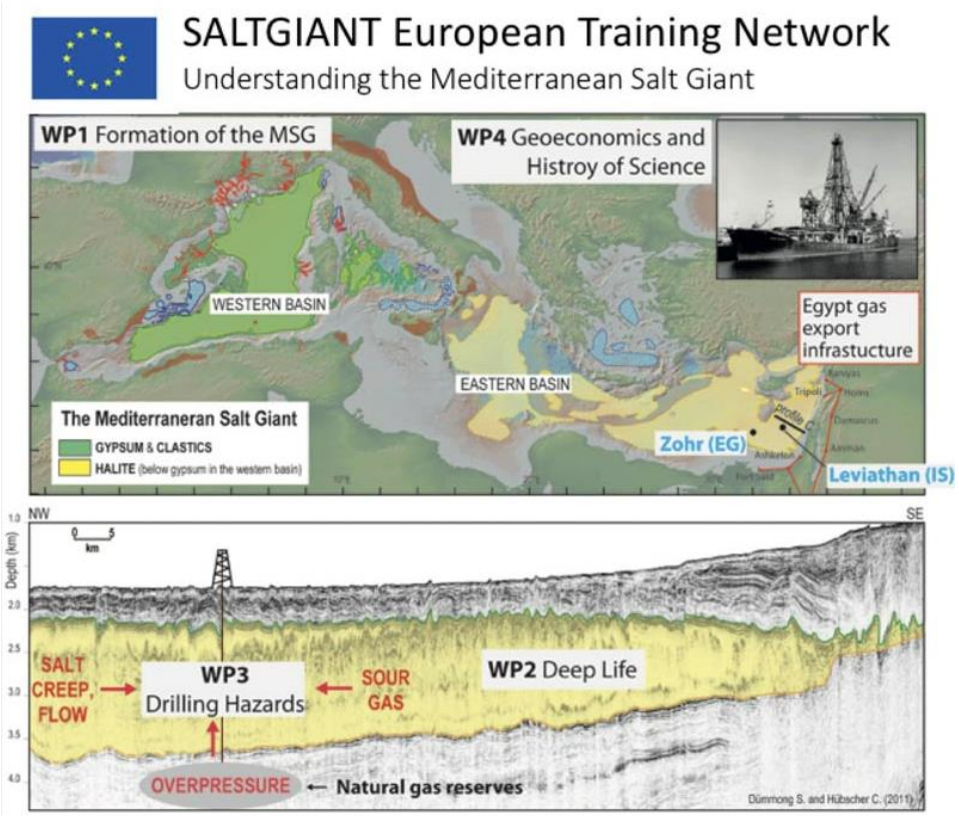
# SALTGIANT Newsletter #6 – July 2021

by Laetitia Guibourdenche (ESR 6), Michael Dale (ESR 12) and the collaboration of the other SaltGiant ESRs

## ABOUT SALTGIANT

SALTGIANT is a rare cross-disciplinary network of natural and social scientists dedicated to understanding the formation of the Mediterranean Salt Giant**,** one of the largest salt deposits on Earth**,** and its implications for sub-seafloor microbial life, risk assessment in the oil industry, geo-economics of the Mediterranean region and the history of oceanography.




SALTGIANT contributes to respond to the growing demand for a new generation of scientists working in the interface between the natural and social sciences**.**

*SALTGIANT is an European projcet funded by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement n° 765256.*

SALTGIANT brings together 30 academic organizations (13 beneficiaries, 17 partners), 7 private sector Oil&Gas companies, 2 mining sector companies, 1 biotechnology company, 1 museum and 1 specialist in transferable skills training from 11 countries to stimulate interdisciplinary and intersectorial knowledge exchange between geologists, geophysicists, geochemists, microbiologist, geographers and historians in a network with 15 PhD students at its core.

For more information about the SALTGIANT project, check our website.

SALTGIANT is developed within the EU MEDSALT COST action: https://medsalt.eu/the-project/

# NEWSLETTER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## 1. ESR thoughts on research during the pandemic

For many Early Stage Researchers (ESR's), the pandemic has had a major impact on our lives and progression of our projects. Here we share with you (anonymously) our experiences and feelings during the pandemic:

***Positive aspects***

a. We have managed to be productive in advancing research, with a lot of time and less activities.

b. It allowed the small unexpected problems that often characterize a PhD to be overcome more readily.

c. “life finds a way”. During this time, I’ve been thinking a lot about what I was experiencing, and I found myself thinking about how major ecological events shape life on Earth. The human species is “out” of the Darwinian selection since long time; however, I believe our evolution continue as we adapt and re-shape our society.

d. I have been super impressed by the optimism and dedication of the people around me, making the best of the situation and doing inspiring work despite the stressful situation we have all been in.

e. "If there is anything that we can learn from the covid-19 crisis, in my opinion, it is “resilience”. Resilience has different meanings depending on the context, but in general, we may think of the word as a synonym of preparedness to external shocks and adaptability to changes. Both at individual and group levels - think local communities or governments, resilience has been key in determining the best response to the shocks that occur unexpectedly such as the sudden eruption of a pandemic across the world. By all means, resilience does not only mean the ability to keep the system going but particularly to look out for those who fall out due to such shocks. In the case of education, resilience may have manifested in the quick shift towards online learning.


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***Negative aspects***

a. Worries about family members and not being able to plan ahead was something that made it really hard to find a healthy balance between life and work.

b. Delays in acquiring new data, and the limited possibilities to go to the field.

c. Pandemic took away from us some important opportunities to communicate and socialize with our peers and established contacts with other scientists.

d. Constant fluctuations between an improvement and a worsening of the situation, surely had a negative influence.

e. Hard time working properly during the pandemic and I felt isolated since I was far from home and it was impossible to come back for some time / to work in good conditions.

f. The academic year had practically come to an early end for a majority of students in the poorer countries. Moreover, the psychological detrimental effect of isolation was mostly overlooked. For that, I have heard stories and counts from many fellows. It seemed to me that personal communication was always key in not falling into the trap of anxiety and other psychological traumas - with professors, fellows, students, …etc. The absence of communication simply means severing the feedback loop that is essential for our resilience in the face of global and personal changes.

## 2. SaltGiant recent publications

Two SaltGiant ESRs published earlier this year:

- Michael Dale (ESR 12) from the National Oceanography Centre (NOC):

*Typically, geoscientists in the Oil and Gas industry are taught that evaporites are impermeable that create some of the world's highest reservoir pressures beneath the salt seal. Here in this study, we demonstrate that despite their low permeability, evaporites can transmit pore fluid pressure through them. Hence, evaporite sedimentation can potentially generate overpressure within the evaporites themselves.*

**Dale MS, Marin-Moreno H, Falcon-Suarez IH, Grattoni C, Bull JM, McNeill LC,** The Messinian Salinity Crisis as a trigger for high pore pressure development in the Western Mediterranean, February 2021

- Francesca Bulian (ESR 1) from the University of Salamanca (USAL):

*In this work we investigate the Atlantic-Mediterranean connectivity through a detailed foraminifer-based biostratigraphy, micro- paleontological and geochemical analyses of four available records (ODP 976B and DSDP 121) and boreholes (Andalucia-G1 and Alboran A1) in the West Alboran Basin (WAB). At Site 976, the dominance of a peculiar cold planktonic foraminifer fauna in the late Tortonian-early Messinian could possibly imply the existence of a proto-Gibraltar Strait, while at ~7.2 Ma, changes towards warmer foraminifer assemblages, increasingly stratified water column and sharp increase in terrestrial input indicate the beginning of the restriction of the Mediterranean from the Atlantic Ocean.*

**Francesca Bulian, Francisco J. Sierro, Santiago Ledesma, Francisco J. Jimenez-Espejo, Maria-Angela Bassetti**, Messinian West Alboran Sea record in the proximity of Gibraltar: Early signs of Atlantic-Mediterranean gateway restriction, January 2021

All the articles are open access and available on the Saltgiant website dissemination page.

Stay tuned, because more has to come.

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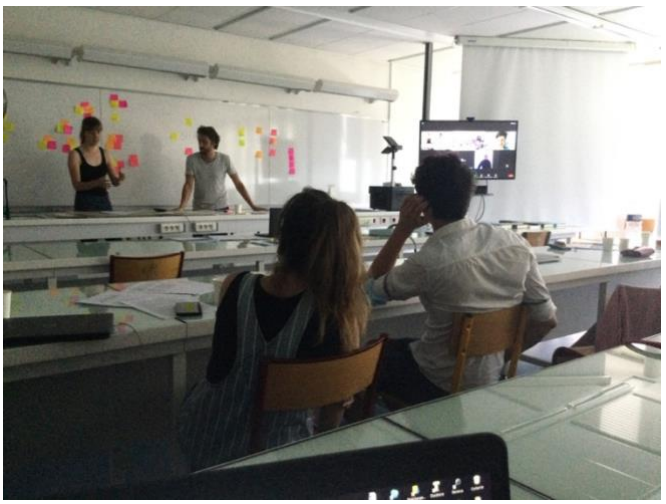
## 4. Focus on the last SaltGiant event

From the 14th to the 17th of June, the ESRs joined the 4th Short Course organized by the Saltgiant ETN and got a taste of the economical, sociological, historical and philosophical aspects that shape Earth sciences. Due to COVID restriction, we were only 10 ESRs able to be in Paris, on site at La Sorbonne Université whereas the other 5 were following the course online. The school was organized by our own "social sciences" ESRs, Beatriz M. Rius and Mariam Attala with the help of their supervisors Nestor Herran (Sorbonne Université) and Eric Verdeil (SciencesPo Paris) respectively.

The first day was dedicated to history of Earth Sciences starting from the 18th century to nowadays with courses from Pierre Savaton (Université de Caen), Sebastian Grevsmuhl (CRH,CNRS) and Sebastien Dutreuil (CepercCNRS, Aix-Marseille Université). We then completed the day by visiting the wonderful mineralogical collection of Sorbonne University and by a nice tour in the Quartier Latin where David Aubin presented some historical monuments. In the next days, we got a wonderful course on history of oceanography by Lino Camprubi (Univ. Seville), Helen Rozwadowki (University of Connecticut) and Sam Robinson (Univ. York), completed by a more specific lecture on the history of the oceanographic expeditions that have led to the drilling of Messinian evaporites given by Beatriz M. Rius (Sorbonne Université ESR 15). Mariam Attala (SciencesPo, ESR 14) provided a brilliant introduction to her field of expertise, economy and how different economical models shape society. And finally the last two days, animated by Thomas Tari (Forecast, SciencesPo) and Isabel Ruck (CAREP, Forecast, SciencesPo) were dedicated to sociology of sciences with a focus on techno scientific controversies, with a case study on the controversies regarding desalination.



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## 4. Upcoming events : 2021 events

- October, 4th – 8th 2021: Short Course 5 “Pre-History and history of salt use” (restricted to the ESRs) and Workshop 4.

The two SaltGiant events will be held in Banja Luka, the second largest city of Bosnia and will last 5 days. The participants will (1) attend a course in “History of Salt” in the Museum of Republic of Srpska and (2) visit the Faculty of Mining, Geology and Civil Engineering (where one or two lectures will be taught), visit to the mines, salt factory (optional) and archaological sites/museums. A second part of this week will be dedicated to SaltGiant workshops and supervisory board meeting.

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- October, 25th – 31st 2021: Field Course 2 « Drilling Training school ».

The SaltGiant Field Course Drilling Training School organized by the CNRS Montpellier, will last 7 days and will be held in Sorbas (Spain). The purpose of this field course will be to convey basic knowledge on borehole drilling/coring and downhole logging methods to the ESRs and provide hands-on experience on core data description and logging data acquisition, processing and interpretation. It will be an occasion to generate the first continuous record across the MSC deposits in the Sorbas basin and try to solve still open questions regarding the MSC in this important marginal basin.

- November, 21st – 25th 2021: Field Course 3 « Dead Sea Hypersaline Environments ».

Organized by the GSI, this trip will take place in Israel and last 5 days. It will deal with various topics related to the Dead Sea, considered to be a modern analogue to a Messinian salt basin. Some visits will be done to the Dead Sea Observatory and the GSI labs. Field trips are planned around the Dead Sea and the Negev Desert, with the objective to illustrate and understand the mechanisms related to salt accumulation and deformation within a recently formed salt basin. Some conferences -from the organizers and the guests (PI and sometimes ESRs) -will be held in between the field trips.

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## Keep up with the project through social media!

Website : https://www.saltgiant-etn.com

Blog : https://thesaltgiantfellowship.wordpress.com

Twitter : https://twitter.com/saltgiant

LinkedIn : https://www.linkedin.com/company/etn-saltgiant/

Kialo discussion : https://www.kialo.com/

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