Samer N. Naif

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Georgia Institute of Technology
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RESEARCH INTERESTS

Exploration of tectonic margins and oceanic plates with magnetotelluric, controlled-source electromagnetic (EM), and active-source seismic imaging methods.

EDUCATION

Ph.D., Earth Sciences **2015**
Scripps Institution of Oceanography, UC San Diego

M.S., Earth Sciences **2011**
Scripps Institution of Oceanography, UC San Diego

B.S., Environmental Engineering **2009**
University of California, San Diego

EMPLOYMENT HISTORY

Assistant Professor **2020–present**
Georgia Institute of Technology

Adjunct Research Scientist **2020–present**
Lamont-Doherty Earth Observatory, Columbia University

Lamont Assistant Research Professor **2018–2020**
Lamont-Doherty Earth Observatory, Columbia University

Postdoctoral Fellow **2015–2018**
Lamont-Doherty Earth Observatory, Columbia University

PEER-REVIEWED PUBLICATIONS

**student or postdoc first authors are underlined*

[11] **S. Naif**, N. Miller, D. Shillington, A. Bécel, D. Lizarralde, and S. Hemming (*in prep*). Episodic intraplate volcanism, long-lived melt channels at the lithosphere-asthenosphere boundary, and mantle plumes.

[10] D. Blatter, **S. Naif**, K. Key, and A. Ray (*in prep*). A plume origin for hydrous melt channels at the lithosphere-asthenosphere boundary.

[9] C. Chesley, **S. Naif**, K. Key, and D. Bassett (*accepted*). Fluid-rich subducting topography generates anomalous forearc porosity. *Nature*.

[8] **S. Naif**, K. Selway, B.S. Murphy, G. Egbert, and A. Pommier (2021). Electrical conductivity of the lithosphere-asthenosphere system. *PEPI*, 313, 106661.

[7] E. Attias, K. Weitemeyer, S. Hölz, **S. Naif**, *et al.* (2018). CSEM joint inversion for high-resolution resistivity imaging of sub-seafloor structures. *GJI*, 214, 1701–1714.

[6] **S. Naif** (2018). An upper bound on the electrical conductivity of hydrated oceanic mantle at the onset of dehydration melting. *EPSL*, 482, 357–366.

[5] E. Attias, R.L. Evans, **S. Naif**, J. Elsenbeck, and K. Key (2017). Conductivity structure of the lithosphere-asthenosphere boundary beneath the eastern North American Margin. *Geochem Geophys Geosyst*, 18, 676–696.

[4] **S. Naif**, K. Key, S. Constable, and R.L. Evans (2016). Porosity and fluid budget of a water-rich megathrust revealed with electromagnetic data at the Middle America Trench. *Geochem Geophys Geosyst*, 17, 4495–4515.

[3] **S. Naif**, K. Key, S. Constable, and R.L. Evans (2015). Water-rich bending faults at the Middle America Trench. *Geochem Geophys Geosyst*, 16, 2582–2597.

[2] **S. Naif**, K. Key, S. Constable, and R.L. Evans (2013). Melt-rich channel observed at the lithosphere-asthenosphere boundary. *Nature*, 495, 356–359.

[1] J. Kleissl, C. J. Watts, J. C. Rodriguez, **S. Naif**, and E.R. Vivoni (2009). Scintillometer intercomparison study continued. *Boundary-Layer Meteorol*, 130, 437–443.

OTHER ARTICLES

[7] J.D. Muirhead, **S. Naif**, T. Fischer, and D.J. Shillington (2021). Earth's volatile balancing act. *EOS*, 102, https://doi.org/10.1029/2021EO155887.

[6] T. Fischer, J.D. Muirhead, D.J. Shillington, and **S. Naif** (2021). Volatile fluxes at rifting and subduction margins: review of results from the NSF MARGINS and GeoPRISMS programs. *GeoPRISMS Newsletter (43)*.

[5] C. Chesley, **S. Naif**, and K. Key (2019). Report from the Field: Hikurangi Trench Regional Electromagnetic Survey to Image the Subduction Thrust. *GeoPRISMS Newsletter (42)*.

[4] L. Wallace, D. Bassett, **S. Naif**, P. Fulton, H. Savage, and S. Han (2019). Investigating subduction processes at the Hikurangi margin, New Zealand. *GeoPRISMS Newsletter (42)*.

[3] **S. Naif**, E. Ferriss, and E. Hauri (2017). Reconciling laboratory measurements on the electrical conductivity of hydrous olivine. *CIDER Working Group Report*.

[2] L. Wallace, M. Underwood, **S. Naif**, B. Fry, S. Bannister, and N. Bangs (2015). Workshop to cultivate and coordinate GeoPRISMS studies of Hikurangi subduction margin. *GeoPRISMS Newsletter (34)*.

[1] **S. Naif**, K. Key, S. Constable, and R.L. Evans (2014). Imaging the Nicaragua Subduction Zone with Marine Electromagnetic Methods. *GeoPRISMS Newsletter (33)*.

TEACHING EXPERIENCE

EAS 4312/6312: Geodynamics **Spring 2021**
Instructor

EESC G6950: EM Geophysics **Spring 2020**
Guest lecturer

ESYS102: The Solid and Fluid Earth **Winter 2013**
Teaching Assistant

SIO10: The Earth **Spring 2012**
Teaching Assistant

SIO113: Intro to Computational Earth Science **Winter 2012**
Teaching Assistant

SELECTED PROFESSIONAL ACTIVITIES

Member, Faulting and Earthquake Cycles working group **2020–present**
SZ4D Research Coordination Network

Member, Electromagnetic Advisory Committee **2020–present**
Incorporated Research Institutions for Seismology

Co-convener, Tectonophysics session on sediment subduction **2019**
Fall AGU meeting

Reviewer
EPSL; EP&S; G-cubed; GJI; GRL; JGR; JVGR; Nature Comm.; Nature Geo.; Science Adv.

RECENT OFFSHORE FIELD EXPERIENCE (161 days at sea)

R/V Sikuliaq, 33 days at sea **2019**
Marine MT and CSEM survey of Alaska/Aleutians subduction zone

R/V Revelle, 8 days at sea **2019**
Marine MT survey of Hikurangi subduction zone

R/V Revelle, 29 days at sea **2018–2019**
Marine CSEM survey of Hikurangi subduction zone

RECENT INVITED PRESENTATIONS

[5] "Discerning the distribution and tectonic origin of volatiles in oceanic plates and subduction margins: new insights from electromagnetic sounding" *U. New Mexico*, Mar. 2021

[4] "Imaging fluid-rich faults and melt-rich asthenosphere with electromagnetic data" *UC Santa Cruz*, Oct. 2020

[3] "Investigating the role of fluids at three subduction zones along the Ring of Fire with electromagnetic data" *Fall AGU meeting*, Dec. 2019

[2] "Electromagnetic imaging of subduction zones (& more)" *SAGE/GAGE*, Oct. 2019

[1] "A journey to the base of an oceanic plate: Linking EM, seismic, and geochemical observations from the Cocos seafloor" *Brown U. Colloquium*, Providence, Nov. 2018