



## Lucia Gualtieri

Assistant Professor of Geophysics

### Bio

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#### BIO

Lucia Gualtieri is an Assistant Professor of Geophysics at Stanford University. Before joining Stanford, she was a Postdoctoral Research Associate in the Department of Geosciences at Princeton University and a Postdoctoral Research Fellow at Lamont-Doherty Earth Observatory of Columbia University. Lucia earned her Ph.D. in Geophysics in 2014, as a dual degree from the Institut de Physique du Globe de Paris (France) and the University of Bologna (Italy). She obtained her M.Sc. in Geophysics in 2010 and her B.Sc. in Physics in 2008, both at the University of Bologna. Lucia is interested in a variety of research topics, and in tackling them under a theoretical, computational and observational point of view. Lucia's main research interests are in solving problems related to emerging fields in seismology, like ambient seismic noise and seismic signals due to mass-wasting events. She is also interested in using seismic waves to scan the interior of our planet and in gaining insights on how the Earth's structure affects seismic records.

#### ACADEMIC APPOINTMENTS

- Assistant Professor, Geophysics

#### HONORS AND AWARDS

- Gabilan Faculty Fellow, Stanford University (2021-2023)
- Blavatnik Postdoctoral Award for Young Scientists, Blavatnik Family Foundation and the New York Academy of Sciences (2018)
- Keiiti Aki Young Scientist Award, American Geophysical Union (2017)
- Laura Bassi Young Scientist Award, Italian Physical Society (2016)
- Claudio Bonivento PhD Thesis Award, University of Bologna (2014)
- Postdoctoral Fellowship in the Earth, Environmental, and Ocean Sciences, Lamont-Doherty Earth Observatory of Columbia University (2014)
- Outstanding student presentation award, Third International QUEST Workshop organized by the ITN QUEST funded by the European Commission. (2012)
- Marie Curie PhD Fellowship, QUEST International Training Network funded by the European Commission. (2011)

#### LINKS

- Environmental & Computational Seismology Group: <https://envseismo.sites.stanford.edu>
- Personal Website: <https://sites.google.com/site/gualtierilucia/>

### Teaching

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#### COURSES

##### 2020-21

- Introduction to the Foundations of Contemporary Geophysics: EARTHSYS 110, GEOPHYS 110 (Aut)

## STANFORD ADVISEES

### Doctoral Dissertation Advisor (AC)

Qing Ji, Trey Knudson

## Publications

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### PUBLICATIONS

- **Generation of secondary microseism Love waves: effects of bathymetry, 3-D structure and source seasonality** *GEOPHYSICAL JOURNAL INTERNATIONAL*  
Gualtieri, L., Bachmann, E., Simons, F. J., Tromp, J.  
2021; 226 (1): 192-219
- **Rayleigh-wave attenuation across the conterminous United States in the microseism frequency band.** *Scientific reports*  
Magrini, F., Boschi, L., Gualtieri, L., Lekic, V., Cammarano, F.  
2021; 11 (1): 10149
- **Multi-phase seismic source imprint of tropical cyclones.** *Nature communications*  
Retailleau, L., Gualtieri, L.  
2021; 12 (1): 2064
- **The origin of secondary microseism Love waves.** *Proceedings of the National Academy of Sciences of the United States of America*  
Gualtieri, L., Bachmann, E., Simons, F. J., Tromp, J.  
2020
- **City-Scale Dark Fiber DAS Measurements of Infrastructure Use During the COVID-19 Pandemic.** *Geophysical research letters*  
Lindsey, N. J., Yuan, S. n., Lellouch, A. n., Gualtieri, L. n., Lecocq, T. n., Biondi, B. n.  
2020; 47 (16): e2020GL089931
- **Global scale analysis and modelling of primary microseisms** *GEOPHYSICAL JOURNAL INTERNATIONAL*  
Gualtieri, L., Stutzmann, E., Juretzek, C., Hadziioannou, C., Arduin, F.  
2019; 218 (1): 560–72
- **Toward High-Resolution Period-Dependent Seismic Monitoring of Tropical Cyclones** *GEOPHYSICAL RESEARCH LETTERS*  
Retailleau, L., Gualtieri, L.  
2019; 46 (3): 1329–37
- **Physics of ambient noise generation by ocean waves** *Seismic Ambient Noise*  
Arduin, F., Gualtieri, L., Stutzmann, E.  
Cambridge University Press.2019: 69–108
- **Seismic Ambient Noise**  
edited by Nakata, N., Gualtieri, L., Fichtner, A.  
Cambridge University Press.2019
- **Broad-band seismic analysis and modeling of the 2015 Taan Fjord, Alaska landslide using Instaseis** *GEOPHYSICAL JOURNAL INTERNATIONAL*  
Gualtieri, L., Ekstrom, G.  
2018; 213 (3): 1912–23
- **The persistent signature of tropical cyclones in ambient seismic noise** *EARTH AND PLANETARY SCIENCE LETTERS*  
Gualtieri, L., Camargo, S. J., Pascale, S., Pons, F. E., Ekstrom, G.  
2018; 484: 287–94
- **Detection and analysis of a transient energy burst with beamforming of multiple teleseismic phases** *GEOPHYSICAL JOURNAL INTERNATIONAL*  
Retailleau, L., Landes, M., Gualtieri, L., Shapiro, N. M., Campillo, M., Roux, P., Guilbert, J.  
2018; 212 (1): 14–24
- **Seismic Reconstruction of the 2012 Palisades Rockfall Using the Analytical Solution to Lamb's Problem** *BULLETIN OF THE SEISMOLOGICAL SOCIETY OF AMERICA*

Gualtieri, L., Ekstrom, G.  
2017; 107 (1): 63–71

- **Ray-theoretical modeling of secondary microseism P waves** *GEOPHYSICAL JOURNAL INTERNATIONAL*  
Farra, V., Stutzmann, E., Gualtieri, L., Schimmel, M., Arduin, F.  
2016; 206 (3): 1730–39
- **On the shaping factors of the secondary microseismic wavefield** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Gualtieri, L., Stutzmann, E., Capdeville, Y., Farra, V., Mangeney, A., Morelli, A.  
2015; 120 (9): 6241–62
- **The frequency dependence and locations of short-period microseisms generated in the Southern Ocean and West Pacific** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Gal, M., Reading, A. M., Ellingsen, S. P., Gualtieri, L., Koper, K. D., Burlacu, R., Tkalcic, H., Hemer, M. A.  
2015; 120 (8): 5764–81
- **How ocean waves rock the Earth: Two mechanisms explain microseisms with periods 3 to 300 s** *GEOPHYSICAL RESEARCH LETTERS*  
Arduin, F., Gualtieri, L., Stutzmann, E.  
2015; 42 (3): 765–72
- **Modelling the ocean site effect on seismic noise body waves** *GEOPHYSICAL JOURNAL INTERNATIONAL*  
Gualtieri, L., Stutzmann, E., Farra, V., Capdeville, Y., Schimmel, M., Arduin, F., Morelli, A.  
2014; 197 (2): 1096–1106
- **Finite-difference P wave travel time seismic tomography of the crust and uppermost mantle in the Italian region** *GEOCHEMISTRY GEOPHYSICS GEOSYSTEMS*  
Gualtieri, L., Serretti, P., Morelli, A.  
2014; 15 (1): 69–88
- **Modelling secondary microseismic noise by normal mode summation** *GEOPHYSICAL JOURNAL INTERNATIONAL*  
Gualtieri, L., Stutzmann, E., Capdeville, Y., Arduin, F., Schimmel, M., Mangeney, A., Morelli, A.  
2013; 193 (3): 1732–45