Prof. Dr. Céline M. Hadziioannou

Contact Information

Institute of Geophysics
University of Hamburg
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Citizenship French and Greek

Date of Birth April 29, 1983

Research Interests Ambient seismic noise and its sources; Ocean–Solid-Earth interaction, Seismic interferometry; Scattered wavefields; Coda waves; Monitoring time-dependent material changes; Noise correlation tomography

Academic Appointments

University of Hamburg — Hamburg, Germany
Junior Professor for Seismology — 2017 – present

Ludwig-Maximilians University Munich (LMU) — Munich, Germany
Leader of the Emmy Noether Research Group — 2013 – 2017
"The origin of Love waves in the ocean generated noise wave field"

Ludwig-Maximilians University Munich (LMU) — Munich, Germany
Postdoctoral Researcher — 2011 – 2013
Marie Curie QUEST ITN Postdoctoral fellow
Research: "Rotational motions, ambient noise and diffuse wavefields"

Education

Institut des Sciences de la Terre (ISTerre) — Grenoble, France
PhD, Seismology — 2007 – 2011
Research: "Seismic waves in complex media: measuring temporal velocity variations"
Advisors: Prof. Dr. Michel Campillo and Dr. Eric Larose

Universiteit van Utrecht (UU) — Utrecht, the Netherlands
Master of Science, Geophysics — 2005 – 2007

Rijksuniversiteit Groningen (RuG) — Groningen, the Netherlands
Bachelor of Science, Astrophysics — 2001 – 2005

Honours & Awards

Emmy Noether research fellowship (DFG) — 2013
Member of the **Center for Advanced Studies** (CAS LMU) — 2014 – present
Member of **AcademiaNet** (Robert Bosch Stiftung) — 2014 – present

Professional Service

Member of the **DEPAS pool** steering committee (German instrument pool for amphibian seismology) — 2018 – present
Member of LMU **University Research Board** — 2014 – present
Representative of LMU and Universität Hamburg as associate partner in Marie Curie ITN "WAVES" (coordinated by Dr. Lapo Bosci, UPMC Paris) — 2015 – 2018
Work package co-chair in Marie Curie COST action "TIDES" (coordinated by Dr. Andrea Morelli, INGV Bologna) — 2014 – 2017
Collaborator in the ERC project "ROMY" (PI: Prof. Dr. Heiner Igel, LMU) — 2014 – 2019
Programme Committee COST-TIDES 4th Training school in Prague, Czech Rebpublic — 2018
Organization Committee AMÜSE PhD Conference in Hinterriss, Austria — 2016
Organization Committee 4th IWGoRS Meeting on Rotational Seismology in Tutzing, Germany — 2016

Organized workshop "The Earth's Hum" in Munich 2014

Organization Committee for 4th QUEST workshop 2013

Organization Committee Workshop "Noise and Diffuse Wavefields" in Neustadt an der Weinstrasse, Germany 2012

Chair of regular sessions at EGU, AGU, DGG 2012 – 2018

Reviewer for the Helmholtz Association, ETH Research commission, LMU Research Board, Scientific journals (GRL, GJI, JGR, J. Appl. Geophysics, J. of Seism.)

Refereed Journal Publications

Students under my supervision are indicated with a star*

*L. Krischer, S. Donner, M. van Driel , **C. Hadziioannou**, M. Koymans, J. Leeman, F. Lindner, T. Megies, C. Nunn, A. Rijal, J. Salvermoser*, T. Taufiqurrahman, S. Wollherr, D. Vargas, J. Wassermann, F. Wölfl, C. Tape and H. Igel*
Seismo-Live: An Educational Online Library of Jupyter Notebooks For Seismology, *Seismol. Res. Lett.*, **2018**

*S. Hable, K. Sigloch, G. Barruol, S. C. Stähler, **C. Hadziioannou***
Clock errors in land and ocean bottom seismograms: High-accuracy estimation using multiple component noise cross-correlations, *Geophys. J. Int.*, 214(3) **2018**

*F. Lindner , C. Weemstra , F. Walter, **C. Hadziioannou***
Towards Monitoring the englacial fracture state using virtual-reflector seismology, *Geophys. J. Int.*, 214(2) **2018**

C. Juretzek, **C. Hadziioannou***,
Linking source region and ocean wave parameters with the observed primary microseismic noise, *Geophys. J. Int.*, 211(3), p1640-1654, **2017**

*S. Donner, C.-J. Lin, **C. Hadziioannou**, A. Gebauer, F. Vernon, D. C. Agnew, H. Igel, U. Schreiber, J. Wassermann*,
Comparing direct observation of strain, rotation, and translation with array estimates at Pinon Flat Observatory, California, *Seismol. Res. Letters* 88 (4) **2017**

J. Salvermoser, **C. Hadziioannou**, S. Hable*, L. Krischer, B. Chow, C. Ramos, J. Wassermann, U. Schreiber, A. Gebauer, H. Igel*,
An event database for rotational seismology, *Seismol. Res. Letters* 88 (3), **2017**

*T. Tanimoto, C.-J. Lin, **C. Hadziioannou**, H. Igel, F. Vernon*,
Estimate of Rayleigh-to-Love wave ratio in the secondary microseism by a small array at Piñon Flat Observatory, California, *Geophys. Res. Lett.*, 43, **2016**

C. Juretzek, **C. Hadziioannou***,
Where do ocean microseisms come from? A study of Love-to-Rayleigh wave ratios, *J. Geophys. Res. Solid Earth*, 121, **2016**

*A. Obermann, T. Planès, **C. Hadziioannou**, M. Campillo*,
Lapse-time dependent coda wave depth sensitivity to local velocity perturbations in 3-D heterogeneous elastic media, *Geophys. J. Int.,* 207 (1), 59-66 **2016**

*C. Wu, A. Delorey, F. Brenguier, **C. Hadziioannou**, E. Daub, P. Johnson*,
Constraining depth range of S-wave velocity decrease after large earthquakes near Parkfield, California, *Geophys. Res. Lett.,* 43 **2016**

J. Wassermann, A. Wietek, **C. Hadziioannou**, H. Igel*,
Towards a Single Station Approach for Microzonation: Using Vertical Rotation Rate to Estimate Love-Wave Dispersion Curves and Direction Finding, *BSSA*, 106 (3) **2016**

*T. Tanimoto, **C. Hadziioannou**, H. Igel, J. Wassermann, U. Schreiber, A. Gebauer, B. Chow,*
Seasonal variations in the Rayleigh-to-Love wave ratio in the secondary microseism from co-located ring laser and seismograph, *J. Geophys. Res. Solid Earth*, 121, **2016**

J. Salvermoser, **C. Hadziioannou**, S. Stähler*,
Structural monitoring of a highway bridge using passive noise recordings from street traffic, *J. of the Acoust. Soc. Am.*, **138**, 3864 **2015**

*T. Tanimoto, **C. Hadziioannou**, H. Igel, J. Wasserman, U. Schreiber, A. Gebauer,*
Estimate of Rayleigh-to-Love wave ratio in the secondary microseism by co-located ring laser and seismograph, *Geophys. Res. Lett.*, 42 **2015**

***C. Hadziioannou**, P. Gaebler, U. Schreiber, J. Wassermann, H. Igel,*
Examining ambient noise using co-located measurements of rotational and translational motion, *Journal of Seismology*, 16(4), 787–796, **2012**

***C. Hadziioannou**, E. Larose, A. Baig, P. Roux, M. Campillo,*
Improving Temporal Resolution in Ambient Noise Monitoring of Seismic Speed,
J. Geophys. Res. 116: B0730, **2011**

*R. Weaver, **C. Hadziioannou**, E. Larose, M. Campillo,*
On the precision of noise correlation interferometry, *Geophys. J. Int.* 185, 1384–92, **2011**

***C. Hadziioannou**, E. Larose, O. Coutant, P. Roux, M. Campillo,*
Stability of monitoring weak changes in multiply scattering media with ambient noise correlation: Laboratory experiments, *J. of the Acoust. Soc. Am.* 125, 3688–95, **2009**

*F. Brenguier, M. Campillo, **C. Hadziioannou**, N. Shapiro, R. Nadeau, E. Larose*,
Postseismic relaxation along the San Andreas fault at Parkfield from continuous seismological observations, *Science* 321, 1478–81, **2008**

Submitted

B. Chow[*]*, J. Wassermann, B. Schuberth, **C. Hadziioannou**, S. Donner and H. Igel*
Love wave amplitude decay from rotational ground motions
submitted to Geophys. J. Int.

L. Gualtieri, E. Stutzmann, C. Juretzek[*]*, **C. Hadziioannou** and F. Ardhuin*
Global scale analysis and modeling of primary microseisms
submitted to Geophys. Res. Lett.

D. Ziane[*] *and **C. Hadziioannou***
Multiple scattering as a possible mechanism for generating Love waves in the secondary microseism, *submitted to Geophys. J. Int.*

Edited Books & Book chapters

*S. Donner, H. Igel, **C. Hadziioannou** and the ROMY Group*
Retrieval of the seismic moment tensor from joint measurements of translational and rotational ground motions, *To appear in: "Moment Tensor Solutions - A Useful Tool for Seismotectonics" (Springer; Editor: Sebastiano D'Amico)*, **2017**

*A. Schmidt, C. Sens-Schönfelder, **C. Hadziioannou**, U. Wegler, E. Niederleitinger (Editors)*, Noise and Diffuse Wave Fields, Extended Abstracts of the Neustadt Workshop, *Mitteilungen Deutsche Geophysikalische Gesellschaft e.V.*, Sonderband IV/2012; **2012**

Outreach

*A. Morelli, **C. Hadziioannou**, C. Bean.*
Time Dependent Seismology. *Impact 2017*, no. 1 p74-76, **2017**

Funding

Emmy Noether Fellowship (DFG) 2013 – 2018

Teaching

Supervision of 4 PhD students, 13 MSc projects.

Seminar Seismologie, 2017-present
MSc course at Universität Hamburg

Surface & Body wave Seismology, 2017-present
MSc course at Universität Hamburg, lectures and exercises

Seismologie, 2017-present
BSc course (6. Sem) at Universität Hamburg, lectures and exercises

Seismic noise spectra and polarisation, 2015
TIDES training school on seismic data, Bertinoro, Italy

Geophysikalische Datenanalyse, 2015
BSc course at LMU München

Geophysical Data Acquisition and Analysis, 2013 – 2016
MSc course at LMU München

Tutorial on Ambient noise correlations, 2013
QUEST Workshop

Introduction to Seismology; Signal Processing, 2012
Special course at ROSE school, Pavia, Italy

Applied Geophysics, 2011 & 2012
Exercises for BSc course at LMU München (in German)

Invited Presentations

Christian-Albrechts-Universität Kiel, Germany Ruhr-Universität Bochum, Germany	2018
Cargese Summer School ”Ambient Noise Imaging and Monitoring 2017”	2017
Trainer at TIDES 2nd training school, Sesimbra, Portugal WAVES workshop “Advances in Imaging”, Delft, the Netherlands	2016
Trainer at TIDES 1st training school, Bertinoro, Italy Swiss Seismological Service, ETH, Zurich, Switzerland Westfälische Wilhelms-Universität Münster, Germany	2015
Utrecht University, Utrecht, the Netherlands	2014
Géoazur, Sofia-Antipolis, France ETH Zurich, Switzerland	2013
Universität Leipzig, Germany	2011
Quest workshop, Sardinia	2010

Tools

Rotational Seismology Event Database launched 2017

Online access to more than 17,000 Earthquake waveforms and processed plots from signals recorded simultaneously by the Wettzell ring laser and a nearby seismometer.

Languages

Written & spoken fluently:	English, Dutch, French
Conversational:	German
Basic knowledge:	Greek