CURRICULUM VITAE

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EDUCATION:

University of Tokyo, Geophysics, B.Sc., 1992.
University of Tokyo, Earth and Planetary Physics, M.Sc., 1994.
MIT/WHOI Joint Program, Oceanography, Ph.D., 2000.
MIT, Postdoctoral Fellow, 2000-2001.
UC Berkeley, Miller Research Fellow, 2001-2002.

PROFESSIONAL HISTORY:

2003-2007, Assistant Professor, Department of Geology and Geophysics, Yale University.
2007-2009, Associate Professor, Department of Geology and Geophysics, Yale University.
2009-present, Professor, Department of Earth and Planetary Sciences, Yale University.

COURSES TAUGHT:

GG290 - Earthquakes and Volcanoes
GG326 - Introduction to Earth and Planetary Physics
AMTH428 / E&EB428 / GG428/528 / PHYS 428 - Science of Complex Systems
GG529 - Introduction to Geodynamics
GG538 - Computational Analysis in Astrophysics and Geophysics
GG644 - Mantle Dynamics and Geochemistry

HONORS AND AWARDS:

Ishizaka Foundation Fellowship (1994-1996)
Miller Research Fellowship (2001-2002)
NSF CAREER Award (2005)
AGU James B. Macelwane Medal (2006)
AGU Fellow (2006)
Kavli Frontiers Fellow, National Academy of Sciences (2007)
Microsoft A. Richard Newton Breakthrough Research Award (2008)
Finalist, Blavatnik Awards for Young Scientists, New York Academy of Sciences (2011)
Guggenheim Fellow (2014)
Nishida Prize, Japan Geoscience Union (2015)
Evgueni Burov Medal, International Lithosphere Program (2022)

PROFESSIONAL AFFILIATIONS AND ACTIVITIES:

Fellow, American Geophysical Union.

Steering Committee, Large Igneous Provinces Commission, International Association of Volcanology and Chemistry of the Earth's Interior (2003-present).
Editorial Board, Earth and Planetary Science Letters (2023-present).
Vetlesen Prize Selection Committee, Columbia University (2019-2020).
Editorial Board, Geophysical Journal International (2005-2015).
Publications Committee, American Geophysical Union (2010-2012).
Associate Editor, Terra Nova (2008-2010).
NSF OCE Marine Geology and Geophysics Panel Member (2010).
Search Committee, Senior Editor for JGR Solid Earth (2008-2009).
Co-chair, The "Deep Earth" theme of the 2009 Goldschmidt Conference.

FIELD EXPERIENCES:

Kuril Trench and Nankai Trough, 6/1992-7/1992, R/V *Hakuho-maru*, Seabeam system administration and data processing.
Japan Sea, 9/1992, R/V *Tansei-maru*, Surface-towed and deep-towed magnetometer operation.
East Pacific Rise 14°-17°S, 11/1992-12/1992, R/V *Melville*, Installation of shipboard three component magnetometer.
East Pacific Rise 14°-17°S, 12/1992-1/1993, R/V *Melville*, Testing of shipboard three component magnetometer.
East Pacific Rise 26°-32°S, 2/1993-3/1993, R/V *Melville*, Shipboard three component magnetometer operation and data processing.
Easter Seamount Chain, 3/1993-4/1993, R/V *Melville*, Shipboard three component magnetometer operation and data processing.
Aleutian Trench, 6/1994, R/V *Alpha Helix*, OBH seismic data processing.
South New Zealand, 2/1996, R/V *Maurice Ewing*, OBH/MCS data processing.
Southeast Greenland margin, 8/1996-10/1996, R/V *Maurice Ewing*, OBH/OBS/MCS data processing.
Oman Ophiolite, 2/1997, Geological mapping of lower crustal gabbro.
Shatsky Rise, 7/2010-9/2010, R/V *Marcus G. Langseth*, Chief scientist.
Shatsky Rise, 3/2012-4/2012, R/V *Marcus G. Langseth*, Chief scientist.

GRADUATE ADVISERS:

W. S. Holbrook (WHOI, now at Virginia Tech), P. B. Kelemen (WHOI, now at Columbia), and T. H. Jordan (MIT, now at USC)

POSTDOCTORAL ADVISERS:

T. H. Jordan (MIT, now at USC) and M. S. T. Bukowinski (UC Berkeley)

UNDERGRADUATE ADVISEES:

Abigail Fraeman (Geology and Geophysics, B.Sc., 2009), Ian Rose (Physics, B.Sc., 2009), Jesse Day (Physics, B.Sc., 2009), Joseph O'Rourke (Geology and Geophysics, B.Sc., 2012), Ben Mullet (Physics, B.Sc., 2013), Catherine Padhi (Physics, B.Sc., 2014), Madeleine Barrow (Physics, B.Sc., 2015), Carlos del-Castillo-Negrete (Physics, B.Sc., 2015), Jordan Vargas (Geology and Geophysics, B.A., 2017), Sophia Sánchez-Maes (Physics, B.Sc., 2019), Mrinal

Dursun (Physics & Math, B.Sc., 2020), Vuong Mai (Physics and Geosciences, B.Sc., 2021), Brianna Fernandez (Earth and Planetary Sciences, B.Sc., 2023), Varun Varanasi (Physics, class of 2024), Lex Schultz (Earth and Planetary Sciences, class of 2024), and Emmanuelle Brindamour (class of 2025).

GRADUATE ADVISEES:
Tanya Lyubetskaya (M. Phil., 2005), Erin Wirth (Ph.D., 2014), Xu Chu (Ph.D., 2015), Adria Melendez (2014, Ph.D.; University of Barcelona), Andrea Servali (M.Sc., 2018), Xiaoyu Yuan (Ph.D, 2019; China University of Geosciences), Chhavi Jain (Ph.D., 2020), Yoshinori Miyazaki (Ph.D., 2021), Puskar Mondal (Ph.D., 2021), Meng Guo (Ph.D., 2023), Amy Ferrick (2021-present), Estephania Larsen (2021-present), and Coral Chen (2023-present).

POSTDOCTORAL ADVISEES:
Tadashi Kito (2008-2010), Benjun Wu (2011-2013), Jill VanTongeren (2011-2013), Cecilia Cadio (2011-2014), Kuangdai Leng (2017-2018), Juan Rosas (2016-2019), Darius Modirrousta-Galian (2021-present), and Meng Guo (2023-present).

YALE UNIVERSITY SERVICE:
Director of Postdoctral Affairs, Department of Earth and Planetary Sciences (2009-2011, 2018-2022)
Director of Graduate Studies, Department of Geology and Geophysics (2016-2017)
Member, ITS Research Technology Committee (2012-2014)
Member, Science Research Core Committee (2011-2016)
Member, High-Performance Computing committee (2008-2013)
Member, G&G Faculty Reviews & Honors Committee (2013-2020)

PUBLICATIONS AND PAPERS IN PROGRESS:
(* denotes undergraduate advisee first author.)
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(‡ denotes postdoctoral advisee first author.)

1. Korenaga, J., "Comprehensive analysis of marine magnetic vector anomalies," *J. Geophys. Res.*, **100**, 365-378, 1995.

2. Hey, R. N., P. D. Johnson, F. Martinez, J. Korenaga, M. L. Somers, Q. J. Huggett, T. P. LeBas, R. I. Rusby, and D. F. Naar, "Plate boundary reorganization at a large-offset rapidly propagating rift," *Nature*, **378**, 167-170, 1995.

3. Korenaga, J., and R. N. Hey, "Recent dueling propagation history at the fastest spreading center, East Pacific Rise, 26°- 32°S," *J. Geophys. Res.*, **101**, 18,023-18,041, 1996.

4. Korenaga, J., W. S. Holbrook, S. C. Singh, and T. A. Minshull, "Natural gas hydrates on the southeast U.S. margin: Constraints from full waveform and travel time inversions of wide-angle seismic data," *J. Geophys. Res.*, **102**, 15,345-15,365, 1997.

5. Korenaga, J., and P. B. Kelemen, "Origin of gabbro sills in the Moho transition zone of the Oman ophiolite: Implications for magma transport in the oceanic lower crust," *J. Geophys. Res.*, **102**, 27,729-27,749, 1997.

6. Korenaga, J., and P. B. Kelemen, "Melt migration through the oceanic lower crust: A constraint from melt percolation modeling with finite solid diffusion," *Earth Planet. Sci. Lett.*, **156**, 1-11, 1998.

7. Simons, F. J., M. T. Zuber, and J. Korenaga, "Isostatic response of the Australian lithosphere: Estimation of effective elastic thickness and anisotropy using multitaper spectral analysis," *J. Geophys. Res.*, **105**, 19,163-19,184, 2000.

8. Korenaga, J., W. S. Holbrook, G. M. Kent, P. B. Kelemen, R. S. Detrick, H.-C. Larsen, J. R. Hopper, and T. Dahl-Jensen, "Crustal structure of the Southeast Greenland margin from joint refraction and reflection seismic tomography," *J. Geophys. Res.*, **105**, 21,591-21,614, 2000.

9. Korenaga, J., and P. B. Kelemen, "Major element heterogeneity in the mantle source of the North Atlantic igneous province," *Earth Planet. Sci. Lett.*, **184**, 251-268, 2000.

10. Korenaga, J., W. S. Holbrook, R. S. Detrick, and P. B. Kelemen "Gravity anomalies and crustal structure across the Southeast Greenland margin," *J. Geophys. Res.*, **106**, 8853-8870, 2001.

11. Holbrook, W. S., H. C. Larsen, J. Korenaga, T. Dahl-Jensen, I. D. Reid, P. B. Kelemen, J. R. Hopper, G. M. Kent, D. Lizarralde, S. Bernstein, and R. S. Detrick, "Mantle thermal structure and melting processes during continental breakup in the North Atlantic," *Earth Planet. Sci. Lett.*, **190**, 251-266, 2001.

12. Korenaga, J., and T. H. Jordan, "Effects of vertical boundaries on infinite Prandtl number thermal convection," *Geophys. J. Int.*, **147**, 639-659, 2001.

13. Korenaga, J., and T. H. Jordan, "On the state of sublithospheric upper mantle beneath a supercontinent," *Geophys. J. Int.*, **149**, 179-189, 2002.

14. Korenaga, J., P. B. Kelemen, and W. S. Holbrook, "Methods for resolving the origin of large igneous provinces from crustal seismology," *J. Geophys. Res.*, **107**, 2178, doi:10.1029/2001JB001030, 2002.

15. Korenaga, J., and T. H. Jordan, "Onset of convection with temperature- and depth-dependent viscosity," *Geophys. Res. Lett.*, **29**, 1923, doi:10.1029/2002GL015672, 2002.

16. Korenaga, J., and T. H. Jordan, "On 'steady-state' heat flow and the rheology of oceanic mantle," *Geophys. Res. Lett.*, **29**, 2056, doi:10.1029/2002GL016085, 2002.

17. Korenaga, J., "Energetics of mantle convection and the fate of fossil heat," *Geophys. Res. Lett.*, **30**, 1437, doi:10.1029/2002GL016179, 2003.

18. Hopper, J. R., T. Dahl-Jensen, W. S. Holbrook, H. C. Larsen, D. Lizarralde, J. Korenaga, G. M. Kent, and P. B. Kelemen, "Structure of the SE Greenland margin from seismic reflection and refraction data: Implications for nascent spreading center subsidence and asymmetric crustal accretion during North Atlantic opening," *J. Geophys. Res.*, **108**, 2269, doi:10.1029/2002JB001996, 2003.

19. Korenaga, J., and T. H. Jordan, "Physics of multiscale convection in Earth's mantle: Onset of sublithospheric convection," *J. Geophys. Res.*, **108**, 2333, doi:10.1029/2002JB001760, 2003.

20. Korenaga, J., and T. H. Jordan, "Linear stability analysis of Richter rolls," *Geophys. Res. Lett.*, **30**, 2157, doi:10.1029/2003GL018337, 2003.

21. Korenaga, J., and T. H. Jordan, "Physics of multiscale convection in Earth's mantle: Evolution of sublithospheric convection," *J. Geophys. Res.*, **109**, B01405, doi:10.1029/2003JB002464, 2004.

22. Korenaga, J., "Mantle mixing and continental breakup magmatism," *Earth Planet. Sci. Lett.*, **218**, 463-473, 2004.

23. Korenaga, J., "Firm mantle plumes and the nature of core-mantle boundary region," *Earth Planet. Sci. Lett.*, **232**, 29-37, 2005.

24. Korenaga, J., "Why did not the Ontong Java Plateau form subaerially?" *Earth Planet. Sci. Lett.*, **234**, 385-399, 2005.

25. Korenaga, J., "Archean geodynamics and the thermal evolution of Earth," in *Archean Geodynamics and Environments*, edited by K. Benn, J.-C. Mareschal, and K. Condie, AGU Geophysical Monograph Series 164, p.7-32, 2006.

26. †Lyubetskaya, T., and J. Korenaga, "Chemical composition of Earth's primitive mantle and its variance, 1, Method and results," *J. Geophys. Res.,* **112**, B03211, doi:10.1029/2005JB004223, 2007.

27. †Lyubetskaya, T., and J. Korenaga, "Chemical composition of Earth's primitive mantle and its variance, 2, Implications for global geodynamics," *J. Geophys. Res.*, **112**, B03212, doi:10.1029/2005JB004224, 2007.

28. Korenaga, J., "Effective thermal expansivity of Maxwellian oceanic lithosphere," *Earth Planet. Sci. Lett.*, **257**, 343-349, 2007.

29. Korenaga, J., "Eustasy, supercontinental insulation, and the temporal variability of terrestrial heat flux, " *Earth Planet. Sci. Lett.*, **257**, 350-358, 2007.

30. Korenaga, J., "Thermal cracking and the deep hydration of oceanic lithosphere: A key to the generation of plate tectonics?" *J. Geophys. Res.*, **112**, B05408, doi:10.1029/2006JB004502, 2007.

31. Korenaga, J., and S. Karato, "A new analysis of experimental data on olivine rheology," *J. Geophys. Res.*, **113**, B02403, doi:10.1029/2007JB005100, 2008.

32. Korenaga, T., and J. Korenaga, "Subsidence of normal oceanic lithosphere, apparent thermal expansivity, and seafloor flattening," *Earth Planet. Sci. Lett.*, **268**, 41-51, 2008.

33. Korenaga, J., "Comment on 'Intermittent plate tectonics?'," *Science*, **320**, 1291a, 2008.

34. Korenaga, J., "The Urey ratio and the structure and evolution of Earth's mantle," *Rev. Geophys.*, **46**, RG2007, doi:10.1029/2007RG000241, 2008.

35. Korenaga, J., "Reply to comment on 'Effective thermal expansivity of Maxwellian oceanic lithosphere'," *Earth Planet. Sci. Lett.*, **275**, 403, 2008.

36. Korenaga, J., "Plate tectonics, flood basalts, and the evolution of Earth's oceans," *Terra Nova*, **20**, 419-439, 2008.

37. Korenaga, J., "Scaling of stagnant-lid convection with Arrhenius rheology and the effects of mantle melting," *Geophys. J. Int.*, **179**, 154-170, 2009.

38. Korenaga, J., "A method to estimate the composition of the bulk silicate Earth in the presence of a hidden geochemical reservoir," *Geochim. Cosmochim. Acta*, **73**, 6952-6964, 2009.

39. Korenaga, J., "How does small-scale convection manifest in surface heat flux?" *Earth Planet. Sci. Lett.*, **287**, 329-332, 2009.

40. Herzberg, C., K. Condie, and J. Korenaga, "Thermal history of the Earth and its petrological expression," *Earth Planet. Sci. Lett.*, **292**, 79-88, 2010.

41. ‡Kito, T., and J. Korenaga, "Cross-correlation migration: Toward the high-resolution mapping of chemical heterogeneities in Earth's mantle," *Geophys. J. Int.*, *181*, 1109-1127, 2010.

42. *Fraeman, A. A., and J. Korenaga, "The influence of mantle melting on the evolution of Mars," *Icarus*, **210**, 43-57, 2010.

43. Korenaga, J., "Scaling of plate-tectonic convection with pseudoplastic rheology," *J. Geophys. Res.*, **115**, B11405, doi:10.1029/2010JB007670, 2010.

44. Korenaga, J., "On the likelihood of plate tectonics on super-Earths: Does size matter?," *Astrophys. J. Lett.*, **725**, L43-46, 2010.

45. Korenaga, J., "Velocity-depth ambiguity and the seismic structure of large igneous provinces: A case study from the Ontong Java Plateau," *Geophys. J. Int.*, **185**, 1022-1036, 2011.

46. *Rose, I. R., and J. Korenaga, "Mantle rheology and the scaling of bending dissipation in plate tectonics," *J. Geophys. Res.*, **116**, B06404, doi:10.1029/2010JB008004, 2011.

47. Katayama, I., and J. Korenaga, "Is the African cratonic lithosphere wet or dry?" in *Volcanism and Evolution of the African Lithosphere*, edited by L. Beccaluva, G. Bianchini, and M. Wilson, GSA Special Paper 478, p.249-256, 2011.

48. Korenaga, J., "Clairvoyant geoneutrinos" (News & Views), *Nature Geosci.*, **4**, 581-582, 2011.

49. Korenaga, J., "Thermal evolution with a hydrating mantle and the initiation of plate tectonics in the early Earth," *J. Geophys. Res.*, **116**, B12403, doi:10.1029/2011JB008410, 2011.

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51. †Chu, X., and J. Korenaga, "Olivine rheology, shear stress, and grain growth in the lithospheric mantle: Geological constraints from the Kaapvaal craton," *Earth Planet. Sci. Lett.*, **333-334**, 52-62, doi:10.1016/j.epsl.2012.04.019, 2012.

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53. Korenaga, J., and W. W. Sager, "Seismic tomography of Shatsky Rise by adaptive importance sampling," *J. Geophys. Res.*, **117**, B08102, doi:10.1029/2012JB009248, 2012.

54. Korenaga, J., "Plate tectonics and planetary habitability: Current status and future challenges," *Ann. N.Y. Acad. Sci.*, **1260**, 87-94, 2012.

55. †Wirth, E. A., and J. Korenaga, "Small-scale convection in the subduction zone mantle wedge," *Earth Planet. Sci. Lett.*, **357-358**, 111-118, 2012.

56. ‡Cadio, C., and J. Korenaga, "Localization of geoid anomalies and the evolution of oceanic lithosphere: A case study from the Mendocino Fracture Zone," *J. Geophys. Res.*, **117**, B10404, doi:10.1029/2012JB009524, 2012.

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58. Korenaga, J., "Initiation and evolution of plate tectonics on Earth: Theories and observations," *Annu. Rev. Earth Planet. Sci.*, **41**, 117-151, 2013.

59. Sager, W. W., J. Zhang, J. Korenaga, T. Sano, A. A. P. Koppers, J. Mahoney, and M. Widdowson, "An immense shield volcano within the Shatsky Rise oceanic plateau, northwest Pacific Ocean," *Nature Geosci.*, **6**, 976-981, 2013.

60. Korenaga, J., "Stacking with dual bootstrap resampling," *Geophys. J. Int.*, **195**, 2023-2036, 2013.

61. Korenaga, J., "Teleseismic migration with dual bootstrap stack," *Geophys. J. Int*, **196**, 1706-1723, 2014.

62. ‡Cadio, C., and J. Korenaga, "Resolving the fine-scale density structure of shallow oceanic mantle by Bayesian inversion of localized geoid anomalies," *J. Geophys. Res.*, **119**, 3627-3645, doi:10.1002/2013JB010840, 2014.

63. Yamamoto, J., J. Korenaga, N. Hirano, and H. Kagi, "Melt-rich lithosphere-asthenosphere boundary inferred from petit-spot volcanoes," *Geology*, **42**, 967-970, 2014.

64. Condie, K., S. A. Pisarevsky, J. Korenaga, and S. Gardoll, "Is the rate of supercontinent assembly changing with time?", *Precambrian Res.*, **259**, 278-289, 2015.

65. *Mullet, B. G., J. Korenaga, and S. Karato, "Markov chain Monte Carlo inversion for the rheology of olivine single crystals," *J. Geophys. Res.*, **120**, 3142-3172, doi:10.1002/2014JB011845, 2015.

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67. Zhang, J., W. W. Sager, and J. Korenaga, "Shatsky Rise oceanic plateau structure from 2D multichannel seismic reflection profiles and implications for oceanic plateau formation," in *The Origin, Evolution, and Environmental Impact of Oceanic Large Igneous Provinces*, edited by C. R. Neal, W. W. Sager, T. Sano, and E. Erba, GSA Special Paper 511, p.103-126, 2015.

68. *O'Rourke, J. G., and J. Korenaga, "Thermal evolution of Venus with argon degassing," *Icarus*, **260**, 128-140, 2015.

69. †Melendez, A., J. Korenaga, V. Sallares, A. Miniussi, and C. Ranero, "TOMO3D: 3-D joint refraction and reflection travel-time tomography parallel code for active-source seismic data - Synthetic test," *Geophys. J. Int.*, **203**, 158-174, 2015.

70. Korenaga, J., "Seafloor topography and the thermal budget of Earth," in Foulger, G. R., Lustrino, M., and King, S. D., eds., *The Interdisciplinary Earth: A Volume in Honor of Don L. Anderson*, GSA Special Paper 514 and AGU Special Publication 71, p.167-185, 2015.

71. Korenaga, J., "Constraining the geometries of small-scale heterogeneities: A case study from the Mariana region", *J. Geophys. Res.*, **120**, doi:10.1002/2015JB012432, 2015.

72. Korenaga, J., "Metamorphic myth," (News & Views), *Nature Geosci.*, **9**, 9-10, 2016.

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74. ‡Cadio, C., and J. Korenaga, "Macroscopic strength of oceanic lithosphere revealed by ubiquitous fracture-zone instabilities," *Earth Planet. Sci. Lett.*, **449**, 295-301, 2016.

75. Korenaga, J., "Can mantle convection be self-regulated?" *Sci. Adv.*, **2**, e160116, 2016.

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77. Korenaga, J., "On the extent of mantle hydration caused by plate bending," *Earth Planet. Sci. Lett.*, **457**, 1-9, 2017.

78. O'Rourke, J. G., J. Korenaga, D. J. Stevenson, "Thermal evolution of Earth with magnesium precipitation in the core," *Earth Planet. Sci. Lett.*, **458**, 263-272, 2017.

79. Korenaga, J., N. J. Planavsky, D. A. D. Evans, "Global water cycle and the coevolution of Earth's interior and surface environment," *Phil. Trans. R. Soc. London A*, **375**, 20150393, doi:10.1098/rsta.2015.0393, 2017.

80. Korenaga, J., "Pitfalls in modeling mantle convection with internal heat production," *J. Geophys. Res. Solid Earth*, **122**, 4064-4085, doi:10.1002/2016JB013850, 2017.

81. †Jain, C., J. Korenaga, and S. Karato, "On the yield strength of oceanic lithosphere," *Geophys. Res. Lett.*, **44**, 9716-9722, 2017.

82. †Miyazaki, Y., and J. Korenaga, "Chemical effects on vertical dust motion in protoplanetary disks," *Astrophys. J.*, **849**, 41, 2017.

83. Korenaga, J., "Estimating the formation age distribution of continental crust by unmixing zircon ages," *Earth Planet. Sci. Lett.*, **482**, 388-395, 2018.

84. †Mondal, P., and J. Korenaga, "The Rayleigh-Taylor instability in a self-gravitating two-layer viscous sphere," *Geophys. J. Int.*, **212**, 1859-1867, 2018.

85. †Mondal, P., and J. Korenaga, "A propagator matrix method for the Rayleigh-Taylor instability of multiple layers: A case study on crustal delamination in the early Earth," *Geophys. J. Int.*, **212**, 1890-1901, 2018.

86. †Jain, C., J. Korenaga, and S. Karato, "On the grain-size sensitivity of olivine rheology," *J. Geophys. Res.*, **123**, 674-688, 2018.

87. ‡Rosas, J.C., and J. Korenaga, "Rapid crustal growth and efficient crustal recycling in the early Earth: Implications for Hadean and Archean geodynamics," *Earth Planet. Sci. Lett.*, **494**, 42-49, 2018.

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89. Bada, J. L., and J. Korenaga, "Exposed areas above sea level on Earth >3.5 Gyr ago: Implications for prebiotic and primitive biotic chemistry," *Life*, **8**, 55, doi:10.3390/life8040055, 2018.

90. †Servali, A., and J. Korenaga, "Oceanic origin of continental mantle lithosphere," *Geology*, **46**, 1047-1050, 2018.

91. †Jain, C., J. Korenaga, and S. Karato, "Global analysis of experimental data on the rheology of olivine aggregates," *J. Geophys. Res.*, **124**, 310-334, https://doi.org/10.1029/2018JB016558, 2019.

92. †Miyazaki, Y., and J. Korenaga, "On the timescale of magma ocean solidification and its chemical consequences, 1, Thermodynamic database for liquid at high pressures," *J. Geophys. Res.*, **124**, 3382-3398, https://doi.org/10.1029/2018JB016932, 2019.

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94. Korenaga, J., "Plate tectonics and surface environment: Role of the oceanic upper mantle," *Earth-Sci. Rev.*, **205**, 103185, 2020.

95. †Guo, M., and J. Korenaga, "Argon constraints on the early growth of felsic continental crust," *Sci. Adv.*, **6**, eaaz6234, 2020.

96. †Yuan, X., J. Korenaga, W. S. Holbrook, and P. B. Kelemen, "Crustal structure of the Greenland-Iceland Ridge from joint refraction and reflection seismic tomography," *J. Geophys. Res. Solid Earth*, **125**, e2020JB019847, https://doi.org/10.1029/2020JB019847, 2020.

97. ‡Leng, K., J. Korenaga, and T. Nissen-Meyer, "3-D scattering of elastic waves by small-scale heterogeneities in the Earth's mantle," *Geophys. J. Int.*, **223**, 502-525, 2020.

98. †Jain, C., and J. Korenaga, "Synergy of experimental rock mechanics, seismology, and geodynamics reveals still elusive upper mantle rheology," *J. Geophys. Res. Solid Earth*, **125**, e2020JB019896, https://doi.org/10.1029/2020JB019896, 2020.

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100. †Miyazaki, Y., and J. Korenaga, "Dynamic evolution of major element chemistry in protoplanetary disks and its implications for Earth-enstatite chondrite connection," *Icarus*, **361**, 114368, 2021.

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INVITED LECTURES AND CONFERENCES:
University of California, San Diego (May, 2000)
University of Southern California (October, 2000)
University of California, San Diego (February, 2001)
Washington University (March, 2001)
Brown University (March, 2001)
Georgia Institute of Technology (April, 2001)
University of Hawaii (April, 2001)
University of California, Berkeley (September, 2001)
University of Chicago (February, 2002)
University of Southern California (March, 2002)
Woods Hole Oceanographic Institution (March, 2002)
Yale University (April, 2002)
Observatoire Océanologique de Villefranche sur Mer (April, 2002)
Institut de Physique du Globe de Paris (May, 2002)
University of California, Los Angeles (May, 2002)
American Geophysical Union Spring Meeting (May, 2002)
University of California, Berkeley (October, 2002)
California Institute of Technology (November, 2002)
American Geophysical Union Fall Meeting (December, 2002)
University of Rhode Island (February, 2003)
Princeton University (February, 2003)
International Union of Geology and Geophysics Meeting (June, 2003)
American Geophysical Union Fall Meeting (December, 2003)
Carnegie Institution of Washington (March, 2004)
Princeton University (April, 2004)
Columbia University (April and November, 2004)
American Geophysical Union Fall Meeting (December, 2004)
California Institute of Technology (June, 2005)
9th International Workshop on Numerical Modeling of Mantle Convection and Lithospheric Dynamics (September, 2005)
American Geophysical Union Fall Meeting (December, 2005)
Université Braise Pascal (March, 2006)

European Geosciences Union General Assembly (April, 2006)
Johannes Gutenberg-Universität Mainz (May, 2006)
American Geophysical Union Fall Meeting (December, 2006)
Workshop on Continental Lithosphere (March, 2007)
Harvard University (March, 2007)
Hawaii Geoneutrino Workshop (March, 2007)
European Geosciences Union General Assembly (April, 2007)
Carnegie Institution of Washington (December, 2007)
NASA "Origin of Water" Workshop (February, 2008)
MIT Workshop on Rock Mechanics (August, 2008)
Liebniz-Institut für Meereswissenschaften an der Universität Kiel (January, 2009)
American Museum of Natural History (April, 2009)
COMPRES Annual Meeting (June, 2009)
Columbia University (September, 2009)
EarthScope Planning Workshop (October, 2009)
Princeton University (November, 2009)
American Geophysical Union Fall Meeting (December, 2009)
Earthquake Research Institute, University of Tokyo (July, 2010)
University of California, Los Angeles (March, 2011)
University of New Mexico (March, 2011)
Kyoto University (January, 2012)
Japan Geoscience Union Meeting (May, 2012)
ICDP-Sloan Oman Drilling Project Workshop (September, 2012)
Cornell University (October, 2012)
Niigata University (June, 2013)
Hokkaido University (June, 2013)
Hiroshima University (June, 2013)
Kyoto University (July, 2013)
NASA/NSF/Smithonian "Beyond Habitability" Workshop (August, 2014)
Kyushu University (April, 2015)
Earthquake Research Institute, University of Tokyo (April, 2015)
Kanazawa University (June, 2015)
Institute of Space and Astronomical Science, Japan (June, 2015)
University of Tokyo (June, 2015)
American Geophysical Union Fall Meeting (December, 2015)
Royal Soceity Discussion Meeting, UK (February, 2016)
CIDER Workshop (May, 2016)
JpGU Nishida Prize Seminar (May, 2016)
Royal Soceity Discussion Meeting, UK (March, 2018)
American Geophysical Union Fall Meeting (December, 2018)
Japan Geoscience Union Meeting (May, 2019)
Woods Hole Oceanographic Institution (July, 2019)
Sagan Exoplanet Summer Workshop (July, 2019)
Goldschmidt Conference (August, 2019)
University of Cambridge (November, 2019)

American Geophysical Union Fall Meeting (December, 2019)
Rutgers University (November, 2020)
Carnegie Institution of Washington (March, 2021)
Yale Alumni Association (May, 2021)
Earthquake Research Institute, University of Tokyo (July, 2021)
University of California, Riverside (March, 2022)
Southwest Research Institute (May, 2022)
Dartmouth College (June, 2022)
Shizuoka University (July, 2022)
Earthquake Research Institute, University of Tokyo (July, 2022)
Princeton University (September, 2022)
Institut de Physique du Globe de Paris (December, 2022)
Observatoire de Paris (February, 2023)
Institut de Physique du Globe de Paris (March, 2023)
Rocky Worlds Online Seminar (May, 2023)
Japan Geoscience Union Meeting (May, 2023)
Université de Lorraine (June, 2023)
Université de Montpellier (June, 2023)
Université de Bretagne Occidentale (June, 2023)
Observatoire de la Côte d'Azur (June, 2023)
Geoazur (June, 2023)
École Normale Supérieure de Lyon (June, 2023)
Sorbonne Université (July, 2023)
Nantes Université (July, 2023)
Goldschmidt Conference (July, 2023)
Gordon Conference on Geochronology (August, 2023)
Earthquake Research Institute, University of Tokyo (September, 2022)
International Symposium on Continental Crust Evolution and Early Plate Tectonics, Beijing, China (October, 2023).
Taiwan Space Union (October, 2023)
University of Rochester (October, 2023)
American Geophysical Union Fall Meeting (December, 2023)