Adam F. Holt

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Employment

University of Miami Aug. 2019 – present
Assistant Professor
RSMAS, Department of Marine Geosciences

Massachusetts Institute of Technology Aug. 2016 – Jul. 2019
Postdoctoral Associate
Department of Earth, Atmospheric and Planetary Sciences

Education

University of Southern California, Los Angeles 2011 – 2016
Ph.D. in Geological Sciences
Thesis advisor: Thorsten W. Becker
Dissertation title: Trench migration, slab bending, and mantle flow at subduction zones

Imperial College, London 2007 – 2011
M.Sci. Geophysics (First-class honors)

Publications

Royden, L. H., and **Holt, A. F.**: 2020. Subduction dynamics and mantle pressure: (i) An Analytical Framework Relating Subduction Geometry, Plate Motion, and Asthenospheric Pressure. *Geochemistry, Geophysics, Geosystems.,* doi: 10.1090/2020GC009032, 2020.

Holt, A. F., and Royden, L. H.: 2020. Subduction dynamics and mantle pressure: (ii) Towards a Global Understanding of Slab Dip and Upper Mantle Circulation. *Geochemistry, Geophysics, Geosystems.,* doi: 10.1002/2019GC008771, 2020.

Holt, A. F., Royden, L. H., Becker, T. W., Faccenna, C.: Slab interactions in 3-D subduction settings: The Philippine Sea Plate region. *Earth and Planetary Science Letters.* 489, 72-83, 2018.

Király, A., **Holt, A. F.**, Funiciello, C., Capitanio, F., Faccenna, C.: Modeling slab-slab interactions: Dynamics of a double-sided subduction system. *Geochemistry, Geophysics, Geosystems.,* doi: 10.1002/2017GC007199, 2018.

Faccenna, C., **Holt, A. F.**, Becker, T. W., Lallemand, S., Royden, L. H.: Dynamics of the Ryukyu/ Izu-Bonin-Marianas double subduction system. *Tectonophys.*, doi:10.1016/j.tecto.2017.08.011, 2017.

Holt, A. F., Royden, L., and Becker, T. W.: The dynamics of double slab subduction. *Geophys. J. Int.*, 209 250-265, 2017.

Faccenna, C., Oncken, O., **Holt, A. F.**, and Becker, T. W.: Growth of the Andean Cordillera controlled by lower mantle subduction. *Earth Planet. Sci. Lett.,* 463, 189-201, 2017.

Holt, A. F. and Becker, T. W.: The effect of a power-law mantle viscosity on trench retreat rate. *Geophys. J. Int.*, doi:10.1093/gji/ggw392, 2016.

Holt, A. F., Buffett, B. A., and Becker, T. W.: Overriding plate thickness control on subducting plate curvature. *Geophys. Res. Lett.,* 42, 3802-3810, doi:10.1002/2015GL063834, 2015.

Jagoutz, O., Royden, L., **Holt, A. F.**, and Becker, T. W.: Anomalously fast convergence of India and Eurasia caused by double subduction. *Nature Geoscience*, 8, 475-478, doi: 10.1038/NGEO2418, 2015.

Holt, A. F., Becker, T. W., and Buffett, B. A.: Subduction dynamics and overriding plate stress in thermo-mechanical subduction models. *Geophys. J. Int.*, 201, 172-192, doi: 10.1093/gji/ggv011, 2015.

Sun, D., Miller, M. S., **Holt, A. F.**, and Becker, T. W.: Hot upwelling conduit beneath the Atlas Mountains, Morocco. *Geophys. Res. Lett.*, 41, 8037-8044, doi:10.1002/2014GL061884, 2014.

Teaching Experience

Instructor (University of Miami)
Earth Sciences general course, Natural Disasters (GSC 107) 2019

Graduate Teaching Assistant (University of Southern California):
Earth Sciences major course, Geophysics and Geoengineering (GEOL 440) 2014
Earth Sciences general course, Earthquakes (GEOL 240) 2013
Earth Sciences general course, Crises of a Planet (GEOL 108) 2012

Awards and Funding

XSEDE Research Allocations (Supercomputing time) 2018, 2019
JpGU Outstanding Student Presentation Award 2016
EGU Outstanding Student Poster Award 2016
Outstanding Teaching Awards, University of Southern California 2012, 2013
Provost's Ph.D. Fellowship, University of Southern California 2011
Edward Glorney Scholarship (highest geoscience degree score), Imperial College 2011

Professional Activity and Service

Manuscript reviewer: Nature; Nature Geosci.; Nature Comm., Geology; J. Geophys Res.; Geochem., Geophys., Geosyst.; Tectonics; Phys. Earth Planet. Int.; Geophys. J. Int; Scientific Reports; Geophys. Res. Lett.; Earth Planet. Sci. Lett.; Tectonophys.;
Proposal reviewer: NSF Earthscope, NSF GeoPRISMS

Ph.D. Committee: Farzaneh Zanjani, Bhuvan Varugu, Sara Mirzaee (University of Miami)

External Ph.D. examiner: Arthur Briaud (Roma Tre University)

Recent Invited Seminars

ETH Zurich (Geophysical Fluid Dynamics seminar) 2019
Royal Holloway, University of London 2019
Harvard University (Solid Earth weekly seminar) 2018
CEED, University of Olso (Department seminar) 2018
Claude Bernard University Lyon 1 (Department seminar) 2018
Columbia LDEO (Geophysics weekly seminar) 2017
Roma Tre Università (Subduction short course) 2017