

Riccardo Maria Ridolfi



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Master Degree in Geology

GENERAL INFO

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OVERVIEW

Through my training and work experience I have refined language and management skills, obtaining a thorough knowledge of the geological sciences with specificity in the geochemical analysis of soil gas, characterization of hydrocarbon reservoirs for hydrogen storage purposes, the creation and management of conventional and georeferenced database, and laboratory procedures for the characterization and testing of rock samples for hydrogen storage.

EDUCATIONAL BACKGROUND

PhD in Earth Sciences: "evaluation of the hydrogen storage potential of depleted reservoirs of Italy"

University of Rome "La Sapienza" [2021 – 2025]

https://phd.uniroma1.it/web/RICCARDO-MARIA-RIDOLFI_nP1553655_IT.aspx

Industrial PhD in collaboration with Eni SpA, involving the analysis and processing of an industrial database of depleted hydrocarbon reservoirs in the Italian territory for the purpose of site screening for geological hydrogen storage. A specific database and a standardized methodology were developed, resulting in a ranked list of sites. The most promising site was characterized using Petrel software, while site samples were analysed and tested for hydrogen exposure through laboratory procedures carried out in collaboration with various Italian research institutions (CNR-ISC, INGV-OV, Letomec) and international institutions (The University of Edinburgh).

Magistral Degree in Engineering, Territory and Risk Geology

University of Rome "La Sapienza" [2017 – 2020]

<https://corsidilaurea.uniroma1.it/it/corso/2020/30863/home>

- Final vote: 110/110 with honours
- Thesis subject: Structural Geology
- Thesis title: Geochemical characterization of the northern sector of the Sulmona Plain and correlation with the geological structure of the area

Bachelor's Degree in Geological Sciences

University of Rome "La Sapienza " [2012 – 2016]

<https://corsidilaurea.uniroma1.it/it/corso/2020/30859/home>

- Final vote: 105/110
- Thesis subject: Applied Geology
- Thesis title: Geotechnical characterization of a quarry front at the Fioranello Quarry

Traditional Scientific High School Graduation

Liceo Scientifico Statale Louis Pasteur [2007 – 2012]

<https://www.liceopasteur.edu.it/>

Final vote: 94/100

CERTIFICATES AND COURSES

Business English 2 Course (2018) - *Ente Bilaterale del Turismo del Lazio (EBTL)*

Training course for Tutor DSA (2013) - *Ass.ne Nuovi Apprendimenti*

FCE - First Certificate in English (2011) - *University of Cambridge, ESOL Examination*

- Qualification achieved: B2 Independent of the Common European Framework

PET - Preliminary English Test (2009) - *University of Cambridge, ESOL Examination*

- Qualification achieved: B1 Preliminary of the Common European Framework

Study trips - *INPS (ex INPDAP)*

- Letterkenny Institute of Technology (LYIT), Northern Ireland (2010)
- Dundee Stafford House, Scotland (2008)

LANGUAGE SKILLS

First language: Italian

Other languages: English (B2), Spanish (scholastic)

WORK EXPERIENCE

External collaboration contract

INSTM consortium [01/12/2023 - 31/01/2024]

Development of a georeferenced database in QGIS using information from scientific literature and specific research projects, consisting of a basemap and multiple groups of layers that can be activated or deactivated depending on the phenomenon of interest, such as the metallogenic processes (greisen, pegmatite-aplite, rare metal granite, sedimentary), hard rock deposits classified by type (greisen, pegmatite-aplite, rare metal granite, sedimentary, unclassified), the occurrence of lithium-enriched fluids categorized by temperature, metal concentration, and magnesium presence, and their correspondence with existing geothermal plants. All layers are derived from GIS-transposed data tables containing coordinates and other relevant information, accessible through the database's visualization software. The dataset was created through research, extraction, and standardization phases, ensuring the integration of heterogeneous data into a coherent and user-friendly georeferenced database.

Researcher with external collaboration contract

University of Rome "La Sapienza", Earth Sciences Department [01/08/2021 – 01/10/2021]

Following the master thesis project, through this collaboration with the Tectonics and Fluid Chemistry Laboratory of DST-Sapienza I consolidated my skills in the sampling and geochemical analysis of gases, using field instrumentation such as the DurrIDGE Rad7 for real-time analysis of radon gas concentrations, the Dräger X-am 7000 multigas detector and the CO₂ flux meter with accumulation chamber, as well as laboratory instrumentation such as a mass spectrometer and an ion gas chromatograph. In collaboration with Dr. S.E. Beaubien, I participated in two sampling and soil gas analysis campaigns, one on a regional scale in Basilicata region and one in Abruzzo, for the purpose of environmental monitoring and the search for deep structures by measuring surface anomalies of gases such as radon, carbon dioxide and gaseous hydrocarbons, able to rise from underground sources along these discontinuities and accumulate on the surface.

Night concierge

Enerjem SRL - Scalinata di Spagna Hotel [23/01/2016 – 30/09/2020]

During this period, I carried out front desk and surveillance tasks, managing the processing and storage of data gathered from the guests (mostly in English language), and programming the staff work through the tools of the Microsoft Office package.

Polling station teller

Municipality of Rome [2013]

<p>PROJECTS</p>	<p>HyFlow-IT: Experimental assessment of the hydrogen flow impact on a reservoir sandstone from Italy National Institute of Geophysics and Volcanology [13/05/2024 – 15/05/2024] Funded by the ILGE project, for which I was awarded a grant, this study is part of a larger Doctoral research project in Underground Hydrogen Storage (UHS), this study utilized micro-computed tomography (micro-CT) scans to examine the effects of a hydrogen-saturated brine flow on the porous structure of site-specific reservoir sandstone core samples. This research was conducted at the Vesuvian Observatory site of the National Institute of Geophysics and Volcanology (INGV-OV), focusing on the occurrence of clay swelling, dissolution, and precipitation phenomena that can impact the safety, injection management, and economic viability of a storage site. The results were processed using PerGeos, and Dragonfly software to compare pre- and post-experiment data, create 3D models of the rock plugs, and characterize their porosity and permeability features.</p> <p>Geochemical characterization of the northern sector of the Sulmona Plain and correlation with the geological structure of the area Master’s thesis project, during which I applied the procedures of sampling and analysis of soil gases widely used by the DST-Sapienza TFC Lab. In particular, I used field instruments such as a Dräger X-am 7000 multigas detector, a Durrige Rad7 radonometer, a flow meter with accumulation chamber and gas sampling tools. I carried out a regional-scale campaign consisting of 179 sampling and measuring stations with the aim of detecting anomalies in the composition of soil gases, which can be related with the presence of deep tectonic structures. Such discontinuities, acting as preferred migration pathways, may increase the surface concentration of radon and other gaseous species. Subsequently, I performed the gas analysis by mass spectrometry for helium concentration characterization and ion gas chromatography for the analysis of major gases and light hydrocarbons. The obtained data were then processed on a statistical and geostatistical basis, by using dedicated software such as TIBCO Statistica, ArcGIS and QGIS, in order to deepen the structural characteristics of the basin and to constitute a first geochemical baseline for the northern sector of the Sulmona Plain.</p> <p>Geotechnical characterization of a quarry front at the Fioranello Quarry Three-year thesis project, for which I analysed a basalt wall of the Fioranello Quarry used by outdoor climbers through the "rock mass rating" method proposed by Z. T. Bieniawski, aimed to identify sectors with varying degrees of fracturing, characterize fractures and pinpoint areas of elevated risk.</p> <p>Bioform Project "Genotyping exercises" Held at the EBRI Foundation in 2010, I participated in this project as extracurricular activity during high school studies.</p>	
<p>DRIVING LICENSES</p>	<p>B with effect from 01/06/2012 to 17/07/2027 A2 with effect from 13/03/2017 to 17/07/2027</p>	
<p>COMPETENZE</p>	<p><i>Creation and use of georeferenced databases in ArcGIS and QGIS</i></p> <p><i>Expertise in Microsoft Office package</i></p> <p><i>Data management, analysis, and organization</i></p> <p><i>Individual and group working skills</i></p> <p><i>Creativity and manual skills</i></p>	<p><i>Creation and use of conventional databases in Microsoft Excel and Access</i></p> <p><i>Experience in sampling, measurement and gas analysis techniques and instrumentation</i></p> <p><i>Experience in laboratory procedures for the characterization and study of porous geomaterials for hydrogen storage.</i></p>

**CONSENT TO THE
PROCESSING OF
PERSONAL DATA**

I authorize the processing of my personal data in this curriculum vitae pursuant to art. 13 of the Legislative Decree 30 June 2003, n. 196 Personal Data Protection Code and to art. 13 of the GDPR (UE Regulation 2016/679).

Rome,
24/11/2024

Signature

A handwritten signature in black ink, appearing to read 'M. Pridzi', is written over the word 'Signature'.