

# Samer N. Naif

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Assistant Professor  
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

<b>Ph.D., Earth Sciences</b>	<b>2015</b>
Scripps Institution of Oceanography, UC San Diego	
<b>M.S., Earth Sciences</b>	<b>2011</b>
Scripps Institution of Oceanography, UC San Diego	
<b>B.S., Environmental Engineering</b>	<b>2009</b>
University of California, San Diego	

## EMPLOYMENT HISTORY

<b>Assistant Professor</b>	<b>2020–present</b>
Georgia Institute of Technology	
<b>Adjunct Research Scientist</b>	<b>2020–present</b>
Lamont-Doherty Earth Observatory, Columbia University	
<b>Lamont Assistant Research Professor</b>	<b>2018–2020</b>
Lamont-Doherty Earth Observatory, Columbia University	
<b>Postdoctoral Fellow</b>	<b>2015–2018</b>
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 (*in revision*). 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

<b>EAS 4312/6312: Geodynamics</b> Instructor	<b>Spring 2021</b>
<b>EESC G6950: EM Geophysics</b> Guest lecturer	<b>Spring 2020</b>
<b>ESYS102: The Solid and Fluid Earth</b> Teaching Assistant	<b>Winter 2013</b>
<b>SIO10: The Earth</b> Teaching Assistant	<b>Spring 2012</b>
<b>SIO113: Intro to Computational Earth Science</b> Teaching Assistant	<b>Winter 2012</b>

## SELECTED PROFESSIONAL ACTIVITIES

<b>Member</b> , Faulting and Earthquake Cycles working group <i>SZ4D Research Coordination Network</i>	<b>2020–present</b>
<b>Member</b> , Electromagnetic Advisory Committee <i>Incorporated Research Institutions for Seismology</i>	<b>2020–present</b>
<b>Co-convener</b> , Tectonophysics session on sediment subduction <i>Fall AGU meeting</i>	<b>2019</b>
<b>Reviewer</b> <i>EPSL; EP&amp;S; G-cubed; GJI; GRL; JGR; JVGR; Nature Comm.; Nature Geo.; Science Adv.</i>	

## RECENT OFFSHORE FIELD EXPERIENCE (161 days at sea)

<b>R/V Sikuliaq</b> , 33 days at sea Marine MT and CSEM survey of Alaska/Aleutians subduction zone	<b>2019</b>
<b>R/V Revelle</b> , 8 days at sea Marine MT survey of Hikurangi subduction zone	<b>2019</b>
<b>R/V Revelle</b> , 29 days at sea Marine CSEM survey of Hikurangi subduction zone	<b>2018–2019</b>

## 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