



Giulia Alessandrini

30/10/1993 | Via del Lavoro 29, 40127, Bologna (BO), Italy | Italian

PostDoctoral Fellow at National Institute of Oceanography and Applied Geophysics – OGS, Trieste (Italy)

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RESEARCH ACTIVITIES

present –
12/2022

POSTDOC in APPLIED GEOPHYSICS (SSD: GEO/11)

National Institute of Oceanography and Applied Geophysics – OGS, Trieste (Italy)

Post-doctoral fellowship dedicated to the study of the **gas hydrate system** from a petrophysical and fluid dynamics perspective.

Supervisor: Dr. Umberta Tinivella (OGS Trieste, Italy).

12/2022 –
04/2022

FELLOWSHIP in GEOPHYSICS (SSD: GEO/10)

University of Bologna (Italy),

Department of Physics and Astronomy DIFA

Probabilistic seismic hazard assessment of a region where large dams with long mean-return periods are present.

Supervisor: Prof. Silvia Castellaro (University of Bologna).

07/2022 –
11/2018

PhD in GEOPHYSICS (SSD: GEO/10)

University of Bologna (Italy),

Department of Physics and Astronomy DIFA

Thesis title: “Seismotectonic study on two strategic infrastructures in Southern Italy”.

Description: Investigation on the relationship between seismicity, active tectonics and individual faults. **Probabilistic seismic hazard** assessment (using Cornell's method and a fault-based approach) of a region where two large dams with long mean-return periods are present. Soil-structure interaction at seismic stations and geophysical characterization of seismic stations.

Supervisor: Prof. Silvia Castellaro (University of Bologna).

EDUCATION

07/2018 –
10/2015

MSc in GEOLOGY AND LAND MANAGEMENT – GEORESOURCES, LM-74 (Grade: 110/110 cum laude)

University of Bologna (Italy),

Department of Biological, Geological and Environmental Sciences BIGEA

Thesis title: “Gas hydrates and climate change along the Chilean margin”.

Supervisors: Dr. Umberta Tinivella (OGS Trieste, Italy), Dr. Michela Giustiniani (OGS Trieste, Italy), Dr. Ivan De La Cruz Vargas Cordero (Univ. Andrés Bello Viña del Mar, Chile), Prof. Silvia Castellaro (University of Bologna).

Relevant courses: Geophysical exploration of the subsoil, Applied seismology, Quaternary geology, Seismic stratigraphy from coastal systems to the deep sea, Advanced methods of stratigraphic analysis, Sequence Stratigraphy.

EDUCATION ABROAD

09/2015 –
09/2012

BSc in GEOLOGICAL SCIENCES, L-34 (Grade: 110/110 cum laude)

University of Bologna (Italy),
Department of Biological, Geological and
Environmental Sciences BIGEA

Thesis title: "*Allosaurus fragilis* in the collections of the Museum of Paleontology of the University of Modena and Reggio-Emilia: Analysis and description".

Supervisors: Prof. Federico Fanti (University of Bologna), Dr. Andrea Cau (University of Bologna).

08/2022

CAGE 22-6 GEOPHYSICAL CRUISE

Barents Sea (Norway)

Centre for Arctic Gas Hydrate, Environment and Climate

"Geologically controlled hydrocarbon seepage in Hopendjupet and the wider Barents Sea", **on-board R/V Helmer Hanssen**. Organized by CAGE, UiT - The Arctic University of Norway, in collaboration with NPD - the Norwegian Petroleum Directorate and the INTPART project HOTMUD based at Centre for Earth Evolution and Dynamics (CEED) the University of Oslo. The cruise was also a part of the UNESCO Training Through Research program.

07/2021 –
03/2021

VISITING PhD STUDENT

University of Barcelona (Spain),
Department of Earth and Ocean's Dynamics

Project title: "Building a Probabilistic Seismic Hazard Model for the Irpinia region (Southern Italy) using the SHERIFS approach".

Supervisor: Prof. María Ortuño

Description of the activity: Calculation of fault-based seismicity rates, based on different fault and multi-fault rupture scenarios, using the SHERIFS approach, in the frame of fault-based PSHA.

01/2019

VISITING PhD STUDENT

University of Southampton (UK),
National Oceanography Centre

Project title: "Gas hydrate dissociation/formation: a look into the processes involved".

Supervisor: Dr. Héctor Marín-Moreno

Description: Gas Hydrate Transient Modelling using the TOUGH+Hydrate code, for the simulation of the behaviour of hydrate-bearing geologic systems. Participation to the **COST action MIGRATE** - Marine gas hydrate - an indigenous resource of natural gas for Europe.

06/2017 –
03/2017

ERASMUS PLUS - MOBILITY PROGRAMME FOR TRAINEESHIP

University of Iceland (Reykjavik, Iceland),
Institute of Earth Sciences

Project title: "Methods of sampling and geochemical analysis applied to river waters and to the CarbFix project".

Supervisor: Prof. Sigurður Reynir Gíslason

Description: Sampling and monitoring of river water pollution, and analysis of the fluid circulating in the High-Pressure Column Reactor (HPCFR), where the CO₂ storage in basalts is tested and reproduced on a small scale (**CarbFix Project**).

- 2022 Serov, P., Patton, H., Mazzini, A., Mattingsdal, R., Shephard, G., Cooke, F. A., Martins, V., Holm, V., **Alessandrini, G.**, Meza Cala, J. C. & Luerksen, P. (2022). CAGE22-6 cruise report: GEO-3144/8144 Teaching Cruise: Geologically controlled hydrocarbon seepage in Høpendjupet and the wider Barents Sea. CAGE–Centre for Arctic Gas Hydrate, Environment and Climate Report Series, 10. DOI: 10.7557/cage.6769.
- Castellaro, S., **Alessandrini, G.** & Musinu, G. (2022). Seismic Station Installations and Their Impact on the Recorded Signals and Derived Quantities. Seismological Research Letters. DOI: 10.1785/0220220029.
- Vargas-Cordero, I., Giustiniani, M., Tinivella, U., Villar-Muñoz, L., & **Alessandrini, G.** (2022). Gas Hydrate and Free Gas Along the Chilean Continental Margin. In World Atlas of Submarine Gas Hydrates in Continental Margins (pp. 403-413). Springer, Cham. DOI: 10.1007/978-3-030-81186-0_34.
- 2021 Vargas-Cordero, I.; Giustiniani, M.; Tinivella, U.; Villar-Muñoz, L.; **Alessandrini, G.** (2021). Gas Hydrate System Offshore Chile. Energies, 14, 709. DOI: 10.3390/en14030709.
- Vargas-Cordero, I., Giustiniani, M., Tinivella, U., & **Alessandrini, G.** (2021). A review of the gas hydrate distribution offshore Chilean margin. In E3S Web of Conferences (Vol. 230, p. 01007). EDP Sciences. DOI: 10.1051/e3sconf/202123001007.
- 2019 **Alessandrini G.**, Lattanzi G., Slivicki S., Sgattoni G., Castellaro S. (2019). Site characterization of seismic stations. ITACA (Italian ACcelerometric Archive). DOI: 10.13140/RG.2.2.17440.20486.
- Alessandrini, G.**, Tinivella, U., Giustiniani, M., Vargas-Cordero, I. D. L. C., & Castellaro, S. (2019). Potential Instability of Gas Hydrates along the Chilean Margin Due to Ocean Warming. Geosciences, 9(5), 234. DOI: 10.3390/geosciences9050234.

- 2023 **Presenting speaker at the GNGTS** (Gruppo Nazionale di Geofisica della Terra Solida) National Conference: Alessandrini, G., Vargas-Cordero, I., Tinivella, U., Giustiniani, M., Villar-Muñoz, L.: "A review of the geophysical methods to characterize the gas hydrate system: the Chilean margin case study", held in Bologna from 07/02/23 to 09/02/23.
- 2022 **Lecturer for the 67089 - Applied Seismology course**, which is part of the MSc in Geology and Land Management at the University of Bologna, focusing on Seismic Hazard, on 02/05/22.
- 2021 **Selected among the 25 participants at the Workshop "Hands on fault-based PSHA: data and approaches to build models"**, held in Pisa on 27-30/09/21.
- Presenting speaker** at the meeting between Ministero delle Infrastrutture e dei Trasporti, Dipartimento per le infrastrutture, i sistemi informativi e statistici - Direzione generale per le dighe e le infrastrutture idriche ed elettriche, University La Sapienza and University of Bologna, concerning the activities carried out for the **"Seismotectonic study on the Marana Capacciotti e San Pietro sul Torrente Osento"**, on 26/07/21 and on 23/10/20.

Presenting speaker at the EGU General Assembly: Castellaro, S., Alessandrini, G., Musinu, G., and Del Vecchio, M.: "Seismic stations and soil-structure interaction", EGU General Assembly 2021, online, 19–30 Apr 2021. DOI: 10.5194/egusphere-egu21-3421.

2020

Presenting speaker at the 3rd SEG Virtual Student Conference of the talk "Seismic soil classification: the importance of the geophysical characterization", on 11/11/20.

PERSONAL SKILLS

- Time management
- Punctuality
- Adaptability
- Teamwork
- Willingness to learn
- Communication

COMPUTER SKILLS

- QGIS
- Matlab
- R-CRISIS (software to perform Probabilistic Seismic Hazard Analyses - PSHA)
- Microsoft Office, LibreOffice
- Skype, Zoom, MS Teams
- Grilla (software to archive, organize, view and analyze the recordings of TROMINO®)

LANGUAGES

- **Italian** native speaker
- **English** upper-intermediate proficiency (CEFR level B2)
- **Spanish** upper-intermediate proficiency (CEFR level B2)
- **French** elementary proficiency (CEFR level A2)

INTERESTS AND HOBBIES

- Energy & Environment
- Science Communication
- Travelling
- Hiking
- Nature Photography
- Aerial silks
- Gymnastics
- Movies and TV series

PERSONAL ACHIEVEMENTS

- Among the 10 **finalists at national level** of the science communication contest "GiovedìScienza" (2023)
- **6th place** at the European Aerostep Championship held in Liberec, Czech Republic (2009)
- **5 Italian titles**, Italian Aerobic and Step Gymnastics Championships, (between 2005-2014)

DRIVING LICENSE

Driving license category **B** (cars)

Bologna, 10/03/2024

Giulia Alessandrini