

PERSONAL INFORMATION

Giuliana Rossi

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Place and Date of Birth: Trieste (Italy) September 23, 1963.

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EDUCATION

1989-1992 PhD in Geophysics of the Lithosphere and Geodynamics, University of Trieste (Italy)

1982-1988 Graduated cum Laude in Geological Sciences, University of Trieste (Italy)

CURRENT AND PAST POSITION(S)

2022-present Research Director at the Center for Seismological Research-CRS, National Institute of Oceanography and Geophysics – OGS (Italy);

05/2021-present: Coordinator of the group Seismology and Geodesy of the OGS Centre for Seismological Research (CRS)

2017-present Deputy Director of the Center for Seismological Research-CRS, National Institute of Oceanography and Geophysics – OGS (Italy);

2011-2021 Senior Researcher at the Center for Seismological Research-CRS, National Institute of Oceanography and Geophysics – OGS (Italy);

2008-2010 Senior Researcher at the Department of Geophysics of the Lithosphere-GDL, National Institute of Oceanography and Geophysics – OGS (Italy);

2008-2010: Deputy Director of the Department of Geophysics of the Lithosphere-GDL, National Institute of Oceanography and Geophysics – OGS (Italy);

2005-2010: coordinator of the Research Group REDAS (Research, Development and Application for Seismics) of the Department of Geophysics of the Lithosphere-GDL, National Institute of Oceanography and Geophysics – OGS (Italy);

1995-2008 Researcher at the Department of Geophysics of the Lithosphere-GDL, National Institute of Oceanography and Geophysics – OGS (Italy);

1994-1995: Grant of the National Institute of Geophysics (ING) at the Institute of Geodesy and Geophysics of the University of Trieste (Italy);

1993-1994 Post-doc at the Institute of Theoretical Geophysics, University of Cambridge (UK);

1989-1990: Collaborator of the Institute of Geodesy and Geophysics of the University of Trieste (Italy).

SCIENTIFIC INTEREST

Topics: I am a Solid Earth Geophysicist, interested in tectonics, geodynamics, and in the analysis of seismicity, strain field variations, ground instability, and of the physical properties of the Earth. I performed research both in earthquake as well as in exploration seismology, covering a broad range of topics, from seismic tomography finalised to hydrocarbon characterisation, to aftershock sequences analysis, deformation data study and modelling. I have a particular interest in long-term and transient deformations, in their detection and separation from other effects, and their relationship with the seismic process.

Tools: crustal strain data analysis, fractal and PCA analysis of seismicity, PCA and EMD analysis of strain time series, seismic tomography –in particular attenuation tomography-, physical properties.

Field area: Eastern Alps and Northern Adria, Balkan and Mediterranean areas, Northern Sea.

FELLOWSHIPS AND AWARDS

2013: NATO/OTAN Science for Peace and Security grant to prepare the project SEISAP- SEISmicity along the Adria Plate for the programme Science for Peace and Security;

1995: Post-doc Fellowship of the Università di Trieste;

1993-1994: post-doc fellowship of the Royal astronomical Society and the Accademia Nazionale dei Lincei: for four months at the Institute of Theoretical Geophysics of Cambridge University (UK);

1989: Grant for the PhD courses at the University of Trieste

1989: Grant for specialising abroad of the Ministry of University and Scientific and Technological Research;

1989: Grant for the Solid Earth Geophysics school in Erice (July 1989);

1988: Thesis award 'Irene Galante' of the Trieste University.

RESEARCH PROJECTS AS PRINCIPAL INVESTIGATOR

- 2017-2020:** designer and co-responsible of the Collaborative Project AlpArray: "Tectonics and seismicity of the Alps-Pannonian-Dinarides Junction";
- 2016-2018** (extended to December 2019): designer, and scientific national responsible: project Premiale of the Italian Ministry of the Scientific Research -2014 FASTMIT-seismogenic and tsunamigenic Italian offshore faults; total funding: €932028; OGS: €555028, Rossi: €121676;
- 2013:** designer and co-scientific responsible with the non- NATO/OTAN partner (prof. Glavatovic, Montenegro) of the international project NATO/OTAN Science for Peace and Security "SEISAP – SEISmicity along the Adria Plate" (OGS, University of Bari (Italy), Montenegro, Albania) (value € 315000, got the grant for the preparation but was not funded, for changes in the NATO/OTAN politics).
- 2011-2014:** designer, and scientific responsible of the project of the Italian program for researches in Antarctica (PNRA) IMPERVIA: Integrated Methods to study PERmafrost characteristics and Variations In an Arctic natural laboratory (Svalbard) (Centre for Petroleum Research (CIPR)-University of Bergen and University of Svalbard- UNIS (Norway), (€ 40000);
- 2007-2009:** designer and scientific responsible of the research and service activities on the use of seismic tomography to optimise the coal extraction in the Sulcis (Sardinia, Italy) coal mine (€105840);
- 1999-2001:** scientific coordinator of the project MICA (Integrated methods for the characterisation of aquifers) funded by the "Fondo Trieste" for scientific and technological research (€ 225175);
- 2000-2001:** scientific responsible of the research agreement with the University of Trieste, for the tomographic inversion and depth migration of CROP 18 seismic data (€ 12000).

RESPONSIBILITY IN RESEARCH PROJECTS LEAD BY OTHERS

- 2022-2025:** coordinator of the WP7 -Geosphere and Landsurface within the PNRR project on "Strengthening and creation of Research Infrastructures", ITINERIS (Italian Integrated Environmental Research Infrastructures System), coordinated by CNR (IMAA), and member of the Executive Board. The WP partners are: CNR IMAA and IREA, University of Florence and OGS (CRS and GEO). WP funding amounts to 14 k€, of which 5.6 k€ for OGS and more than 2. k€ for CRS. The project includes significant investments with cutting-edge instrumentation on the infrastructures managed by OGS, as SMINO (Monitoring Structure of North-Eastern Italy).
- 2023-2025:** Responsible for the UO OGS of the PREPARED PRIN 2022 project, and coordinated by the Federico II University of Naples on the development and testing of a multiparametric machine-learning strategy to automatically identify the preparation processes for major earthquakes in Italy (81080 €) .
- 2023-2024:** Participating in the INTERFACE - Towards a regioNal ParTnER Facility for solid eArth science in the Central and south-eastern European area, funded by CEI (Central Europe Initiative) on the seismic risk mitigation.
- 2022-2024:** Participant in PRIN 2020 (NASA4SHA) (Fault segmentation and seismotectonics of active thrust systems: the Northern Apennines and Southern Alps laboratories for new Seismic Hazard Assessments in northern Italy), coordinated by the University of Ferrara, as coordinator of the geodesy activities of OGS and University of Trieste (11000€).
- 2022-present:** Participating in the AdriaArray project, representing OGS in the steering committee, as a contact person of the Seismicity group, as coordinator of the OGS contribution (installation of six temporary broadband stations in NE-Italy), participating to the Working group on body wave tomography.
- 2021-2024:** participating in the Italian-Japanese MAE project "Analysis of seismic sequences for the prediction of strong aftershocks" Partner country: Japan, coordinated by OGS, with INGV and the Institute of Statistical Mathematics (ISM), Research Organization of Information and Systems-Tokyo.
- 2016-2018** (extended to 2021): scientific responsible for OGS in the project Premiale of the Italian Ministry of the Scientific Research -2014 TRANSIENTI - TRANSient of StraIn and stress ExperimeNT in Italy, (INGV) (€81000);
- 2013-2014:** responsible for the study of the expected geodetic displacement in the region crossed by the Trans-Adriatic Pipeline; (€ 50000);
- 2010-2011:** coordinator of the OGS activities within the FP7 EU project CO2CaRe (GFZ)(€180000).

- 2007-2008:** co-designer and responsible for the experiment design of the Italy-Algeria project of the Italian Ministry of Foreign Affairs and the Centre de Recherche en Astronomie, Astrophysique et Géophysique (CRAAG) of Algeri on integrated active and passive techniques to monitor CO₂ geological storage sites (€ 100.550,00);
- 2006-2012:** coordinator of the OGS activities within the FP6 EU project CO₂ReMoVe (TNO): monitoring and verification of CO₂ Geological storage (€ 375800);
- 2006-2010:** scientific responsible and coordinator of the OGS activities in the project funded by the Norwegian Research Council "Paleokarst reservoirs: An integrated 3D approach to heterogeneity, reservoir and seismic modelling" (€28000);
- 2004-2008:** responsible of the Joint Research Activity19 on a low-cost alert system with integrated active and passive techniques to monitor CO₂ geological storage sites of the European (FP6) Network of Excellence CO₂GeoNet: Network of Excellence of Geological Storage of CO₂.
- 2004-2008:** coordinator of the OGS activities within the FP6 EU project CASTOR (IFP): CO₂ from Capture to Storage (€67707);
- 2001-2004:** responsible for the tomographic experiments within the FP5 EU project Hydratech to quantify gas-hydrates;
- 2001-2003:** coordinator for the OGS department GDL of the project VALERIA – evaluation of environmental risks (Italian ministry of education, Research and University) (~€ 330000).

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

- 2022-present:** member of the school of Doctorate of the University of Florence PhD course on Earth and Planetary Sciences
- 2022-present:** co-principal investigator of the PD-OTKA project of Daniel Kalmar (Kövesligethy Radó Seismological Observatory, Institute of Earth Physics and Space Science, Budapest, Hungary “ Determination and geodynamic interpretation of the structure of the lithosphere and the upper mantle in the Alpine-Carpathian-Pannonian region by receiver function analysis of the seismological data.
- 2018- present:** PhD in Geosciences, Fluid dynamics and Mathematics - XXXIV Cycle - 2018: assistant supervisor of Giulia Areggi on the application of SAR and GNSS data for the seismotectonic processes in North-Eastern Italy;
- 2011-2012:** Programme TRIL (Training and Research in Italian Laboratories) and Science Academy of China: supervisor of dr. Yang Yushan (Lecturer at Wuhan University, China) at OGS: Tomographic inversion of seismic data on the gas-hydrate Blake Ridge province;
- 2004-2005:** University of Trieste: Degree in Environmental Engineering: assistant supervisor of Stefano Bolcato – Geophysical methods in hydrogeology;
- 2003-2004:** EC Research and Training Network (EURODOM): junior mentor of the PhD candidate Stefan Buenz (University of Tromsø) – seismic data tomography at Storegga Landslide.
- 1999-2000:** University of Trieste: Degree in Geological Sciences: assistant supervisor of Andrea Zille- Geological structures on the Fanes highland (the Dolomites -Italy);

TEACHING ACTIVITIES

- 2004:** OGS School on Seismic Processing for PhD students: a lesson on "pre and post-stack Migration;
- 1995-1997:** University of Trieste, degree in Environmental engineering, lessons within the course of "Applied seismology" on geodetic measurements to monitor the seismotectonic processes.

ORGANISATION OF SCIENTIFIC MEETINGS

- 2022 & 2023:** organizer and president of the 2° and 3° Workshop of the young researchers, linked to 40° and 41° Convegno del Gruppo Nazionale di Geofisica della Terra Solida GNGTS, collaboration between OGS and AGLC (Associazione per la Geofisica Licio Cernobori)
- 2022:** convenor of the session 28: “Structure and Seismicity in the Central Mediterranean, Pannonian, and Carpathian Region: from seismic networks and experiments to seismic catalogues and models” of the 3ECEES (Third European Conference on Earthquake Engineering and Seismology)
- 2021:** Organizer and convenor of the Break-out session Alps-Pannonian-Dinarides Junction of the AlpArray & 4D-MB Scientific Meeting Prague 2021.

2021: organizer and president of the 1° Workshop of the young researchers, linked to 39° Convegno del Gruppo Nazionale di Geofisica della Terra Solida GNGTS, collaboration between OGS and AGLC (Associazione per la Geofisica Licio Cernobori)

2020: Co-organizer of the virtual international workshop, “Perspectives towards a Central and South-Eastern European Partner Facility for Solid Earth Science”, for researchers and politicians of various countries of the Balkan area to discuss EPOS opportunities.

2020-2021: proponent and coordinator of the session 05 "The structure of the central Mediterranean: insights from seismological and geophysical data" of the 37 General Assembly of the European Seismological Commission (Corfù 2021);

2020-2021: co-chair of the session "Monitoring of subsurface fluids" of the 19° International Symposium on Geodynamics and Earth Tides (G-ET2020), Wuhan, P. R. China in 2021;

2019: international workshop "Seismotectonics of the Eastern and Southern Alps and their transition to the Dinarides", member of the organising committee, Trieste 8-10 May 2019;

2016: Co-director and member of the organising committee of the 18° IAG (International Association of Geodesy) International Symposium on Geodynamics and Earth Tides: G-ET Symposium 2016 Intelligent Earth system sensing, scientific enquiry and discovery (Trieste, 2016);

Moreover, I chaired sessions in various international conferences starting from 1998.

INSTITUTIONAL RESPONSIBILITIES

2022-present: AdriaArray steering committee: representative of OGS;

2019-2021: programma TRIL (Training and Research in Italian Laboratories) with ICTP: scientific responsible of OGS;

2019-present: ORFEUS: Board of Participants: scientific representative of OGS;

2019-present: AlpArray- Scientific Council: representative of OGS;

2016-present: CO2Club: Representative of OGS (secretary and founder);

2014-2020: OGS Scientific Council: coordinator;

2012-2020: OGS Scientific Council: member;

2011-2014: programme TRIL (Training and Research in Italian Laboratories) with ICTP: responsible for OGS of geothermal research;

2010-2016: EAGE Award Committee: member.

EDITORIAL SERVICE

2021-2022: coeditor of the Research topic on Frontiers in Earth Sciences “The structure of the central Mediterranean: insights from seismological and geophysical data”

2018: co-editor of the Topical volume of Pure and Applied Geophysics (Springer ed) "Geodynamics and Earth Tides";

2018: co-editor of the Special issue of Geodesy and Geodynamics (Elsevier ed) on Contemporary Research in Geodynamics, and Earth Tides;

2015-present: member of the Editorial Council of the Bollettino di Geofisica Teorica ed Applicata (OGS);

2012-present: member of the Editorial board of the Bollettino di Geofisica Teorica ed Applicata (OGS);

2012- present: Deputy Editor in chief of *Geophysical Prospecting* (EAGE, Wiley);

2005-2012: Associated Editor of for Tomography *Geophysical Prospecting* (EAGE, Wiley);

Reviewer for Journal of Geophysical Research, Geophysical Research Letters, Geophysical Journal International, Nature communication, Pure and Applied Geophysics, Earth Sciences Review, Geophysical Prospecting, Geophysics, Computer & Geosciences, Journal of Geophysics and Engineering, Journal of Seismic Exploration, Journal of Applied Geophysics, Geosciences.

BIBLIOMETRY

SCOPUS (1990-2020): 83 papers, 1334 citations, H index=16;

Google Scholar: (1990-2020): 225 papers, 1850 citations, H index=20.

Reviewing and examining boards:

2023-2024: member of the EGU Award committee for the Plinius Medal

2021-2022: member of the GEV4 “Earth Science” committee for the VQR 2015-2019 evaluation of the Italian research products

2022: Reviewer of the PhD thesis in Seismology and petrophysics of Ssu-ting Lai, at Institute de Physique du Globe of Paris-IPGP (Paris, France) “Time-lapse rock deformation monitoring using waveform inversion” discussed on 28 April 2022 at the IPGP.

2020: reviewer of the Ministry of Research for the Programma per Giovani Ricercatori “Rita Levi Montalcini” 2019

2016: reviewer of projects submitted to Natural Environment Research Council of the UK (www.nerc.ac.uk): research projects Highlight Topics Oct15

2015-2016: reviewer of the proposal for the outgoing-mobility projects funded by OGS

Member of several examining boards for evaluating candidates at different roles (Researcher, assistant researcher, grants) (MIUR, INGV, OGS)

2014: evaluation of the project for a sabbatical year

2013-2021: member (president of the last three ones) of the OGS committee for the evaluation of the scientific production of the researchers and technologists

2012: AXA Research Fund: reviewer of the proposals for a grant.

2012: evaluation of the candidates to the position of director of the four OGS divisions.

2010-2016: as member of the EAGE Award Committee: evaluation of the papers for

Eotvos award – best paper Geophysical Prospecting (2011, 2012, 2013, 2014, 2015, 2016);

Ansteys award - best paper First Break (2010; 2011; 2014);

Schlumberger award - outstanding contribution to the scientific and technical advancement of the geosciences, particularly geophysics (2014, 2015).

Falcon award - best paper Petroleum Geosciences (2012);

Van Welden award - Young Professional who has made a highly significant contribution to one or more of the disciplines (2012);

SELECTED PAPERS

Tunini L., Magrin A., **Rossi G.**, Zuliani D. 2023. *GNSS time series and velocities about a slow convergent margin processed on HPC clusters: products and robustness evaluation*, Earth System Science Data Discussions 2023, 1-38, <https://doi.org/10.5194/essd-2023-131>, preprint.

Areggi G., Pezzo G., Merryman Boncori J.P., Anderlini L., **Rossi G.**, Serpelloni E., Zuliani D., Bonini L. 2023. *Present-day surface deformation in North-East Italy using In-SAR and GNSS data*, Remote Sens. 2023, 15, 1704. <https://doi.org/10.3390/rs15061704>.

Bressan, G., Barnaba C., Peresan A., **Rossi G.** (2021). *Anatomy of seismicity clustering from parametric space-time analysis*, Physics of the Earth and Planetary Interiors, 320, 106787, <https://doi.org/10.1016/j.pepi.2021.106787>.

Rossi G., Pastorutti A., Nagy I., Braitenberg C., Parolai S. (2021) *Recurrence of fault-valve behavior in a continental collision area: evidence from tilt/strain measurements in Northern Adria*, Frontiers in Earth Sciences, 9, 641416, <https://doi.org/10.3389/feart.2021.641416>.

Rossi, G., Caputo, R., Zuliani, D., Fabris, P., Maggini, M., Karvelis, P., 2020. *Analysis of GNSS data along the Southern Gas Corridor and estimate of the expected displacement*, Environmental Geosciences, 27(3), 117–141, DOI: 10.1306/eg.01222019023

Magrin, A., **Rossi G.**, 2020. *Deriving a new crustal model of Northern Adria: the North Adriatic Crust (NAC) model*, Frontiers in Earth Sciences, March 2020, doi:10.3389/feart.2020.00089

Rossi, G., Fabris, P., Zuliani, D., 2018. *Overpressure and fluid diffusion causing non-hydrological transient GNSS displacements*, Pure and Applied Geophysics, 175, 1869-1888, doi: 10.1007/s00024-017-1712-x.

Autorizzo il trattamento dei miei dati personali presenti nel CV ai sensi dell'art. 13 d. lgs. 30 giugno 2003 n. 196 - “Codice in materia di protezione dei dati personali” e dell'art. 13 GDPR 679/16 - “Regolamento europeo sulla protezione dei dati personali”.