

Dr. FRANCESCA BULIAN

CONTACT INFORMATION

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WORK EXPERIENCE

PostDoc in geology and paleoenvironmental reconstruction (March 2022 – until February 2026)

University of Groningen (The Netherlands)

Project: Salt and Power. Early States, Rome and Resource Control.

Supervisor: Peter Attema, Groningen Institute of Archeology; Jan Sevink, University of Amsterdam

EDUCATION

PhD in geology and micropaleontology (October 2018 – February 2022)

University of Salamanca (Spain)

Outstanding Cum laude

Project: SALTGIANT (Understanding the Mediterranean Salt Giant)

Dissertation title: Late Miocene-Early Pliocene offshore onshore sedimentary records in the vicinity of Gibraltar

Supervisor: Francisco J. Sierro, University of Salamanca

Master's Degree in Geology and Land Management (October 2015 – December 2017)

University of Bologna (Italy)

Magna Cum Laude

Project: WASA (The Wadden Sea as an archive of landscape evolution, climate change and settlement history: Exploration – analyses – predictive modelling)

Thesis title: Multi-proxy analyses of a marine sediment core of the Wadden Sea (Eastfrisia), Germany

Supervisors: Bernd Zolitschka (GEOPOLAR), Bremen University

Veronica Rossi, University of Bologna

Bachelor's Degree in Geological Sciences (September 2012 – July 2015)

University of Bologna (Italy)

Thesis title: Geochemical and Environmental Analysis of Water and Sediments of the Veovača Lake (Vareš, Bosnia and Herzegovina)

Supervisor: Enrico Dinelli, University of Bologna

High school degree (September 2008 - May 2012)

Mathematical scientific high school "Scuola Media Superiore Italiana-SMSI", Rijeka (Croatia)

GRANTS AND FELLOWSHIPS

- 2020 Utrecht University (the Netherlands):** visiting PhD student (14th March – 14th June 2020)
Benthic foraminifera recognition
Supervisors: Wout Krijgsman and Tanja Kouwenhoven
- 2019 Naturgy Madrid (Spain):** visiting PhD student (1st October – 5th December 2019)
Interpretation of seismic 2D-3D profiles in Kingdom suite software
Supervisor: Santiago Ledesma
- 2018 Marie Skłodowska-Curie grant at Salamanca University (Spain):** Horizon 2020, grant agreement n° 765256: PhD student position (October 2018 – ongoing until February 2022)
Supervisor: Francisco J. Sierra
- 2017 Erasmus grant at Bremen University (Germany):** research for MS dissertation (March 2017 – October 2017)
Supervisor: Bernd Zolitschka
- 2016 National Research Council, Institute for Atmospheric Sciences and Climate in Bologna (Italy):** internship (November 2016 – February 2017)
Recovery of meteorological data for the study of climate change on time scales over a hundred years
Supervisor: Michele Brunetti
- 2014 National Research Council-Institute of Marine Sciences in Bologna (Italy):** internship (September 2014 – December 2014)
Acquisition of magnetic measurements such as NRM, ARM, IRM and magnetic susceptibility
Supervisor: Luigi Vigliotti

FIELD EXPERIENCE

- 2022** - PostDoc project **fieldwork and sampling** in the Tyrrhenian Sea coast of Lazio (Italy)
- 2021** - PhD project **field work and sampling** in Sorbas Basin (Spain)
- 2019** - PhD project **field work** in Sorbas Basin (Spain)
- PhD project **field work** in Sicily (Italy)
- 2018** - PhD project **field work and sampling** in Malaga Basin (Spain)
- PhD project **field work and sampling** in the Cadiz and Manilva area (Spain)
- 2017** - Undergraduate **field work and coring** at lake Zwischenahner Meer (Germany)
- Undergraduate **field work and coring** in the Wadden Sea (Wilhelmshafen, Germany)
- 2015** - **Oceanographic Cruise** in the Tyrrhenian Sea (1-15th September 2015) GeoHasis (National Research Council-Institute of Marine Sciences, Bologna, Italy): monitoring scientific instruments for seismic data acquisition
- Undergraduate **field work and sampling** at lake Veovača (Vareš, Bosnia and Herzegovina)
- 2014** - Undergraduate **field work and geological mapping** in the Dolomites (Italy)

WORKSHOPS, SHORT COURSES, AND SUMMER SCHOOLS

2022

- **Hands-on ARCHON WORKSHOP on palynology:** human and natural impacts on Mediterranean landscapes palaeobotanical evidence from cores (20th May, University of Groningen, the Netherlands)

2021

- 3rd SaltGiant field course: **Dead Sea hypersaline environments** (21st – 25th November, Dead Sea Israel)
- 2nd SaltGiant field course: **Drilling training school** (25th – 31st October 2021, Sorbas, Spain)
- SaltGiant Short Course **Pre-history and history of salt use** (4th – 8th October 2021, 19 hours, Museum of Republika Srpska, Banja Luka/Tuzla, Bosnia and Hercegovina)
- Magellan Plus Workshop **BlackGate: Black Sea – Mediterranean Gateway Exchange** (22nd – 24th September 2021, Senckenberg Biodiversity and Climate Research Centre, Frankfurt, Germany)
- SaltGiant Short Course **Social Sciences** (14th – 17th June 2021, 28 hours, Sorbonne University, Paris, France)

2019

- SaltGiant Short Course **Modern and Ancient oceans** (25th – 29th November 2019, 40 hours, University of Salamanca, Spain)
- SaltGiant Short Course **Numerical Modelling in the Earth Sciences** (7th – 10th October 2019, 32 hours, Utrecht University, the Netherlands)
- USSP – **Urbino Summer School in Paleoclimatology** (10th – 26th July 2019, 80 hours, University of Urbino, Italy)
- SaltGiant Short Course **Seismic Data Acquisition, Processing, Interpretation** (17th – 19th June 2019, 25.5 hours, University of Trieste, Italy)
- 1st SaltGiant Field Course: **Introduction to MSC (Messinian Salinity Crises) Geology** (29th April – 3rd May 2019, 40 hours, Sicily, Italy)
- MEDSALT Training School: **The Messinian Salinity Crisis from a Fieldwork Perspective** (22nd – 27th April 2019, 40 hours, Sorbas, Spain)
- ECORD Training Course: **Virtual Shipboard Work Experience** (25th – 29th March 2019, MARUM – Center for Marine Environmental Sciences and the IODP Bremen Core Repository, 40 hours, University of Bremen, Germany)

PROFESSIONAL DEVELOPMENT

2021

- **Field work assistant** during master student field trip in Sorbas basin, 32 hours
- **Assistant professor** during practical work on microscope with master students (basic sediments, planktonic and benthonic foraminifer recognition), 8 hours

2019

- **Trainer** during the SaltGiant Short Course Modern and Ancient oceans (25th – 29th November 2019, 3 hours, University of Salamanca, Spain)

SOFT SKILLS TRAINING

- 2021** Managing Research: SISSA Medialab short course (9th – 13th April 2021, virtual meeting)
- 2019** Communicating Research, Journalism and Controversial Issues: SISSA Medialab short course (20th – 21st June 2019, Palermo, Italy)
- 2018** Communicating Research and Scientific Writing: SISSA Medialab short course (28th – 29th November 2018, Palermo, Italy)

CONFERENCE PRESENTATIONS

Oral presentations

6. **Bulian, F.**, Sierro, F., Jiménez-Espejo, F. J., Andersen N.: *The timing of closure of the last Betic corridor strand inferred from new geochemical and planktic foraminifer data from Montemayor-1 core (Guadalquivir Basin)*. ETN SaltGiant Final Workshop (17th - 19th May 2022, IPGP, Paris).
5. **Bulian F.**, Sierro F. J., Jiménez-Espejo, F. J.: *Tectonically driven gateway restriction effects on the sedimentary record of a semi enclosed basin: The Mediterranean case study*. 35th meeting of Sedimentology (21th – 25th June, 2021, virtual meeting).
4. **Bulian F.**, Kouwenhoven T. J., Sierro F. J., Krijgsman, W.: *Geochemical and micropaleontological evidence of the Messinian Salinity Crisis preconditioning phase in the West Alboran Basin*. EGU General assembly 2021 (19th – 30th April 2021, virtual meeting).
3. **Bulian F.**, Sierro F. J., Kouwenhoven T. J., Jiménez-Espejo, F. J., Krijgsman W.: *Primi effetti di connessione ristretta Mediterraneo-Atlantica sul record sedimentario profondo del Mare di Alboran Occidentale*. Quarto Convegno dei geologi marini italiani 2021 (4th – 8th February 2021, virtual meeting).
2. **Bulian F.**, Sierro F. J.: *Revision of the Alboran sea Tortonian-Pliocene record: possible new insights on Mediterranean-Atlantic connectivity during the Messinian Salinity Crises*. EGU General assembly 2020 (4th – 8th May 2020, virtual meeting).
1. **Bulian F.**, Sierro F. J.: *Revised chronology of Alboran Sea (southwestern Mediterranean) cores and boreholes from Upper Miocene to Lower Pliocene*. RCMNS INTERIM COLLOQUIUM 2019 Continental-marine interaction during the Neogene in the Mediterranean area (9th – 12th September 2019, Granada, Spain).

Poster presentations

2. **Bulian F.**, Sierro F. J., Kouwenhoven T. J., Ledesma S.: *The Messinian Salinity Crisis in the West Alboran Basin: Tortonian to Pliocene foraminifer and stable isotope record from ODP Site 976*. AAPG Europe Region GTW: Evaporite processes and systems – integrating perspectives (18th – 20th October 2021, virtual meeting).
1. **Bulian F.**, Sierro F. J.: *The MSC in the Alboran basin: from its preconditioning to the Zanclean re-flooding*. Final MEDSALT Symposium (25th – 27th, February 2020, Piran, Slovenia).

PEER-REVIEWED PUBLICATIONS

4. **Bulian, F.**, Kouwenhoven, T.J., Jiménez-Espejo, F.J., Krijgsman, W., Andersen, N. and Sierro, F.J., 2022. Impact of the Mediterranean-Atlantic connectivity and the late Miocene carbon shift on deep-sea communities in the Western Alboran Basin. *Palaeogeography, Palaeoclimatology, Palaeoecology*, p.110841. (Q1)
3. Andreetto, F., Aloisi, G., Raad, F., Heida, H., Flecker, R., Agiadi, K., Lofi, J., Blondel, S., **Bulian, F.**, Camerlenghi, A. and Caruso, A., 2021. Freshening of the Mediterranean Salt Giant: Controversies and certainties around the terminal (Upper Gypsum and Lago-Mare) phases of the Messinian Salinity Crisis. *Earth-Science Reviews*, p.103577. <https://doi.org/10.1016/j.earscirev.2021.103577> (Q1)

2. **Bulian**, F., Sierro, F.J., Ledesma, S., Jiménez-Espejo, F.J. and Bassetti, M.A., 2021. Messinian West Alboran Sea record in the proximity of Gibraltar: Early signs of Atlantic-Mediterranean gateway restriction. *Marine Geology*, 434, p.106430. <https://doi.org/10.1016/j.margeo.2021.106430> (Q1)

1. **Bulian**, F., Enters, D., Schlütz, F., Scheder, J., Blume, K., Zolitschka, B. and Bittmann, F., 2019. Multi-proxy reconstruction of Holocene paleoenvironments from a sediment core retrieved from the Wadden Sea near Norderney, East Frisia, Germany. *Estuarine, Coastal and Shelf Science*, p.106251. <https://doi.org/10.1016/j.ecss.2019.106251> (Q1)

PAPERS IN PREPARATION

5. Queiroz de Azevedo A., Jiménez-Espejo F. J., **Bulian** F., Sierro F. J., Tagunann D., Takashimizu Y., Albuquerque S. A-L, Escutia C., Hall I., Hemming S., Norris R. D., in prep: Orbital forcing and the evolution of East African Monsoon from Late Miocene to Early Pliocene.

4. **Bulian** F., Sierro F. J., Jiménez-Espejo F. J., Andersen N., in prep: The timing of closure of the last Betic corridor strand inferred from new geochemical and planktic foraminifer data from Montemayor-1 core (Guadalquivir Basin)

3. Agiadi K., Hohmann N., Gliozzi E., Thivaoui D., Taviani M., Bosellini F., Bianucci G., Collareta A., Londeix L., Faranda C., **Bulian** F., Koskeridou E., Lozar F., Mancini A-M., Dominici S., Moissette P., Bajo Campos I., Borghi E., Iliopoulos G., Antonarakou A., Kontakiotis G., Besiou E., Zarkogiannis S., Harzhauser M., Sierro f. j., Vasiliev I., Camerlenghi A., García-Castellanos D., in prep: The impact of the Messinian Salinity Crisis on the taxonomic composition of the Mediterranean marine biota.

2. Ebner R., **Bulian** F., Meijer P., Sierro F. J., and Kouwenhoven T. J., in prep.: From open marine to restricted conditions: A transient model approach to the 7.17 Ma Mediterranean event.

1. **Bulian** F., Sierro F. J., Kouwenhoven T. J., Andersen N., and Krijgsman W., under review.: Reflooding and repopulation of the Mediterranean Sea after the Messinian Salinity Crisis: benthic foraminifer assemblages and stable isotopes of Spanish basins.

SERVICE

Peer reviewer: *Sedimentary Geology and Palaeogeography, Palaeoclimatology, Palaeoecology*

OUTREACH

2020 - European Researchers' Night: Activities with the general public

- International Day of Women and Girls in Science: Speed dating with scientists

2018 **Bulian** F., 2018. Influenza culturale del clima: come i cambiamenti climatici degli ultimi 8.000 anni condizionarono la vita umana. *La Battana*, 208, 9-42, EDIT (Croatia)

2014 GEODAY at University of Bologna (Italy): Activities with the wider public

2013 GEODAY at University of Bologna (Italy): Children's activities and geological games

Blog: <https://thesaltgiantfellowship.wordpress.com/> (contributor)

LANGUAGES

Croatian, Italian, English, Spanish: fluent speaking and writing

German: basic level