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 in 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 LMU **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 the German Geophysical Society (DGG) **Equal opportunity committee** — 2018 – present
Member of LMU **University Research Board** — 2014 – present
Representative of LMU and the University of 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

Session Convener & Chair of the yearly Ambient Seismic Noise session at EGU General Assembly, Vienna, Austria 2012–2019

Session Convener & Chair of "Seismic Noise" session at the 76th yearly meeting of the German Geophysical Society (DGG) 2016

Session Convener & Chair, AGU Fall Meeting, San Fransisco, USA 2015

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

Refereed Journal Publications

Citations ≈ 930; h-index 10; Source: Google Scholar

Students under my supervision are indicated with a star*

21. *L. Gualtieri, E. Stutzmann, C. Juretzek* * *, **C. Hadziioannou** and F. Ardhuin*
Global scale analysis and modeling of primary microseisms,
Geophys. J. Int. 218(1) **2019**

20. *D. Ziane* * *and **C. Hadziioannou***
Multiple scattering as a possible mechanism for generating Love waves in the secondary microseism, *Geophys. J. Int.* 217 (2) **2019**

19. *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.*, 89 (6) **2018**

18. *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**

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

16. *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**

15. *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**

14. *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**

13. *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**

12. *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**

11. *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**

10. *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**

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

8. *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**

7. *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**

6. *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**

5. ***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**

4. ***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**

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

2. ***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**

1. *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
in revision at Geophys. J. Int.

M. van Driel, S. Ceylan, J. F. Clinton, D. Giardini, R. Weber, P. Lognonné, B. Banerdt, M. Drilleau, N. Murdoch, M. Panning, R. Garcia, D. Mimoun, M. Golombek, J. Tromp, M. Böse, I. Daubar, B. Kenda, A. Khan, L. Perrin, A. Spiga, M. S. Boxberg, M. Parath, M. Ditz, A. Lamert, T. Möller, S. Zhang, D. Ambrois, J. Chèze, F. Peix, H. Alemany, D. Mercerat, J. Balestra, A. Deschamp, C. Twardzik, L. Rolland, S. Mader[⋆] *, L. Marten*[⋆] *, C. Schröer*[⋆] *, D. Becker, T. Casademont*[⋆] *, F. Dethof*[⋆] *, D. Essing*[⋆] *, K. Grunert*[⋆] *,* ***C. Hadziioannou****, I. Hochfeld*[⋆] *, T. Kilchling*[⋆] *, F. Mehrkens*[⋆] *, P. Neumann*[⋆] *, R. Neurath*[⋆] *, R. Steinmann*[⋆] *, N. Trumpik*[⋆] *, P. Werdenbach-Jarklowski*[⋆] *, H. Hu, J. Li, Y. Zheng, E. Stutzmann, M. Schimmel, C. Hammer, B. Knapmeyer-Endrun, S. C. Stähler, N. Brinkman, S. Kedar, F. Euchner, B. Fernando, M. Tsekhmistrenko, K. Hosseini, C. Haindl, H. Godwin, A. Szenicer, T. Garth, and A. Allam*
Preparing for InSight: Evaluation of the Blind Test for Martian Seismicity
in revision at Seismol. Res. Lett.

S. Stähler, M. Panning, ***C. Hadziioannou****, R.D. Lorenz, S. Vance, K. Klingbeil, S. Kedar*
Seismic signal from waves on Titan's seas
Submitted to Earth and Planetary Science Letters

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, *In: "Moment Tensor Solutions - A Useful Tool for Seismotectonics" (Springer; Editor: Sebastiano D'Amico)*, **2018**

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): approximately 860 k€ — 2013 – 2018

University of Hamburg investment fund CliSAP–CliCCS: 75 k€ + 1 year PhD position — 2017

University of Hamburg "Lehrlabor" for developing innovative didactic courses 1 year PhD position + 4500€ for student assistents — 2018 – 2019

Teaching

Supervision of 3 PhD students, 14 MSc projects.

Seminar Seismologie, MSc course at Universität Hamburg (2 SWS) — 2017-present

Surface & Body wave Seismology, MSc course at Universität Hamburg, lectures and exercises (2+1 SWS) — 2017-present

Seismologie, BSc course (6. Sem) at Universität Hamburg, lectures and exercises (2+2 SWS) — 2017-present

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

Geophysikalische Datenanalyse, BSc course at LMU München, lectures and exercises (2+1 SWS) — 2015

Geophysical Data Acquisition and Analysis, MSc course at LMU München, lectures and exercises (2+2 SWS) — 2013 – 2016

Tutorial on Ambient noise correlations, QUEST Workshop — 2013

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

Applied Geophysics, Exercises for BSc course at LMU München (in German, 2 SWS) — 2011 & 2012

Invited Presentations

Lecturer at Cargese Summer School "Ambient Noise Imaging and Monitoring" — 2019
Keynote at the EAGE "1st Conference on Geophysics for Infrastructure Planning Monitoring and BIM"
Invited Talk at University of Oxford, UK

Invited Talk at Christian-Albrechts-Universität Kiel, Germany — 2018
Invited Talk at Ruhr-Universität Bochum, Germany

Lecturer at Cargese Summer School "Ambient Noise Imaging and Monitoring" — 2017

Trainer at the TIDES 2nd training school, Sesimbra, Portugal — 2016
Invited Talk at WAVES workshop "Advances in Imaging", Delft, the Netherlands

Trainer at the TIDES 1st training school, Bertinoro, Italy — 2015
Invited Talk at the Swiss Seismological Service, ETH, Zurich, Switzerland
Invited Talk at Westfälische Wilhelms-Universität Münster, Germany

Invited Talk at Utrecht University, Utrecht, the Netherlands — 2014

Invited Talk at Géoazur, Sofia-Antipolis, France — 2013
Invited Talk at ETH Zurich, Switzerland

Invited Talk at Universität Leipzig, Germany — 2011

Invited Talk at 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.

Seismo-Live (http://seismo-live.org/)
Contribution of teaching notebooks, e.g. "Signal Processing", "Ambient Seismic Noise", "Rotational Seismology"

Languages

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