

David Bercovici — *Curriculum Vitae*

Contact information

Yale University
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Education

1989 Ph.D. Geophysics and Space Physics, University of California, Los Angeles
1987 M.S. in Geophysics and Space Physics University of California, Los Angeles
1982 B.S. in Physics (Minor in History), Harvey Mudd College Claremont, California

Professional Appointments:

2011-present Frederick William Beinecke Professor of Geophysics
2021-2027 Co-Director (and co-founder) of the Yale Center for Natural Carbon Capture
2018-2021 Chair (again), Dept. Geology & Geophysics / Earth & Planetary Sciences, Yale University
2006-2012 Chair, Dept. Geology and Geophysics, Yale University
2015-2017 Director of Undergraduate Studies, Dept. Geology & Geophysics, Yale University
2002-2006 Director of Graduate Studies, Dept. Geology & Geophysics, Yale University
2015-2016 Co-Director, Yale Climate and Energy Institute, Yale University
2008-2012 Deputy Director, Yale Climate and Energy Institute, Yale University
2001-present Professor, Yale University
1998-2001 Professor, University of Hawaii
1999-2000 Chair, Department of Geology and Geophysics, University of Hawaii
1995-1998 Associate Professor, University of Hawaii
1997-1998 Associate Chair and Graduate Chair, Department of Geology and Geophysics, University of Hawaii
1994-1997 Head, Division of Marine Geology and Geophysics, Department of Geology and Geophysics, University of Hawaii Honolulu,
1990-1995 Assistant Professor, University of Hawaii
1989-1990 Postdoctoral Fellow, Woods Hole Oceanographic Institution, Woods Hole, MA.
1985-1989 Research Assistant, University of California, Los Angeles

Awards & Honors

2018 Member, National Academy of Sciences
2015 Member, American Academy of Arts & Sciences
2022 Augustus Love Medal, European Geosciences Union
2014 Francis Birch Lecturer, American Geophysical Union
1996 James B. Macelwane Medal, American Geophysical Union

1996	Fellow, American Geophysical Union
1994-1999	NSF (Presidential) Young Investigator, National Science Foundation
1996	Board of Regents Medal for Excellence in Research, University of Hawaii
1999	ARCS (Achievement Rewards for College Scientists, Honolulu Chapter), Scientist of the Year Award
1989-1990	W. M. Keck Marine Geodynamics Postdoctoral Fellow, Woods Hole Oceanographic Institution

Visiting Positions

2018	EPSS Distinguished Alumni Lecturer, UCLA
2016	Thomas J. and Earleen Ahrens Lecturer, CalTech
2014	Visiting Professor, Università Roma TRE
2014	Visiting Researcher, University de Lyon 1
2013, 2014	Visiting Professor, Trinity College, Cambridge University
2013-2015	DTM Visiting Investigator, Carnegie Institution for Science
2012-2013	Merle A. Tuve Senior Fellow, DTM, Carnegie Institution for Science
2012	Visiting Professor, Institut de Physique du Globe de Paris
2008	Zatman Memorial Lecturer, Washington University in St. Louis
2004	Caswell-Silver Distinguished Lecturer, University of New Mexico
1998	Visiting Researcher (Directeur de Recherche Associé), Centre National de la Recherche Scientifique (CNRS), Ecole Normal Supérieure de Lyon, France

Professional Activities

2023-2026	Chair of Geophysics Section (16) of the National Academy of Sciences
2025-2027	Senior Editor, <i>Treatise on Geophysics, 3rd edition</i> , Elsevier
2022-2024	EGU Love Medal Committee
2022-2023	Vetlesen Prize Selection Committee, LDEO, Columbia University
2019-	AGU College of Fellows Committee
2018-	AGU Tectonophysics Fellows Selection Committee
2011-2022	External Review Committees for Columbia Univ. (2011, 2018); Brown Univ. (2011); Johns Hopkins Univ. (2014); USC (2017); Univ. Penn. (2018); Univ. Hawaii (2019); Univ. Maryland (2019); Washington Univ. St. Louis (2022); Rice University (2022); University of Oregon (2025)
2014-2015	Vetlesen Prize Selection Committee, LDEO, Columbia University
2014-2018	CEED Science Advisory Board, University of Oslo, Norway
2016-2017	NSF EAR Integrated Earth Systems Panel Member
2013-2016	CIG Executive Committee
2013-2016	Isaac Newton Institute for Mathematical Sciences, Melt in the Mantle Programme, Scientific Advisory Committee
2015	Co-convenor of special session AAAS 2015 Meeting, entitled “Modeling Earth’s interior from atomic to global scale”
2010-2015	Senior Editor, <i>Treatise on Geophysics, 2nd edition</i> , Elsevier

2005-2006	NSF EarthScope Science and Education Committee
2004-2007	Senior Editor, <i>Treatise on Geophysics</i> , Elsevier
1998-2000	Associate Editor, <i>Journal of Geophysical Research</i>
1999-2001	NSF EAR Geophysics Program Panel Member
1992-1993	NASA Venus Data Analysis Program (VDAP) Panel Member
1993	NSF Grand Challenge Applications Group and High Performance Computing and Communications Program (GCAG/HPCC) Panel Member

Yale Activities

2020-	Provost's Organizing Committee on the Planetary Solutions Project
2020-	University Carbon Offsets Oversight Committee
2019-2020	Chair, Science and Engineering Chairs Council (again)
2019-2021	Elected Member of Faculty of Arts & Sciences Senate (again)
2008-2012	Co-Founder, and Deputy Director (and various incarnations of same), Yale Climate & Energy Institute
2015-2017	Elected Member of inaugural Faculty of Arts & Sciences Senate; member of Senate Executive Council
2013-2014	Social Sciences Divisional and Tenure & Promotions Committee
2013-2014	Faculty Steering on Provosts Committee for Teaching Initiatives
2007-2012	Board of Faculty Advisors, Yale New Haven Teachers Institute
2011-2012	Science Hill Planning Committee
2010-2011	Yale West Campus Science, Medicine, and Engineering Advisory Council
2008-2009	Chair, Science and Engineering Chairs Council
2007,2008	Seminar Coordinator, Yale New Haven Teachers Institute
2002	Chair subcommittee on Energy and Water Management for the Yale Advisory Committee on Environmental Management

Advisors

Graduate advisor: Professor Gerald Schubert, University of California, Los Angeles.

Postdoctoral sponsors: Drs. John A. Whitehead & Henry J. B. Dick, Woods Hole Oceanographic Institution.

Postdoctoral Scholars Supervised

1994-1997	Stuart Weinstein, University of Hawaii (now Senior Geophysicist and Assistant Director at Pacific Tsunami Warning Center)
1998-2000	Garrett Ito, University of Hawaii (now Professor at University of Hawaii)
2004-2006	Henri Samuel, Yale University (now CNRS Scientist at IPG Paris)
2004-2006	Saswata Hier-Majumder, Yale University (later Lecturer at Royal Holloway University London)
2004-2006	Guillaume Richard, Yale University (now Assistant Professor at Université d'Orleans)
2007-2008	Bryony Youngs, Yale University (now Geophysicist at Schlumberger)
2006-2008	Chloé Michaut, Yale University (now Professor at ENS-Lyon)

2008	John Rudge, Yale University (now Professor, Cambridge University)
2010-2013	Peter Driscoll, Yale University (now Staff Scientist at DTM, Carnegie Inst. of Washington)
2011-2012	Viktoriya Yarushina, Yale University (now Research Scientist, Institute for Energy Technology, Norway).
2015-2017	Yang Liao, Yale University (now Assistant Scientist, WHOI)
2017-2019	Jake Jordan, Yale University. (later Postdoc at Rice Univ.)
2015-2021	Elvira Mulyukova, Yale University (now Assistant Professor, Northwestern University)

Graduate Students Advised

1991-1994	William Bruce Paulk, University of Hawaii, MSc
1993-1999	Christoph Heironymus, University of Hawaii and Danish Lithosphere Center, PhD; presently Professor at Uppsala University, Sweden
1996	Caroline Dumoulin, Intern from ENS-Paris; currently Professor at Université de Nantes
1997-1999	Susannah Mistr, University of Hawaii, MSc; presently a physician (in ophthalmology)
1999-2000	Christian Auth, University of Goettingen, PhD.
2002-2007	Garrett Leahy, Yale University, PhD; presently managing scientist Roxar Inc., Stavanger, Norway
2002-2008	William Landuyt, Yale University, PhD; presently research scientist ExxonMobil.
2004-2008	Ondrej Sramek, Yale University, PhD; presently faculty member Charles University, Prague, Czech Republic.
2007	Marine Denolle, Intern from ENS-Paris; graduate Student at Stanford Univ.; later postdoc at SIO; now Asst. Prof. Harvard Univ.
2008-2012	Karen Paczkowski, (co-adviser) Yale University PhD; currently Science and Technology Policy Fellow, NSF
2008-2014	Brad Foley, Yale University PhD; Postdoctoral Fellow, DTM, Carnegie Inst. Wash; Assoc. Prof. Penn State Univ.
2008-2014	Zhengyu Cai, Yale University PhD; Postdoc at University of Maryland; now at COMSOL
2017-2023	Zhongtian Zhang, Yale University, PhD; Postdoctoral Fellow, at Carnegie Institute of Science, Washington DC
2023-	Kexin Zhang, Yale University, PhD
2023-	Kavya Agarwal, Yale University, PhD
2024-	Maggie Yao, Yale University, PhD

Grants and Awards

• National Science Foundation (NSF)

- Collaborative Research: Theoretical and Experimental Investigation of Grain Damage and the Formation of Plate Boundaries (PI), 2019-2021
- Magma waves, magma wagging and volcanic oscillations (PI), 2017-2020.
- Two-Phase Grain Damage and Geochemical Interactions: From Early Tectonic Evolution to Climate and Energy Transitions, (PI) 2014-2017
- Open Earth Systems: Whole planet models for global processes and major events in Earth's history. NSF *Frontiers in Earth System Dynamics* initiative, (co-PI; Johns Hopkins Univ. lead institution), 2011-2014.

- Two-Phase Damage and the Interactions between Earth’s Mantle and Climate: From Plate Tectonic Feedbacks to Carbon Capture, (PI) 2010-2013
- Two-phase damage theory and the generation of plate tectonics, (PI) 2006-2009
- Whole-mantle convection and the transition-zone water filter, (lead PI) 2003-2008
- PLUME: Imaging the Hawaiian Hotspot and Swell (co-PI), 2003-2007
- Two-phase model of damage, shear-localization and plate boundary formation, (PI) 2001-2004
- NSF (Presidential) Young Investigator Award, 1994-1999
- The Dynamics of Basalt Eruptions in the Deep Sea: Detailed Study of Eruptive Hyaloclastite Deposits with Alvin (co-PI), 1994-1995
- Mantle Plume-Lithosphere Interaction: An Interdisciplinary Study of the Dynamics of the Hawaiian Hotspot (lead PI), 1994 - 1996
- Distribution and geodynamic implications of intermediate wavelength geoid undulations (Co-PI), 1992 – 1994
- **Department of Energy (NETL)**
 - Integrated experimental and modeling studies of mineral carbonation as a mechanism for permanent carbon sequestration in mafic/ultramafic rocks, (co-PI), 2010-2013
- **Sloan Foundation**
 - Deep Carbon Observatory, Workshop on modeling of deep carbon circulation, June 2014
- **National Aeronautics and Space Administration (NASA)**
 - Discovery Mission: Psyche: Journey to a Metal World. Co-PI (L. Elkins-Tanton, ASU, PI/PD); 2017-2031.
 - Grand Challenge Applications: Three-dimensional spherical simulations of Earth’s core and mantle dynamics (co-PI) 1996–1999
 - Plastic Deformation of Venus’ Lithosphere Over a Dynamic Mantle: Synthesis of Satellite Data Analysis with Laboratory and Theoretical Modelling, (PI) 1993–1995
 - Present Day Plate Motions and the Rheology of the Plate Mantle System (PI) 1992–1994

Invited Lectures Venues (since 2010 only)

- 2024** Invited Keynote for Ada Lovelace conference on Mantle and Lithosphere Dynamics, France, 2024.
- 2023** Northwestern University invited lectures on (1) *Evolution and Habitability of Earth* for CIERA, (2) *Grain mixing, damage and plate generation* for EPS, (3) *Mushy Magnetohydrodynamics* for Astrophysics Theory Group.
- 2022** Invited August Love Lecture, European Geoscience Union (May 2022). Geology Bites podcast (Feb 2022) - <https://www.geologybites.com/>. CEED Conference (Earth’s History, Dynamics, Habitability), Norway (Nov 2022).
- 2021** Cambridge University [zoom lecture]; Meeting on “Venus: Evolution thorough Time” at the International Space Science Institute (zoom meeting probably).
- 2020** Pennsylvania State University, Dept. Colloquium, January.
- 2019** University of Oregon, April; Gordon Research Conference (Discussion Leader), June; University of Minnesota, June; Goldschmidt Conference (involuntary, uninvited Keynote speaker), August.

- 2018** Royal Society Meeting on “Earth dynamics and development of plate tectonics”, discussion leader, London (March 2018). ETH Geophysical Fluid Dynamics Speaker, Zurich, Switzerland (May 2018); Center for Space & Habitability, University of Bern (May 2018); College de France meeting on “50 years of plate tectonics” invited speaker, Paris (June 2018); invited speaker Center for Earth’s Evolution and Dynamics (CEED), Univ. of Oslo (October 2018); EPSS Distinguished Alumni Lecturer, UCLA (October 2018).
- 2017** Stanford University lectures on future directions in geoscience (May 2017); Gordon Research Seminar Keynote Speaker (June 2017); Colby College “Origins” Speaker (Sept, 2017).
- 2016** Newton Inst. lecturer, Cambridge UK (Feb); Yale Model United Nations speaker (Jan); Univ. Arizona *Geodaze* keynote speaker (March), DTM Carnegie speaker (May); AYA (Yale Alumni) (May); GRC Rock Deformation invited lecture (Aug); Berkeley College Fellows Lecture (Sept); Virginia Tech lecturer (October); Thomas and Earleen Ahrens Lecturer, Caltech (October); AGU Invited Talk (December).
- 2015** CSEDI Workshop (Scripps Inst. Ocean.) keynote lecture (Jan), Colgate University lecture (Feb), Princeton lecture (Feb), AAAS Meeting keynote lecture (Feb), Wash. Univ. St. Louis lecture (April), EGU invited talk (April), CalTech workshop invited lecture (May), AYA (Yale Alumni) Lecture (May); CIDER (UC Berkeley) senior fellow and lecturer (July); GeoBerlin Conference key-note lecture (October); Fall AGU invited speaker (Origin of Plate Tectonics).
- 2014** University College London (Feb), Oxford University (March), Branford College Fellows Lecture (Feb), CEED University of Oslo (October), Institute for Energy Technology, Oslo (October), Università Roma TRE (short-course; October), Université Toulouse III (November), INGV-Roma (November), Birch Lecture, Fall AGU (December)
- 2013** Rice Univ.; Scripps Inst. Oceanography; Cambridge Univ. (Bullard and BPI Lectures); PGP, Univ. Oslo; Kongsberg Conference (Norway); Merle Tuve Lecture DTM Carnegie, Science Saturdays at Yale lecture (on natural disasters)
- 2012** Carnegie Inst. of Wash (DTM); Euro. Geophys. Union (EGU); Studies Earth Deep Int. (SEDI) Conference; Johns Hopkins Univ; IPG-Paris; Univ. Grenoble; Univ. Lyon; Bayreuth Geophys. Inst (BGI); Georgia Tech; Univ. Colorado Boulder; AGU Fall 2012 (special session)
- 2011** USC; Boston Univ; Harvard; Yale Science Forum; American Geophys. Union (AGU).
- 2010** Columbia Univ.; GLADE Conf (San Diego); Univ. British Columbia; EGU; YIBS Seminar; Yale Alumni Lecture; AGU.

Publications

Books

1. Bercovici, D., *The Origins of Everything in 100 Pages (More or Less)*, Yale University Press, 2016. <http://yalebooks.com/book/9780300215137/origins-everything-100-pages-more-or-less>.
2. Bercovici, D., editor, *Treatise on Geophysics 2ed, vol 7, Mantle Dynamics*; G. Schubert, editor in chief, Elsevier, New York, ISBN: 978-0-444-53803-1, 2015.
3. Bercovici, D., editor, *Treatise on Geophysics, vol 7, Mantle Dynamics*; G. Schubert, editor in chief, Elsevier, New York, 2007.

Articles: Submitted

1. Bercovici, D, and J. Girard, A two-and-a-half-dimensional flexing-drip model of lithospheric instabilities and proto-subduction (with two-phase grain-damage), submitted to *Phys. Earth Planetary Int.*, 2024.

Articles: Published or in-press

1. Bercovici, D., J. Girard, and E. Mulyukova, Upscaling from mineral microstructures to tectonic macrostructures, *Geophys. J. Int.* **239** 352-385, 2024. <https://doi.org/10.1093/gji/ggae263>

2. Zhang, Z. and D. Bercovici, Generation of a measurable magnetic field in a metal asteroid with a rubble-pile core, *PNAS* **120**, e2221696120, 2023. <https://www.pnas.org/doi/abs/10.1073/pnas.2221696120>
3. Bercovici, D., E. Mulyukova, J. Girard, P. Skemer, A coupled model for phase mixing, grain damage and shear localization in the lithosphere: Comparison to lab experiments, *Geophys. J. Int.* **232**, 2205-2230, 2023. <https://doi.org/10.1093/gji/ggac428>
4. Mulyukova, E. and D. Bercovici, The physics and origin of plate tectonics from grains to global scales, in *Dynamics of Plate Tectonics and Mantle Convection*, Ch. 2, pp 5-33, J. Duarte, ed., Elsevier. 2023. <https://doi.org/10.1016/B978-0-323-85733-8.00015-9>
5. Zhang, Z., Bercovici D., Elkins-Tanton, L. Melt migration in rubble-pile planetesimals: Implications for the formation of primitive achondrites, *Earth Planet. Sci. Letts.*, 2023. <https://doi.org/10.1016/j.epsl.2023.118019>
6. Zhang, Z., Bercovici, D., and Elkins-Tanton, L. Cold compaction and macro-porosity removal in rubble-pile asteroids: 1. Theory. *J. Geophys. Res.: Planets*, **127**, e2022JE007342, 2022. <https://doi.org/10.1029/2022JE007342>
7. Zhang, Z., Bercovici, D., & Elkins-Tanton, L. Cold compaction and macro-porosity removal in rubble-pile asteroids: 2. Applications. *J. Geophys. Res.: Planets*, **127**, e2022JE007343, 2022. <https://doi.org/10.1029/2022JE007343>
8. Mulyukova, E. and D. Bercovici, On the co-evolution of dislocations and grains in deforming rocks, *Phys. Earth Planet. Int.*, **328**, 106874, 2022. <https://doi.org/10.1016/j.pepi.2022.106874>
9. Gerya, T., D. Bercovici, T. Becker, Dynamic slab segmentation due to brittle-ductile damage in the outer rise. *Nature* **599**, 245-250, 2021. <https://doi.org/10.1038/s41586-021-03937-x>
10. Bercovici D. and E. Mulyukova, Magnetization of sinking porous diapirs in planetesimal cores *Phys. Earth Planet. Int.* **313**, 106678, 2021. <https://doi.org/10.1016/j.pepi.2021.106678>
11. Zhang, Z., D. Bercovici and J. Jordan, A two-phase model for the evolution of planetary embryos with implications for the formation of Mars. *J. Geophys. Res.: Planets* **126**, e2020JE006754. 2021. <https://doi.org/10.1029/2020JE006754>
12. Bercovici D. and E. Mulyukova, Evolution and demise of passive margins through grain mixing and damage, *Proc. Nat. Acad. Sci.* **118** (4), e2011247118, 2021. <https://doi.org/10.1073/pnas.2011247118>
13. Ricard, Y., S. Labrosse, H. Terasaki, and D. Bercovici, Thermocapillary effects in two phase medium and applications to metal-silicate separation, *Phys. Earth Planet. Int.*, **211**, 106640, 2021. <https://doi.org/10.1016/j.pepi.2020.106640>
14. Bercovici D., Mulyukova E. Mantle Convection. In: Gupta H.K. (ed) *Encyclopedia of Solid Earth Geophysics*. Encyclopedia of Earth Sciences Series. Springer, Cham, 2021. https://doi.org/10.1007/978-3-030-58631-7_130
15. Jordan, J., D. Bercovici, Y. Liao, C. Michaut, The effects of degassing on magmatic gas waves and long period eruptive precursors at silicic volcanoes, *J. Geophys. Res.: Solid Earth*, **125**, e2020JB019755, <https://doi.org/10.1029/2020JB019755>, 2020.
16. Mulyukova, E. and D. Bercovici, D., Mantle convection in the terrestrial planets, in *Oxford Research Encyclopedia of Planetary Science*, 2020 <http://dx.doi.org/10.1093/acrefore/9780190647926.013.109>
17. Bercovici D. and E. Mulyukova, Two-phase magnetohydrodynamics: Theory and applications to planetesimal cores, *Phys. Earth Planet. Int.*, **300** 106432, 2020. <https://doi.org/10.1016/j.pepi.2020.106432>
18. Mulyukova, E. and D. Bercovici, The generation of of plate tectonics from grains to global scales: A brief review, for special “50th Annivesary of Plate Tectonics” volume of *Tectonics* **38**, 4058–4076, 2019. <https://doi.org/10.1029/2018TC005447>

19. Bercovici D, and S. Nicolescu, In Memoriam: Brian John Skinner (1928–2019), *Rocks & Minerals*, **95:1**, 100–101, DOI: 10.1080/00357529.2020.1681250
20. Bercovici, D, E. Mulyukova and M.D. Long, A simple toy model for coupled retreat and detachment of subducting slabs, *J. Geodynamics*, **129**, 275–289, 2019. <https://doi.org/10.1016/j.jog.2018.03.002>
21. Mulyukova, E. and D. Bercovici, A theoretical model for the evolution of microstructure in lithospheric shear zones, *Geophys. J. Int.* **216**, 803–819, 2018. <https://doi.org/10.1093/gji/ggy467>
22. Bercovici, D, and E. Mulyukova, A continuum model for phase mixing and grain-damage relevant to tectonic plate boundary evolution, *Phys. Earth Planet. Int.* **285**, 23–44, 2018. <https://doi.org/10.1016/j.pepi.2018.10.005>
23. Bellas, A., S. Zhong, D. Bercovici and E. Mulyukova, Dynamic weakening with grain-damage and implications for slab detachment, *Phys. Earth. Planet Int.* **285**, 76–90, 2018. <https://doi.org/10.1016/j.pepi.2018.09.001>
24. Liao, Y. and D. Bercovici, Magma wagging and whirling: excitation by gas flux, *Geophys. J. Int.* **215**, 713–735, 2018. <https://doi.org/10.1093/gji/ggy313>
25. Mulyukova, E. and D. Bercovici, Collapse of passive margins by lithospheric damage and plunging grain size, *Earth. Planet. Sci. Lett.* **484**, 341–352, 2018. <https://doi.org/10.1016/j.epsl.2017.12.022>.
26. Liao, Y., D. Bercovici, and M. Jellinek, Magma wagging and whirling in volcanic conduits, *J. Volc. Geotherm. Res.* **351**, 57–74, 2018. <https://doi.org/10.1016/j.jvolgeores.2017.12.016>
27. Mulyukova, E. and D. Bercovici, Formation of lithospheric shear zones: effect of temperature on two-phase grain damage, *Phys. Earth. Planet. Int.* **270**, 195–212, 2017. <http://dx.doi.org/10.1016/j.pepi.2017.07.011>
28. Bercovici, D. and P. Skemer, Grain damage, phase mixing and plate-boundary formation, *Journal of Geodynamics* **108**, 40–55, 2017. <http://dx.doi.org/10.1016/j.jog.2017.05.002>.
29. Ricard, Y, D. Bercovici and F. Albarède, Thermal evolution of planetesimals during accretion, *Icarus* **285**, 103–117, 2017. <http://dx.doi.org/10.1016/j.icarus.2016.12.020>.
30. Bercovici, D., Finding solace in the cosmos, *Yale University Press Blog*, December 23, 2016. <http://blog.yupnet.org/2016/12/23/finding-solace-in-the-cosmos>
31. Bercovici, D., How did plate tectonics begin?, *Speaking of Geoscience Blog*, Geol. Soc. America, May 2016 <https://speakingofgeoscience.org/2016/05/18/how-did-plate-tectonics-begin>
32. Bercovici, D., and Y. Ricard, Grain-damage hysteresis and plate-tectonic states, *Phys. Earth Planet. Int.*, **253**, 31–47, 2016. <http://dx.doi.org/10.1016/j.pepi.2016.01.005>.
33. Cai, Z., and D. Bercovici, Two-dimensional magmons with damage and the transition to magma-fracturing, *PEPI*, **256**, 13–25, 2016. <http://dx.doi.org/10.1016/j.pepi.2016.03.002>.
34. Bercovici, D. and J. Rudge, A mechanism for mode selection in melt band instabilities, *Earth Planet Sci. Lett* **433**, 139–145, 2016. <http://dx.doi.org/10.1016/j.epsl.2015.10.051> Open Access Link: <http://www.sciencedirect.com/science/article/pii/S0012821X15006871>
35. Scheinberg, A., L.T. Elkins-Tanton, G. Schubert, D. Bercovici, Core solidification and dynamo evolution in a mantle-stripped planetesimal, *J. Geophys. Res. Planets*, **121**, 2–20, 2016 <http://dx.doi.org/10.1002/2015JE004843>.
36. Bercovici D., G. Schubert, Y. Ricard, Abrupt tectonics and rapid slab detachment with grain-damage, *PNAS*, **112** (no.5), 1287–1291, 2015, <http://dx.doi.org/10.1073/pnas.1415473112>.
37. Bercovici, D. Mantle dynamics, Past, Present and Future: An Overview, in *Treatise on Geophysics*, 2ed, vol. 7, *Mantle Dynamics*, D. Bercovici editor; G. Schubert, editor in chief, Elsevier, New York; Ch. 1, pp1–22, 2015. <http://dx.doi.org/10.1016/B978-0-444-53802-4.00125-1>

38. Bercovici, D., P. Tackley, Y. Ricard, The Generation of Plate Tectonics from Mantle Convection, in *Treatise on Geophysics*, 2ed, vol. 7, *Mantle Dynamics*, D. Bercovici editor; G. Schubert, editor in chief, Elsevier, New York; Ch.7, pp271-318, 2015. <http://dx.doi.org/10.1016/B978-0-444-53802-4.00135-4>
39. Yarushina, V.M., D. Bercovici, and C. Michaut, Two-phase dynamics of volcanic eruptions: Particle size distribution and the conditions for choking, *J. Geophys. Res.* **120**, 1503-1522, 2015. <http://dx.doi.org/10.1002/2014JB011195>
40. Rudge, J.F. and D. Bercovici, Melt-band instabilities with two-phase grain-damage, *Geophys. J. Int.* **201**, 640-651, 2015. <http://dx.doi.org/10.1093/gji/ggv040>
41. Foley, B.J., D. Bercovici and L.T. Elkins-Tanton, Initiation of plate tectonics from post-magma ocean thermochemical convection, *J. Geophys. Res.* **119**, 8538–8561, 2014. <http://dx.doi.org/10.1002/2014JB011121>
42. Bercovici, D. and M.D. Long, Slab rollback instability and super-continent dispersal, *Geophys. Res. Lett.* **41**, 6659–6666, 2014. <http://dx.doi.org/10.1002/2014GL061251>
43. Cai, Z., and D. Bercovici, Two-phase visco-elastic damage theory, with applications to subsurface fluid injection, *Geophys. J. Int.*, **199**, 1481-1496, <http://dx.doi.org/10.1093/gji/ggu344>, 2014.
44. Driscoll, P. and D. Bercovici, On the thermal and magnetic histories of Earth and Venus: Influences of melting, radioactivity, and conductivity, *Phys. Earth. Planet. Int.* **236**, 36–51, <http://dx.doi.org/10.1016/j.pepi.2014.08.004>, 2014.
45. Bercovici, D. and Y. Ricard, Plate tectonics, damage and inheritance, *Nature*, **508**, 513-516 <http://dx.doi.org/10.1038/nature13072>, 2014.
46. Foley, B.J. and D. Bercovici, Scaling laws for convection with temperature-dependent viscosity and grain-damage, *Geophys. J. Int.* **199**, 580-603, <http://dx.doi.org/10.1093/gji/ggu275>, 2014.
47. Elkins-Tanton, L.T., and D. Bercovici, Contraction or expansion of the Moon’s crust during magma ocean freezing?, *Phil. Trans. Roy. Soc. A*, **372**, 20130240, <http://dx.doi.org/10.1098/rsta.2013.0240>, 2014.
48. Wang, Z., L. Qiu, S. Zhang, E. Bolton, D. Bercovici, J. Ague, S. Karato, M. Oristaglio, W. Zhu, H. Lisabeth, and K. Johnson, Integrated Experimental and Modeling Studies of Mineral Carbonation as a Mechanism for Permanent Carbon Sequestration in Mafic/Ultramafic Rocks. *US DOE OSTI Technical Report, OSTI ID 1214541*, 2014. <https://doi.org/10.2172/1214541>.
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