaiian Islands, *R/V Kilo-Moana*, 2005, 2007, 2009.

*Co-Chief Scientist*, Geophysical surveying, multibeam and sidescan mapping, and rock sampling with JASON ROV submersible around the N. Hawaiian Islands, *R/V Kilo Moana*, Sept, 2007.

*Shipboard Scientist*, Multi-channel seismic, seismic refraction, and geological sampling survey of the Galapagos Spreading Center, G-PRIME Expedition, *R/V Maurice Ewing*, April-May, 2000.

*Shipboard Scientist*, Multi-channel seismic, seismic refraction, and gravity survey of the Ontong Java Plateau; *R/V Hakuho Maru*, Feb. 1998.

*Shipboard Scientist*, Multi-channel seismic, seismic refraction, gravity, multi-beam bathymetry, and magnetics survey of the Marquesas, Tuamotu, and Society Islands; *R/V Maurice Ewing*, May-June, 1991

*Shipboard Scientist*, Near-seafloor seismic refraction, multi-beam bathymetry, and magnetic survey of the East Pacific Rise 9° 30' N; *R/V Atlantis II*, Jan. 1991

*Shipboard Scientist*, Multi-beam bathymetry, single channel seismics, sonar, gravity, magnetics, and dredging survey of northwest Pacific seamounts; *R/V Thomas Washington*, Nov.-Dec. 1988.

*Geological field trips* to N. California 2000, Iceland, 1997, 1998, 2000, Hawaiian Islands, 1996-97, 2002; Basin and Range Province and Yellowstone National Park, 1994; Bay of Islands Ophiolite, New Foundland, 1993; Canary Islands, 1991; Columbia River and Josephine Ophiolite, 1992.

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**Service Activities**

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**Professional Service**

Organizing Committee for the Geological Society of America, Cordilleran Section Meeting, Honolulu 2017  
Magma Dynamics Working Group for the Computational Infrastructure for Geodynamics (CIG), 2009-present  
Panelist for the NSF Graduate Research Fellowship Program, January 2015  
Science Steering Committee for the Computational Infrastructure for Geodynamics (CIG), 2009-2012  
AGU-SEDI Focus Group Leadership committee, 2010-2013  
Program Committee for Chapman Conference “The Galápagos as a Laboratory for the Earth Sciences”, Galápagos Islands, summer 2011  
NSF-OCE Panel Spring 2005, 2011  
Chair AGU-SEDI Focus Group, 2006-2009  
Co-Chair, Program Committee, AGU Western Pacific Geophysics Meeting, Honolulu, 2004  
Program Committee, Fall AGU Meeting, San Francisco, 2001, 2002  
Organizer, RIDGE Workshop on Plume-Ridge Interaction, June 2000  
Judge for the Fall AGU Meeting Outstanding Student Paper awards, 1998, 1999, 2015, 2016, 2017, 2018  
Head Judge for the Fall AGU Meeting Outstanding Student Paper awards, 1998  
Co-convener, American Geophysical Union Fall Meeting, 1992, 1999, 2000, 2002, 2012, 2014, 2015  
Reviews of manuscripts: ~12 per year for AGU, Earth Planet. Sci. Lett., Earth Sci. Rev., J. Comp. Phys., Geochim. Cosmo. Acta, G-cubed., Geology, Geophys. J. Int., J. Geophys. Res, J. Petrol., Nature, Nature Geosci. Nature Adv., Physics of Earth and Planetary Interiors, Science, Science Adv., Tectonophysics.,  
Reviews of grant proposals: ~5 per year the NSF (OCE and EAR), Schmidt Ocean Institute, Natural Environment Research Council (UK)  
External reviewer for promotions of professors at other Universities: 3 Associate Professors, 1 Full Professor

**University and Departmental Service**

Department Standing Committees

Department Chair, 2021-present  
SOEST Academic Council, 2021-present  
Curriculum Committee 2002-03, 2005-06, Chair 07-08, Chair 10-11  
Department Committee, 2009, 2014-15, Chair 2015  
Graduate Admissions Committee, 2004-05, Chair 2016-2021  
Graduate Studies Committee 2002, 2003-04, 07-08, 2009, 2012  
Personnel Committee 2011, 2014-2015, Fall 2015, 2021  
Relations and Honors Committee, 2004-05, 08-09  
SOEST Curriculum Committee 2001-2008, 2010, 2012  
Student Committee 2003-04, 2013-14 (Chair)

Other Department Committees

SOEST Student Recruitment Committee, 2020-2021  
Co-Chair of faculty searches for positions in Coastal Processes, Structural Geology and Tectonics, Geodesy and Marine Geophysics, 2020  
Chair of Professional Masters in Geoscience (MGeo) Committee: 2011-2018  
Associate Department Chair: 2012  
Chair of Shallow Earth Geophysics Search Committee: 2012  
Chair of Marine Geophysics Search Committee, 2007  
Chair of Geophysics and Tectonics Division: 2010-2014

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### *University Committees*

UH Manoa General Education Committee (non-Senate member), 2020-2021  
GEC liaison to the Oral Communications Focus Boards  
GEC Faculty Governance Working Group  
UH Manoa Faculty Senate- General Education Committee (GEC), 2018-2020  
Chair, 2019-2020  
GEC liaison to the Oral Communications and Foundations Focus Boards  
GEC Curriculum Working Group  
UH Manoa Faculty Senate- Committee of Administration and Budget, 2016-17  
UH Manoa Cyberinfrastructure Faculty Advisery Committee, 2014-present  
UH Manoa Tenure and Promotion Committee 2014, 2021  
Board of UH Faculty Housing Tenants Association, 2006-2012  
UH Manoa Faculty Senate 2009-2011  
COPR Review Committee, 2006-2007