



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI FISICA E
ASTRONOMIA "AUGUSTO RIGHI"

Physics | Geophysics | Seismology | Volcanology

Curriculum Vitae

Luca De Siena

Associate Professor of Geophysics with Volcanology

Head of the Seismology Work-Group

Honorary Senior Lecturer at the University of Aberdeen, UK

work phone: +49 (0)61313928499

cell: +49 (0) 15122316065

email: lucadesiena80@gmail.com

internet: www.lucadesiena.com

Curriculum Vitae in Brief

Luca De Siena, born in Salerno (Italy) on 26/05/1980 - Married with two children.

Orcid: [0000-0002-3615-5923](https://orcid.org/0000-0002-3615-5923) - Passport: YB1376717

Research, teaching, and institutional highlights

Honours: *Fellow:* JSPS; HEA UK; HPC EUROPA2.

Sourced research funding since 2017: €1.807.000 from the EU, NERC, JSPS, DFG, SAGES, PTDF, Royal Society of Edinburgh, Rhein-Palatinate funds.

Research group: The *Volcano Imaging Group* - 2 post-docs, lead-supervised students at the UoA and JGU: 8 PhD and 21 BSc/MSc.

Peer-reviewed papers: 55 of which 36 since 2018; Citations: 1211 of which 937 since 2018; h-index: 22; h-10 index : 30.

Teaching at UniBO: 120 hrs per year at MSc (Physics of the Earth) and BSc (Marine Sciences) levels;

Coordination and Teaching at JGU: *Coordinator of the MSc Dynamics of the Lithosphere*; Teaching *Geodynamics* (MSc); *Intro to Geophysics*, *Geostatistics* and *Computational Geology* (BSc Geology and Physics) for ~ 100 hrs per year;

Teaching at UoA: 120 hrs per year at BSc (Geology) and MSc (Geophysics), *Time Series Analysis and Signal Processing*, *Geophysical Inverse Theory and Statistics* (MSc).

International Conferences and Seminars since 2016: *EGU Officer, GMPV Division* (2017-2020); *Convener* of 12 EGU sessions, 14 invited talks and keynote lectures at conferences, presenter of 19 orals at international conferences.

Editor & Reviewer : Editor for *Frontiers in Earth Science* and *Solid Earth*; Top 1% reviewer in Publons-Web of Sciences with 12 paper peer-review/year and 3 projects peer-review/year (DFG, CNRS, NSF, NERC, EU, MIUR) since 2017.

Personal and Professional Data

Professional history, education and skills

2022-: Qualification as **Full Professor of Geophysics - GEO10** and **Full Professor of Planetary Physics - FIS06**, *Italian Ministry of University and Scientific Research*;

2023-present: **Associate Professor of Geophysics with Volcanology** at *Alma Mater Studiorum - Università di Bologna* (Bologna, Italy);

2019-2023: **Associate (W2) Professor of Geophysics with Volcanology** at *Johannes Gutenberg Universität* (Mainz, Germany);

2014 - 2019: **Lecturer in Geophysics (Seismology) with Tenure from 2017** at *University of Aberdeen* (Aberdeen, UK);

2010-2014: **Post-doc Research Assistant (Wissenschaftlicher Mitarbeiter)** at the *Westfälisches Wilhelms Universität* (Münster, Germany);

2009-2010: **Post-doc Researcher (Assegnista di Ricerca)** at the *INGV - Osservatorio Vesuviano* (Napoli, Italy);

2009: **PhD in Geophysics** defended on **05/06/2009** and received from *Alma Mater Studiorum - Università di Bologna* (Bologna, Italy);

2005: **Diploma in Physics** defended on **14/07/2005** and received from *Università Federico II di Napoli* (Napoli, Italy);

Research Interests: Geophysical imaging of volcanoes; Seismic tomography; Theoretical and computational geophysics; Seismic and volcanic hazards.

Languages: **Fluent** Italian + English; **Advanced** German (B2); **Basic** French.

Computing Skills: Operating Systems: **Unix**, Linux, Windows; *Programming:* Matlab, Fortran, C++, OpenMP, MPI, LaTeX, Paraview, Photoshop. *Developer:* **MuRAT**

Non-academic: Teacher of **Tango Argentino** since 2014.

Publications

Name of supervised students and post-docs in *italics red* (if working on subject during supervised period); IF = Impact Factor.

2023

1. Borleanu F., L. Petrescu, A. O. Placinta, *Magrini F.*, B. Grecu, M. Radulian, **L. De Siena** (2023). Seismic attenuation tomography of Eastern Europe from ambient seismic noise analysis *Geophysical Journal International*, accepted for publication, IF: 3.35 DOI.
2. Howcutt S., M. Spagnolo M., B. R. Rea, J. Jaszewski, I. Barr, D. Coppola, **L. De Siena**, T. Girona, A. Gomez-Patron, D. Mullan and M. E. Pritchard (2023). Icy thermometers: quantifying the impact of volcanic heat on glacier elevation *Geology*, accepted for publication, IF: 6.32. DOI.
3. *Magrini F.*, E. Kästle, S. Pilia, N. Rawlinson, and **L. De Siena** (2023). A new shear-velocity model of continental Australia based on multi-scale surface-wave tomography. *Journal of Geophysical Research: Solid Earth*, 128, e2023JB026688, IF: 4.39. DOI.
4. Gabrielli S., A. Akinci, **L. De Siena**, M. Buttinelli, F. Maesano, and R. Maffucci (2023). Scattering attenuation images of the control of thrusts and fluid overpressure on the 2016-17 Central Italy seismic sequence. *Geophysical Research Letters*, 50, e2023GL103132, IF: 5.58. DOI.
5. Borleanu F., L. Petrescu, I. Seghedi, C. Thomas, **L. De Siena** (2023). The seismic attenuation signature of collisional orogens and sedimentary basins within the Carpathian Orogen *Global and Planetary Change*, 223, 104093, IF: 4.956 DOI.
6. *Nardoni C.*, **L. De Siena**, F. Magrini, F. Cammarano, T. Maeda, E. Mattei (2023). Earthquake Characteristics and Structural Properties of the Southern Tyrrhenian Basin from Full Seismic Wave Simulations *Surveys in Geophysics*, 1-21. IF: 7.965 DOI.
7. *King T.*, **L. De Siena**, *Y. Zhang*, N. Nakata, P. Benson, S. Vinciguerra (2023). Mapping Faults in the Laboratory with Seismic Scattering 2: The Modelling Perspective *Geophysical Journal International*, 234(3), 1024-1031. IF: 3.35 DOI.

2022

8. *King T.*, **L. De Siena**, P. Benson, S. Vinciguerra (2022). Mapping Faults in the Laboratory with Seismic Scattering 1: The Laboratory Perspective *Geophysical Journal International*, 232 (3), 1590-1599. IF: 3.35 DOI.
9. *Guardo R.*, **L. De Siena**, J. Prudencio and G. Ventura (2022). Imaging the absorbing feeding and eruptive pathways of Deception Island, Antarctica. *Geophysical Research Letters*, 49 (19),

- e2022GL099540, IF: 5.58 DOI.
10. *Di Martino, P., L. De Siena* and N. Tisato (2022). Pore space topology controls ultrasonic waveforms in dry volcanic rocks. *Geophysical Research Letters*, 49 (18), e2022GL100310, IF: 5.58 DOI.
 11. Reiss, M., *L. De Siena* and J. D. Muirhead (2022). The interconnected magmatic plumbing system of the Natron Rift. *Geophysical Research Letters*, 49 (15), e2022GL098922, IF: 5.58 DOI.
 12. Gabrielli, S., A. Akinci, G. Ventura, F. Napolitano, E. Del Pezzo, and *L. De Siena* (2022). Fast-Changes in Seismic Attenuation of the Upper Crust due to Fracturing and Fluid Migration: the 2016-2017 Central Italy Seismic Sequence. *Frontiers in Earth Science*, 10, 909698. IF: 3.23 DOI.
 13. *Guardo, R., L. De Siena* (2022). Semi-automated inversion-specific data selection for volcano tomography. *Frontiers in Earth Science*, 10, 849152. IF: 3.23 DOI.
 14. *Di Martino, P., L. De Siena*, V. Serlenga, G. De Landro (2022). Reconstructing hydrothermal fluid pathways and storage at the Solfatara crater (Southern Italy) using seismic scattering and absorption. *Frontiers in Earth Science*, 10, 852510. IF: 3.23 DOI.
 15. Bianco, F., P. Capuano, E. Del Pezzo, *L. De Siena*, N. Maercklin, G. Russo, M. Vassallo, J. Virieux, and A. Zollo (2022). Seismic and Gravity Structure of the Campi Flegrei Caldera, Italy. *Campi Flegrei*, 55-94. G. Orsi, M. D' Antonio, L. Civetta, Eds., *Active Volcanoes of the World* series, Springer. DOI
- 2021**
16. Petrosino S. and *L. De Siena* (2021). Fluid migrations and volcanic earthquakes from depolarized ambient noise. *Nature: Communications*, 12, 6656. IF: 14.9 DOI
 17. *Nardoni, C., L. De Siena*, F. Cammarano, F. Magrini, E. Mattei (2021). Modelling regional-scale attenuation across Italy and the Tyrrhenian Sea. *Physics of the Earth and Planetary Interior*, 318, 106764. IF: 2.46 DOI.
 18. *Di Martino-Perez, P., L. De Siena*, D. Healy, S. Vialle (2021). Petro-mineralogical controls on coda attenuation in volcanic rock samples. *Geophysical Journal International*, 226 (1), 1858-1872. IF: 3.35 DOI.
 19. *King, T., S. Vinciguerra, J. Burgess, P. Benson, L. De Siena* (2021). Source mechanisms of laboratory earthquakes during fault nucleation and formation. *Journal of Geophysical Research: Solid Earth*, 126 (5), e2020JB021059. IF: 3.59 DOI
 20. *Sketsiou, P., L. De Siena, S. Gabrielli*, F. Napolitano, (2021). 3D attenuation image of fluid storage and tectonic interactions across the Pollino fault network. *Geophysical Journal*

- International*, 226 (1), 536-547. IF: 3.35 DOI.
21. **Akande, W. G.**, Q. Gan, D. Cornwell, **L. De Siena** (2021). Thermo-Hydro-Mechanical Model and Caprock Deformation Explain the Onset of an On-going Seismo-volcanic Unrest. *Journal of Geophysical Research: Solid Earth*, 126, e2020JB020449. IF: 3.59 DOI.
- 2020**
22. **King T.**, P. Benson, **L. De Siena**, S. Vinciguerra (2020). Acoustic Emission Waveform Picking with Time Delay Neural Networks During Rock Deformation Laboratory Experiments. *Seismological Research Letters*, 92(2A), 923-932. IF: 3.46 DOI.
 23. **Guardo R.**, **L. De Siena**, C. Draideme (2020). Mt. Etna feeding system and sliding flank: a new 3D image from earthquakes distribution in a customisable GIS. *Frontiers in Earth Science*, 8, 474. IF: 2.63 DOI.
 24. **Gabrielli S.**, M. Spagnolo, **L. De Siena** (2020). Geomorphology and surface geology of Mount St. Helens volcano. *Journal of Maps*, 16:2, 585-594. IF: 1.50
 25. **Zenonos A.**, **L. De Siena**, S. Widiantoro, N. Rawlinson (2020). Direct inversion of S-P differential arrival-times for Vp/Vs ratio in SE Asia. *Journal of Geophysical Research: Solid Earth*, 125(5), e2019JB019152. IF: 3.59 DOI.
 26. **Gabrielli S.**, **L. De Siena**, **Napolitano F.**, E. Del Pezzo (2020). Understanding seismic path biases and magmatic activity at Mount St. Helens volcano before its 2004 eruption. *Geophysical Journal International*, 222(1) 169-188. IF: 2.53 DOI.
 27. **Napolitano F.**, **L. De Siena**, A. Gervasi, I. Guerra, R. Scarpa, M. La Rocca (2020). Scattering and absorption imaging of a highly fractured fluid-filled seismogenetic volume in a region of slow deformation. *Geoscience Frontiers*. 11(3) 989-998. IF: 4.24 DOI.
 28. Oppo, D., **L. De Siena**, D. B. Kemp. (2020). A record of seafloor methane seepage across the last 150 million years. *Scientific Reports: Nature Journals* 10.1: 1-12 IF: 4.1 DOI.
 29. **Sketsiou P.**, **F. Napolitano**, A. Zenonos, **L. De Siena**, (2020). New insights into seismic absorption imaging. *Physics of the Earth and Planetary Interiors*, 298, 106337. IF: 2.46 DOI.
- 2019**
30. Pepe S., **L. De Siena**, Barone A., Castaldo R., D Auria L., Manzo M., Casu F., Fedi M., Lanari R, Bianco F. and Tizzani P. (2019). Volcanic structures investigation through SAR and seismic interferometric methods: the 2011-2013 Campi Flegrei unrest episode. *Remote Sensing of Environment*, 134, 111440. IF: 8.89
 31. **Akande, W. G.**, **L. De Siena**, Q. Gan (2019). Three-dimensional kernel-based coda attenuation imaging of caldera structures controlling the 1982-84 Campi Flegrei unrest. *Journal of Volcanology and Geothermal Research* 381, 273-283. IF: 3.35

32. **Zenonos A., L. De Siena, S. Widyantoro, N. Rawlinson** (2019). P- and S- wave travel time tomography of the SE Asia-Australia collision zone. *Physics of the Earth and Planetary Interior*, 293, 106267. IF: 2.46

2018

33. **De Siena, L., C. Sammarco, D. G. Cornwell, M. La Rocca, F. Bianco, L. Zaccarelli, H. Nakahara** (2018). Ambient seismic noise image of the structurally-controlled heat and fluid feeder pathway at Campi Flegrei caldera. *Geophysical Research Letters* 45.13 (2018): 6428-6436. IF: 4.4
34. Del Pezzo, E., De La Torre, A., Bianco, F., Ibanez, J., Gabrielli, S., and **De Siena, L.** (2018). Numerically Calculated 3D Space-Weighting Functions to Image Crustal Volcanic Structures Using Diffuse Coda Waves. *Geosciences*, 8(5), 175. IF: 1.82
35. Barr I. D., C. M. Lynch, D. Mullan, **L. De Siena, M. Spagnolo**, 2018. Volcanic impacts on modern glaciers: a global synthesis. *Earth-Science Reviews* 182, pp. 186-203. IF: 9.54
36. Garcia-Yeguas A., A. Sanchez-Alzola, **L. De Siena, J. Prudencio, A. Diaz-Moreno, J. M. Ibanez**, 2018. Scattering images from autocorrelation functions of P-wave seismic velocity images: the case of Tenerife Island (Canary Islands, Spain). *Bulletin of Volcanology* 80.3: 24. IF: 2.32

2017

37. **King T., P. Benson, L. De Siena and S. Vinciguerra**, 2017. Investigating the Apparent Seismic Diffusivity of Near-Receiver Geology at Mount St. Helens Volcano, USA *Geosciences* 7.4, 130. IF: 1.82
38. **Guardo R. and L. De Siena**, 2017. Integrating ambient noise with GIS for a new perspective on volcano imaging and monitoring: The case study of Mt. Etna. *Journal of Volcanology and Geothermal Research* 347, pp. 397-407. IF: 3.35
39. **De Siena, L., Giovanni Chiodini, Giuseppe Vilardo, Edoardo Del Pezzo, Mario Castellano, Simona Colombelli, Nicola Tisato, and Guido Ventura**, 2017. Source and dynamics of a volcanic caldera unrest: Campi Flegrei, 1983–84. *Scientific reports: Nature Journals* 7, 8099. IF: 4.52
40. Chiodini, G., J. Selva, E. Del Pezzo, D. Marsan, **L. De Siena, L. D Áuria, F. Bianco et al.**, 2017. Clues on the origin of post-2000 earthquakes at Campi Flegrei caldera (Italy). *Scientific reports: Nature Journals* 7, 4472. IF: 4.52
41. Borleanu, F., **De Siena, L., Thomas, C., Popa, M., and Radulian, M.**, 2017. Seismic scattering and absorption mapping from intermediate-depth earthquakes reveals complex tectonic interactions acting in the Vrancea region and surroundings (Romania). *Tectonophysics*, 706–707, pp. 129-142. IF: 3.01
42. **De Siena L., A. Amoruso, E. Del Pezzo, Z. Wakeford, M. Castellano, L. Crescentini**, 2017.

Space-weighted seismic attenuation mapping of the aseismic source of Campi Flegrei 1983–84 unrest. *Geophysical Research Letters*, 44.4 pp. 1740-1748. IF: 4.4

43. **Rizzo R.**, E., D. Healy, and **L. De Siena**, 2017. Benefits of maximum likelihood estimators for fracture attribute analysis: Implications for permeability and up-scaling. *Journal of Structural Geology*, 95, pp. 17-31. IF: 3.08

2006-2016

44. **De Siena L.**, Calvet, M., **Watson, K.J.**, Jonkers, A.R.T. and Thomas, C., 2016. Seismic scattering and absorption mapping of debris flows, feeding paths, and tectonic units at Mount St. Helens volcano. *Earth and Planetary Science Letters*, 442, pp.21-31. IF: 4.64
45. Del Pezzo, E., J. M. Ibanez, I. Prudencio, F. Bianco, **L. De Siena**, 2016. Absorption and Scattering 2D Volcano Images from Numerically Calculated Space-weighting functions. *Geophysical Journal International*, 206 (2): 742-756. IF: 2.5
46. **Prudencio J.**, **L. De Siena**, J. M. Ibanez, E. Del Pezzo, A. Garcia-Yeguas, A. Diaz-Moreno, 2015a. The 3D Attenuation Structure of Deception Island (Antarctica). *Surveys in Geophysics*, 36 (3), 371-390, doi:10.1007/s10712-015-9322-6
47. **Prudencio J.**, J. M. Ibanez, E. Del Pezzo, J. Martí, A. Garcia-Yeguas, **L. De Siena**, 2015b. 3D Attenuation Tomography of the Volcanic Island of Tenerife (Canary Islands). *Surveys in Geophysics*, 36(5), pp. 693-716.
48. **De Siena L.**, C. Thomas, G. Waite, S. Moran, and S. Klemme, 2014b. Attenuation and scattering tomography of the deep plumbing system of Mount St. Helens. *Journal of Geophysical Research: Solid Earth*, 119, 8223-8238.
49. **De Siena L.**, C. Thomas, and R. Aster, 2014a. Multi scale reasonable attenuation tomography analysis (MuRAT): an imaging algorithm designed for volcanic regions. *Journal of Volcanology and Geothermal Research*, 277, 22-35
50. **De Siena L.**, E. Del Pezzo, C. Thomas, A. Curtis and L. Margerin, 2013. Seismic energy envelopes in volcanic media: in need of boundary conditions. *Geophysical Journal International*, 192 (1), 326-345.
51. **De Siena L.**, E. Del Pezzo and F. Bianco, 2011. A scattering image of Campi Flegrei from the auto correlation functions of velocity tomograms. *Geophysical Journal International*, 184 (3), 1304 -1310.
52. **De Siena L.**, E. Del Pezzo, F Bianco, 2010. Seismic attenuation imaging of Campi Flegrei: Evidence of gas reservoirs, hydrothermal basins, and feeding systems. *Journal of Geophysical Research: Solid Earth* 115, B09312, 18 pp. doi:10.1029/2009JB006938.
53. **De Siena L.**, E. Del Pezzo, F. Bianco and A. Tramelli, 2009. Multiple resolution seismic

- attenuation imaging at Mt. Vesuvius. *Physics of the Earth and Plan. Interior*, vol 173, 17-32.
54. Petrosino S., **L. De Siena**, E. Del Pezzo, 2008. Recalibration of the Magnitude Scales at Campi Flegrei, Italy, on the Basis of Measured Path and Site and Transfer Functions. *Bulletin of the Seismological Society of America*, vol. 98, pag. 1964-1974.
55. Del Pezzo E., F. Bianco, **L. De Siena**, A. Zollo, 2006. Small scale shallow attenuation structure at Mt. Vesuvius, Italy. *Physics of the Earth and Planetary Interior*, vol. 157, pag. 257-268.

Invited Talks and Convenor

2021

1. **Invited Online Talk** at the Dept. of Earth Sciences, University of Cambridge, UK
2. **Invited Online Kolloquium** at Alma Mater Studiorum, Bologna, Italy
3. **Invited Online Kolloquium** at Università di Milano, Bicocca, Italy
4. **Invited Online Kolloquium** at AG Seismologie, Germany

2020

5. **Keynote Speaker** at the Online SAGES Meeting, Scotland, UK
6. **Invited Online Kolloquium** at the WWU Münster, Germany
7. **Invited Online Talk** at the AG Seismologie Meeting, Germany
8. **Invited Online Talk** at the DGG Annual Meeting, Germany
9. **Online Presentation** at EGU 2020 (Vienna, Austria)

2019

10. **Keynote Presentations** at the Italian Society of Physics (L'Aquila - Italy)
11. **Invited Talk** at the School of Geosciences, University of Texas (Austin, US)
12. **Invited Talk** at the Earth Resources Lab, Massachusetts Institute for Technology (Boston, US)
13. **Invited Talk** at the Lamont-Doherty Observatory (New York, US)
14. **Invited Kolloquium** at the Faculty of Earth Science, Goethe Universität (Frankfurt, Germany)
15. **Two Oral Presentations** at EGU 2019 (Vienna, Austria)

2018

16. **Keynote Presentations** at the 4th Training Course for the EU TIDES COST Action (Prague, Czech Republic).
17. **Invited Talk** at the Paul Sabatier University - Toulouse III, (Toulouse, France).
18. **Invited Presentation** at the Annual SAGES Conference - (Edinburgh, UK).
19. **Two Oral Presentations** at EGU 2018 (Vienna, Austria).

2017

20. **One Invited**, three oral and one poster Presentations at EGU 2017 (Vienna, Austria).
21. **Invited Talk** at IREA (Istituto Telerilevamento Ambientale - Napoli, Italy).
22. **Invited Talk** at Roma III University (Rome, Italy).
23. **Invited Talk** at Herriott Watts University (Edinburgh, UK)

2016

24. **One Oral** and one Poster Presentations at EGU 2016 (Vienna, Austria).
25. **Invited Talk** - JSPS Invitation Fellowship at Tohoku University (Sendai, Japan)
26. **Invited Talk** - JSPS Invitation Fellowship at Earth Research Institute (Tokyo, Japan)
27. **Invited Talk** - JSPS Invitation Fellowship at Earth and Life Science Institute(Tokyo, Japan)
28. **Invited Talk** at Perugia University (Perugia, Italy).

2015

29. **One Oral** and one Poster Presentations at EGU 2015 (Vienna, Austria).
30. **Invited Talk** at Earth and Science Dept., University of St. Andrews (UK)
31. **Invited Talk** at University of Napoli Federico II (Italy)
32. **Invited Talk** Dept. of Geology, University of Leicester (UK)
33. **Invited Talk** at University of Salerno (Italy)
34. **Invited Talk** at INGV Osservatorio Vesuviano (Italy)

2014

35. **Invited Talk** at Tohoku University (Sendai, Japan)
36. **Invited Talk** at Earth Research Institute (Tokyo, Japan)
37. **Invited Talk** at Unzen Volcano Observatory (Shimabara, Japan)
38. **Invited Talk** at National Research Institute for Earth Science and Disaster Prevention (Tsukuba, Japan,)

2010-2013

39. **Invited Talk** at University of Utrecht (the Netherlands)
40. **Keynote presentation** at the 2nd Neustad Conference on Diffusive Wavefields
41. **Invited Talk** at LMU Munich (Germany)
42. **Invited Talk** at WWU Münster (Germany)

Convenor Activity

- **EGU 2013** - Anisotropy and small-scale heterogeneity in the Solid Earth: Observations, models and implications.
- **EGU 2016** - Geophysical Imaging of volcanoes.
- **EGU 2016 - 2017** - Integrating multi-scale measurements and images of the physical properties of the Earth from the laboratory to the Deep Earth.
- **EGU 2018** - Volcano resources; Sages Town-hall meeting.
- **EGU 2018-2019** - Geophysical imaging of volcanoes;
- **European Seismological Commission 2019** - Advances in Volcano Seismology;
- **EGU 2020-2022** - Volcano imaging and monitoring with networks.

Funded projects

As Principal Investigator:

- 2023
1. **Risposta geofisica a processi geodinamici: applicazione ai Campi Flegrei (RESIGNAL)** - 75 k€(Fondazione Cariplo - CDP) - (2024-2025). **Role:PI**
- 2020
2. **A combined imaging and modelling approach to understand magmatic systems across the SE Asia-Australia collision zone** - 232 k€(DFG - Standard Grant) - (2021-2023). **Role:PI**
- 2019
3. **TeMAS - Terrestrial Magmatic Systems Research Platform** - 500 k€(JGU Mainz) - (2019-2023). **Role:Leader of the Mainz Seismology group**
4. **MODEL - Mainz Institute of Multiscale Modeling** - 800 k€(Exellenzproject im Rahmen der Forschungsinitiative des Landes Rheinland-Pfalz) - (July 2019-December 2023). **Role:Co-leader of the Mainz Geophysics group**
- 2018
5. **SAGES PEER and PECRE awards** - 5 k£(Scottish Alliance for Geosciences, Environment and Society) - (2018-2019)
6. **Petroleum Technology Development fund** - a PhD studentship for 3 years + 10k£for research expenses (2018-2021)
7. **Aberdeen-Curtin Alliance** - three year PhD studentship + 5k£for research expenses (2018-2021)
- 2016
8. **NERC CDT Oil and Gas** - four year PhD studentship + 20k£for research expenses (2016-2020)
9. **Elphinstone Scholarship** - 6 months PhD studentship + 6k£for research expenses (2016-2019)
10. **School of Geosciences Scholarship** - wave of tuition + 6k£for research expenses (2016-2019)
11. **School of Geosciences Scholarship** - wave of tuition + 6k£for research expenses (2016-2019)
12. **School of Geosciences Scholarship** - wave of tuition + 6k£for research expenses (2016-2019)
13. **VALIDATE forum - Monitoring volcanoes' interaction with diverse Earth and human environments** - 3 k£(Scottish Alliance for Geosciences, Environment and Society) - (2016-2019)
14. **JSPS Invitational Fellowship** - 10 k£(Japan Society for the Promotion of Science) - (2016-2017)

15. **EU TIDES COST Award** - 2 k£(EU) - (2016-2017)
16. **Royal Society of Edinburgh - Accademia dei Lincei Travel Grant** - 2 k£(EU) - (2016-2017)

As Collaborator

1. **SEISMOS-KOLUMBO** – Seismological and structural investigations of the Kolumbo submarine volcano in the southern Aegean: DFG - Walter Benjamin Programme
2. **INGV - Pianeta Dinamico**: Italian Civil Protection
3. **EU Projects**: SISMO-VOL; EPHESTOS; TOMO-TEIDEVS (PI Ibañez);
4. **INGV DPC V2** (PI Del Pezzo);
5. **Spanish Government**: PICASSO - Münster Array (PI Thomas);
6. **University of Torino**: Integrating multi-scale tomography techniques for determining the physical properties of the Earth from laboratory experiments to field scale: applications to volcano seismology. (PI Sergio Vinciguerra);
7. **CONICET, Argentina**: Seismic Multi-scale images interpretation of Copahue Volcano obtained by analysis of energy and travel times.

Teaching and Institutional Duties

2023-today

- Coordination and teaching: **Theoretical Seismology** MSc - *Physics of the Earth System*;
- Teaching: **Geophysical Inverse Problems** MSc - *Physics of the Earth System*;

JGU Mainz - 20119-2023

- **Program Coordination** MSc - *Dynamics of the Lithosphere*;
- **Course Coordination and delivery** MSc - Geodynamics - 30 hrs per year;
- **Course Coordination and delivery** BSc Physics and Earth Sciences - Introduction to Geophysics - 40 hrs per year;
- **Course Coordination and delivery** BSc Physics and Earth Sciences - Geostatistics 2 - 20 hrs per year;
- **Course Coordination and delivery** BSc Earth Sciences - Numerical Geology - 10 hrs per year;

University of Aberdeen - 2014-2019

- **University of Aberdeen EU Advisory Board member** for the School of Geosciences
- **Erasmus coordinator** at the School of Geosciences
- **Member of the Athena Swan committee** for equality in Academia, School of Geosciences
- **Designer and coordinator** of the BSc Geophysics
- **Research Board** of the School of Geosciences
- **Course coordination and delivery** of Inversion Problem and Statistics - 40 hrs per year
- **Course coordination and delivery** of Time series analysis and signal processing - 40 hrs per year
- **Delivery** of Restless Vulcan, 20 hrs per year
- **Delivery** of Earth through Geological Time, 20 hrs per year

Esteem Factors

- **Guest Editor** for *Frontiers in Earth Sciences* and *Solid Earth*

- **Reviewer Editor** for *Frontiers in Earth Sciences*
- **GMPV Program Officer** for EGU 2017-2020
- **Programme Committee Chair** (2016-2019) and **Panel Member** of the **SAGES Validate Forum** (UK)

PhD Examiner experience

- **PhD External Examiner**, degree in Geosciences, Trofimuk Institute of Petroleum Geology and Geophysics of Siberian Branch Russian Academy of Sciences, Russia - 2021 - candidate: Ilya Sychev
- **PhD External Examiner**, degree in Geophysics, Department of Earth Sciences, University of Cambridge, UK - 2021 - candidate: Omry Volk
- **PhD External Examiner**, degree in Geophysics, Institut für Geowissenschaften, University of Frankfurt , Germany - 2020 - candidate: Colin Hogg
- **PhD External Examiner**, degree in Geophysics, Institut für Geowissenschaften, Johannes Gutenberg Mainz, Germany - 2020 - candidate: Georg Reuber
- **PhD Internal Examiner**, degree in Geophysics, School of Geosciences, University of Aberdeen, UK - 2017 - candidate: Elvira Papaleo
- **PhD External Examiner**, degree in Geology, University of Turin, Italy - 2016 - candidate: Silvia Castellaro
- **PhD External Examiner**, degree in Geophysics, Dep. Física Teórica y del Cosmos, University of Granada, Spain - 2013 - candidate: Janire Prudencio

Post docs and theses supervised

Post docs

- **Fabrizio Magrini** - 2021-2023: **Mainz** - *A combined imaging and modelling approach to understand magmatic systems across the SE Asia-Australia collision zone.* - Funded by DFG Standard Grant.

PhD - to completion

- **Pilar Di Martino-Perez**, Aberdeen -2018-2022 - lead supervision. Today: Geosolution Geophysicist at Schlumberger ,Italy,
- **Panayota Skietsov**, Aberdeen -2016-2022 - lead supervision. Today: Scientific Consultant at Adelard, NCC Group, London, UK,
- **Waheed Akande**, Aberdeen - 2018-2021 - lead supervision. Today: Department of Geology, Federal University of Technology, Minna, Nigeria.
- **Roberto Guardo**, University of Rio Negro, Argentina - 2015-2020 - lead supervision. Today: Project Manager & GIS Analyst - ASP7 (Italy);
- **Simona Gabrielli**, Aberdeen - 2016-2020 - lead supervision. Today: post-doc at University of Birmingham (UK);
- **Aristides Zenonos**, Aberdeen - 2017-2020 - lead supervision. Today: Data Scientist at Ebiquity plc, London UK
- **Ferdinando Napolitano**, University of Salerno 2018-2020- co-supervision abroad. Today: post-doc at the University of Salerno (Italy);
- **Thomas King**, University of Torino, Italy, 2017-2020 - co-supervisor abroad. Today: post-doc at INGV-Catania (Italy);
- **Roberto Emanuele Rizzo**, Aberdeen 2015-2018 - co-supervision. Today: post-doc at Herriot Watts (UK);
- **Janire Prudencio**, University of Granada, 2010-2013 - co-supervisor abroad. Today: Assistant Professor at University of Granada;

PhD, Lead supervision, ongoing:

- **Yi Zhang**, Mainz -2020-2023;

PhD, co-supervision:

- **Chiara Nardoni**, University of Rome, Italy 2019-2022;
- **Domenico Talone**, University of Chieti, Italy 2020-2022;
- **Michelle Bensing**, University of Turin, Italy, 2020-2025.

Master and Bachelor

- **Rachit Goutam**, BsC and MSc in Mainz.
- **Elisabeth Walter**, BSc in Mainz.
- **Saskia Neugebauer**, BSc in Mainz.
- **Carlos Colombo**, MsC in Aberdeen 2018. Today: PhD at Herriot Watts, UK.
- **Pan Yaocen**, MsC in Aberdeen 2016. Today: post-doc in Uppsala, Sweden.
- **Kathleen Asena** MsC in Aberdeen 2016. Today: researcher at National Oil Corporation of Kenya
- **Thomas King**, MsC in Aberdeen 2015. Today: Post-doc at INGV Catania, Italy;
- **Martina Guzavina** BsC in Münster 2014. Today: Automation Solutions Developer at UBS, Zurich;
- **Laura Schmidt**, BsC in Münster 2014;
- **Carina Häger**, BsC and MsC in Muenster 2013-2015. Today: Post-doc at GFZ Potsdam, Germany;
- **Katrin Löer**, MsC in Münster 2011. Today: Lecturer at University of Aberdeen;

Major Collaborations by Institutions

- **Nick Rawlinson**, *BP-McKenzie Chair in Earth Sciences, University of Cambridge, UK*: on tomographic and interferometric modelling of the crust/lithosphere. Former mentor in Aberdeen. - 2 PhD students supervised together.
- **David Haley, David Cornwell, and Matteo Spagnolo**, researchers at the University of Aberdeen, UK: on porosity permeability imaging of rock samples in commercial applications; fault, water-resources monitoring and volcano-ice interaction - 4 PhD students supervised together.
- **Edoardo Del Pezzo and Francesca Bianco**, Full professor (emeritus) and Director of the INGV-Osservatorio Vesuviano, Italy: on volcano imaging, monitoring and resilience projects in the Naples Metropolitan area. Supervisors of the PhD.
- **Jesús Ibañez**, Full professor at Granada University, Spain: on volcano imaging and monitoring. PI of many projects undergone between 2010 and 2014. Co-supervision of 1 PhD.
- **Christine Thomas**, W3 Professor of Seismology at WWU Münster, Germany: on attenuation and scattering modelling of volcanism in combination with array analysis. Post-doc supervisor in Münster.
- **Boris Kaus**, W3 Professor of Geodynamics at JGU Mainz, Germany: joint seismic and geodynamic inversion in magmatic systems, co-chair of TeMAS and co-PI in the "Model Research Institute".

Want to know more? Ask:

Prof. Dr. Boris Kaus - main collaborator at JGU Mainz

Johannes Gutenberg University, Mainz

Johann-Joachim-Becher-Weg 21

55128 Mainz, Germany

Phone: +49 06131-39-24527

email: kaus@uni-mainz.de

Prof. Dr. Christine Thomas - former post-doc supervisor at WWU Münster

Westfälische Wilhelms Universität

Correnstrasse 24

48149 Münster, Germany

Phone: +49 251-8333591

email: tine@earth.uni-muenster.de

Prof. Dr Nicholas Rawlinson - former mentor at the University of Aberdeen

BP-McKenzie Chair in Earth Sciences, Department of Earth Sciences,

University of Cambridge

Downing Street, Cambridge, CB2 3EQ, UK

email: nr441@cam.ac.uk

Prof. Edoardo Del Pezzo - former PhD supervisor at INGV-Osservatorio Vesuviano

INGV-Osservatorio Vesuviano

Via Diocleziano 328

Napoli 80124 Italy

Phone: +39 081-6108324

email: delpezzo@ov.ingv.it

Prof. Andrew Curtis - co-author and supervisor at HPC-Europa2

School of Geosciences,

University of Edinburgh, Edinburgh, Scotland.

Phone: +44 (0) 131 650 8515

email: Andrew.Curtis@ed.ac.uk