

# MAGDALA TESAURO

- **PERSONAL CONTACT**

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- **NATIONALITY**

Italian

- **EDUCATION**

2009 **PhD in Earth Science:** “*An integrated study of the structure and thermomechanical properties of the European lithosphere*”, Department of Earth and Life Sciences, Vrije Universiteit, Amsterdam, Netherlands.

- **CURRENT POSITION(s)**

2019 – To present Associate Professor at Trieste University

2017 – To present Guest Scientist at Utrecht University

- **PREVIOUS POSITIONS**

2016-2019 **Lecturer (RTDb)** at Trieste University

2014 – 2016 **Postdoctoral Researcher:** “*The role of lithosphere structure in dynamic topography*”. Tectonics group, Utrecht University, Utrecht, Netherlands.

2013 – 2014 **Project Scientist:** “*Lithospheric structure heterogeneities and deformation on a global and regional scale*”, German Research Centre for Geoscience (GFZ), Potsdam, Germany.

2011 – 2013 **Alexander von Humboldt Fellow:** “*Lithospheric structure of the North American continent: a comparison of its thermomechanical properties with Europe*”, German Research Centre for Geoscience (GFZ), Potsdam, Germany.

2009 – 2011 **Postdoctoral Researcher:** “*Modelling of the Dynamic Earth from an Integrative Analysis of Potential Fields, Seismic Tomography and other Geophysical Data*”, within the SPP 1257 priority program of DFG “Mass Transport and Mass Distribution in the Earth System”, German Research Centre for Geoscience (GFZ), Potsdam, Germany.

2005 – 2009 **PhD:** “*An integrated study of the structure and thermomechanical properties of*

*the European lithosphere*”, Dep. of Earth and Life Sciences, Tectonics group, Vrije Universiteit, Amsterdam, Netherlands.

- 2003 – 2004 **Scientific assistant:** “*ENTEC (ENvironmental TECtonics) research and training network and the EUCOR-URGENT (Upper Rhine Graben Evolution Neo Tectonics)*”. Institut für Geodäsie und Photogrammetrie, Geodesy and Geodynamics Laboratory, ETH (Institute of Technology Zürich), Switzerland.
- 2002 – 2003 **Staff member of the European Space agency (ESA)**, employed under the Young Graduate Trainee (YGT) Scheme: “*Deformation Analysis in the Phlegrean Fields based upon ERS InSar and leveling*”, Solid Earth Unit, Earth Science Division, Earth Observation Future Programmes Department, ESA, Noordwijk, Netherlands.
- 2000 – 2001 **Recipient of Scholarship:** “*Geodetic Surveillance (GPS)*”, Osservatorio Vesuviano, INGV, Naples, Italy.
- 1999 – 2000 **Recipient of Scholarship:** “*Volcanic Risk*”, Osservatorio Vesuviano, INGV, Naples, Italy.

#### • FELLOWSHIPS AND AWARDS

- 2011 – 2013 Alexander von Humboldt Fellow at German Research Centre for Geoscience (GFZ), Potsdam, Germany.
- 2012 “Edward A. Flinn- Pembroke J. Hart”, award for outstanding young scientists received from International Lithosphere Program (ILP).
- 2006 Research grant for doctoral candidate, financed by DAAD (Deutscher Akademischer Austausch Dienst), Germany.
- 2006 Personal PhD grant (6 months research visits to GFZ: 01/03/06-31/08/06), Vrije Universiteit Amsterdam, Netherlands.
- 2000 – 2001 Scholarship in Geodetic Surveillance (GPS), Osservatorio Vesuviano, INGV, Naples, Italy.
- 1999 – 2000 Scholarship in Volcanic Risk, Osservatorio Vesuviano, INGV, Naples, Italy.

#### • SUPERVISION OF PhD Students and Post-doc Researchers

- 2025-2026 Tutor of a Post-doc Researcher (R.A. Basant) “*Innovation in geothermal resources and reserves potential assessment for the decarbonization of power/thermal sectors (InGEO)*” Trieste University
- 2024-2025 Tutor of a Post-doc Researcher (V. Cortassa) “*Innovation in geothermal resources and reserves potential assessment for the decarbonization of power/thermal sectors (InGEO)*”. Trieste University.
- 2023-2026 Supervisor of a PhD project (M.I. Vidal Reyes) “*Thermo-physical characterization and evaluation of the geothermal potential of the area around the Western Alps-Appennines tectonic limit*”. Trieste University.
- 2022 – 2026 Co-supervisor of a PhD project (R. Gutierrez Escobar) “*Eurasian plate-scale stress model considering driving and resistive forces*”. Utrecht University, Netherlands.
- 2022-2023 Tutor of a Post-doc Researcher (A. Pastorutti) “*Onset of Antarctic ice sheet vulnerability to ocean condition*”. Trieste University.
- 2020-2023 Supervisor of a PhD project (M.A. Natale Castillo) “*Seismic attenuation and rheology of crustal rocks: from laboratory experiments to numerical codes*”. Trieste University.

- 2017-2021 Co-supervisor of a PhD project (F. Maddaloni) “*Lithospheric structure and tectonic evolution of intracratonic basins: The Congo Basin a natural laboratory*”. Trieste University.
- 2013 – 2016 Co-supervisor of a PhD project (J. Limberger) “*Thermo-mechanical models of the European lithosphere for geothermal exploration*”. Utrecht University, Netherlands.
- 2012 – 2016 Co-supervisor of a PhD project (C. Garcia Sancho) “*Reconstructing the stress and strain field evolution of Eurasia during the Cenozoic*”. Utrecht University, Netherlands.
- 2009 – 2013 Co-supervisor of a PhD project (W. Stolk) “*A joint analysis of terrestrial and satellite gravity data to assess intraplate continental deformation in Eurasia*”. Utrecht University, Netherlands.

- **SUPERVISION OF MASTER and BACHELOR STUDENTS**

- 2018 Co-supervisor of a Bachelor student (F. Pingitore) Trieste University.
- 2016 Co-supervisor of a Master student (M. Struijk) “*Lithospheric thermal and strength model of the Arctic region*”. Utrecht University, Netherlands.

- **QUALIFICATIONS**

- 2022 Habilitated in Italy as Full Professor in Geophysics.
- 2014 Habilitated in Italy as Associate Professor in Geophysics.
- 2013 Habilitated in France as “Maître de conférences” (Assistant Researcher) in the following areas: 35- “*Structure et évolution de la terre et des autres planètes*” e 36-“*Terre solide: géodynamique des enveloppes supérieures*“.

- **INSTITUTIONAL RESPONSIBILITIES**

- 2023-Ongoing Chair of Commission on Tectonophysics and Crustal Structure of the IASPEI.
- 2023-Ongoing Committee Member for the assignments of PhD research grants
- 2022-Ongoing Member of the Editorial Board of *Evolving Earth* - ELSEVIER.
- 2021-Ongoing Member of the Editorial Board of *Global and Planetary Change* - ELSEVIER.
- 2019-Ongoing Member of Collegio dei Docenti (PhD Course: EARTH SCIENCE, FLUID-DYNAMICS AND MATHEMATICS. INTERACTIONS AND METHODS - CYCLE XXXIV, CYCLE XXXV, CYCLE XXXVI, for the academic years: 2019-2020, 2020-2021, and 2021-2022).
- 2017-Ongoing Committee Member for the assignments of post-doctoral research grants.
- 2017-Ongoing Reviewer for international proposal: Deutsche Forschungs gemeinschaft (DFG), European Research Council (ERC), Consolidator Grant, SRON Netherlands Institute for Space Research, Czech Science Foundation.
- 2009-Ongoing Reviewer for international journals, including: Geophysical Journal International, Geology, Geothermics, Gondwana Research, Tectonophysics, Journal of Geodynamics, Nature Geoscience, Pure and Applied Geophysics, Marine Geology, Frontiers in Earth Science, Solid Earth.

2013 Member of the opposition committee in the PhD defense of Dr. Ward Stolk “*Robust high-resolution models of the continental lithosphere: Methodology and application to Asia.*” Utrecht University, Netherlands.

• **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2025 Member of the European Geosciences Union

2025 Italian Geological Society

• **ONGOING AND RECENT MAJOR SCIENTIFIC COLLABORATIONS**

- Dr. Maria Filomena Loreto, Istituto di Scienze Marine - ISMAR C.N.R., Bologna Italy “*Unravelling the lithosphere-asthenosphere System of the Tyrrhenian back arc basin through geological, petrological and geophysical integration and geodynamic modelling*” (01/11/2024 -to present).
- Dr. Adele Manzella, Istituto di Geoscienze e Georisorse (IGG), C.N.R., Pisa, Dr. Gianluca Gola, Istituto di Geoscienze e Georisorse (IGG), C.N.R., Torino, Prof. Antonio Gargaro, Università di Padova “*Innovation in geothermal resources and reserves potential assessment for the decarbonization of power/thermal sectors (InGEO)*” (01/12/2023-to present).
- Dr. Chiara Amadori, Università di Pavia and Dr. Fadi Nader, IFP Energies Nouvelles (IFPEN), Rueil-Malmaison “*Thermo-physical characterization and evaluation of the geothermal potential of the area around the Western Alps-Appennines tectonic limit*” (30/12/2023-to present).
- Dr. Mikhail K. Kaban, German Research Centre for Geoscience (GFZ), Potsdam, Germany “*Thermomechanical model of the South African craton*”, (01/01/2023-to present).
- Dr. Rob Govers, Tectonophysics group, Utrecht University, Netherlands “*Eurasian plate-scale stress model considering driving and resistive forces*”, (01/01/2022-to present).
- Prof. Marie Violay, Laboratory of Experimental Rock Mechanics (LEMR) at EPFL “*Seismic attenuation and rheology of crustal rocks from laboratory experiments and numerical models*”, (01/01/2021-to present).
- Dr. Florence Colleoni, Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (INOGS): “*Onset of Antarctic ice sheet vulnerability to ocean condition*”, Trieste (01/06/2020-to present).
- Dr. Damien Delavaux, Royal Museum for Central Africa, Tervuren, Belgium “*3D structure and evolution of the intracratonic Congo Basin (Cuvette Centrale)*” (01/11/2017-2022).
- Prof. Taras Gerya, Department of Earth Science, ETH, Zuerich “*3D Numerical simulation of the intracratonic Congo Basin (Cuvette Centrale)*” (01/11/2017-2022).
- Dr. Alan Aitken, University of Western Australia, Perth “*Comparison between the thermo-compositional anomalies of North American and Australian cratons*”, (01/09/2016-to present).
- Dr. Alfonsa Milia, Istituto di Scienze Marine - ISMAR C.N.R., Napoli Italy “*Reconstruction of the evolution of the Eastern Tyrrhenian margin, Vavilov and Marsili basins*”. (01/04/2015-2018).
- Dr. Walter D. Mooney, US Geological Survey, Menlo Park, California, United States “*Construction of a new global model of the crust and upper mantle*”, (01/01/2010-to present).

- **TEACHING**

- Course of *Geothermics* for master students (60 hours, 6 credits) at the university of Trieste
- Course of *Geodynamcs* for bachelor students (60 hours, 6 credits) at the university of Trieste
- Course of *Planet Earth Modeling in MatLab* (24 hours, 3 credits) at the university of Trieste.
- Course of *Geothermics* under Erasmus + programme at Utrecht University (24 hours, 3 credits), 3-7 September 2018.
- Short Summer Course for school students '*Struttura della Terra: La cucina delle rocce*'. University of Trieste 06/07/2021-11/07/2021.
- Short Summer Course for school students '*Struttura della Terra: La cucina delle rocce*'. University of Trieste 09/07/2018-13/07/2018.
- Short Summer Course for school students '*Laboratorio sull'interno della Terra*'. University of Trieste 05/07/2021-09/07/2021.
- Short Summer Course for school students '*Laboratorio sull'interno della Terra*'. University of Trieste 04/07/2022-06/07/2022.
- Short Summer Course for school students '*Laboratorio sull'interno della Terra*'. University of Trieste 03/07/2023-05/07/2023.
- Short Summer Course for school students '*Laboratorio sull'interno della Terra*'. University of Trieste 01/07/2024-03/07/2024.
- Short Summer Course for school students '*Laboratorio sull'interno della Terra*'. University of Trieste 01/07/2025-03/07/2025.

- **ALLOCATED FUNDS**

- PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022 '*MOQAST-GEM Mass Observation by QuAntum Sensors and Time measures from space - Gravity field of the Earth and Mars - Italy and the Quantum breakthrough in space gravimetry.*' **Role:** Participant.
- PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022 PNRR '*Innovation in geothermal resources and reserves potential assessment for the decarbonization of power/thermal sectors (InGEO)*' **Role:** Operative Unit Leader.
- Recovery and Resilience Plan (NRRP) – Ministerial Decrees 118/2023 - NextGenerationEU '*Thermo-physical characterization and evaluation of the geothermal potential of the area around the Western Alps-Apennines tectonic limit*' **Role:** Operative Unit Leader.
- PNRA18\_00002 -D '*Onset of Antarctic ice sheet vulnerability to ocean conditions*'. **Role:** Operative Unit Leader.
- PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2017 '*Intraplate deformation, magmatism and topographic evolution of a diffuse collisional belt: Insights into the geodynamics of the Arabia-Eurasia collisional zones*'. **Role:** Personnel of the research unit of the university of Trieste.
- Microgrants 2019: *INTRAcratonic basins TECTonic evolution: The Congo Basin (ITRA-TECTO)*. **Role:** Principal Investigator.

- FRA-2018 (Fondo per la Ricerca di Ateneo): ‘*Mass transport deposits and their links with the dynamics of the lithosphere.*’ **Role:** Personnel of the research group.
- Fondi FABBR-2018.

- **PUBLICATIONS**

**52 peer-reviewed publications (Scopus and ISI)**, 17 as a first author, 6 as a second author, 22 as corresponding author, 2 chapters in peer-reviewed books as a first author. I publish in high-impact journals of the fields of Geology and Geophysics, including Earth Planet. Sci. Lett., Geophys. Res. Lett., Geochem. Geophys. Geosyst, Tectonophysics. **The publications received more than 2136 citations (Scopus). Tesauro et al., 2008, *Geophys. Res. Lett.*, 35, has so far been cited more than 200 times. Yearly number of citations: 85.4, H-index=28.**

- **CONFERENCES AND WORKSHOPS**

I yearly participate to international conferences (e.g., EGU, AGU, IASPEI, IGC, IUGG) and workshops (e.g., ILP, TOPO-EUROPE) and organized fieldtrips associated to them. I have submitted **202 international abstracts**, 75 as a first author, associated with talks, posters, and Pico.

- Conviner of the session ‘*Thermochemical Heterogeneities in the Crust and Upper Mantle from Geophysical Approaches*’, IAGA / IASPEI Joint Scientific Meeting, Lisbon, 31/08/2025 – 05/09/2025.
- Conviner of the session ‘*Dynamics of the Earth Interior*’, 90° Congresso della Società Geologica Italiana – Trieste, 13-17/09/2021.
- Conviner of the session ‘*Application of gravity, magnetic and heat flow data to tectonic studies*’ AGU Fall meeting San Francisco, 09-13/12/2019.

- **SUMMER SCHOOL**

Invited as a senior scientist to attend the CIDER Summer school: “*From mantle to crust: continental formation and destruction*”, held in Berkeley, University of California (CA), July-August, 2013.

- **COMPUTER SKILLS**

- Knowledge of Window, Linux and DOS Operative Systems.
- Knowledge of programs of finite elements models (ABAQUS, Ansys, Comsol) and ArcGis, GoCad, SURFER programs.
- Knowledge of MatLab language program.

- **LANGUAGES**

- Italian native speaker.
- Excellent knowledge of English.
- Very good knowledge of French (fluent in speaking).
- Good knowledge of German (Zertifikat Deutsch B1, Prädikat: Gut).