

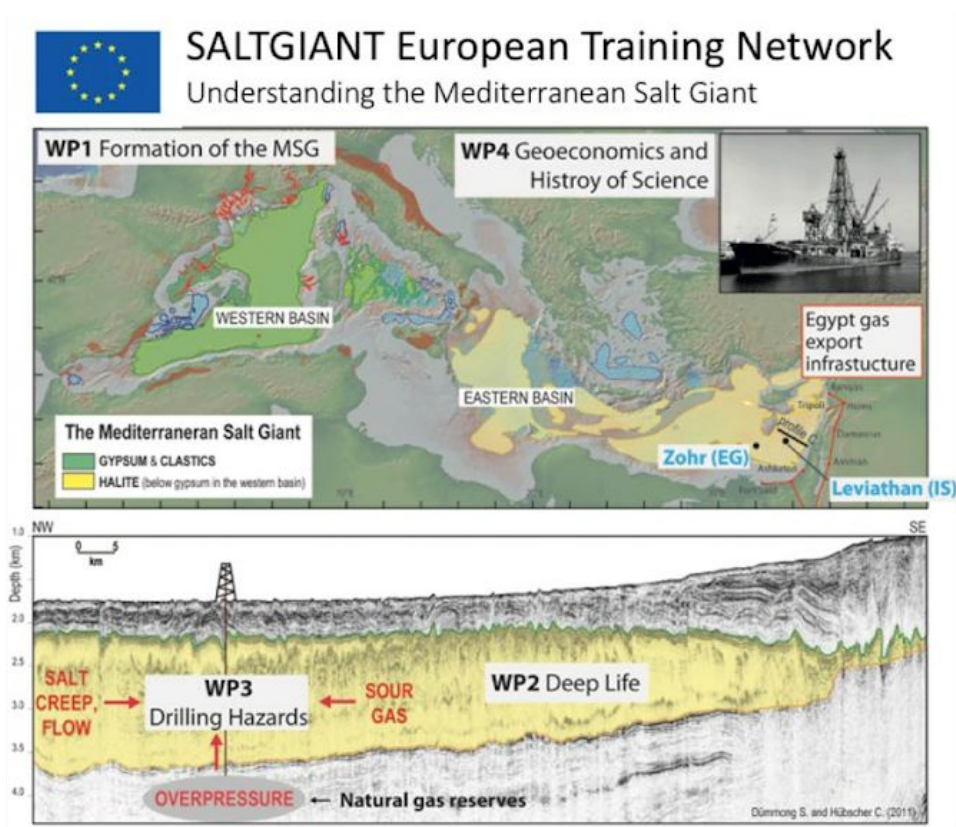


SALTGIANT Newsletter # 2 - July 2019

by Maria Magliulo, Hanneke Heida and the collaboration of the 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 is an European project funded by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement n° 765256

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 brings together 24 academic organizations (13 beneficiaries, 11 partners), 6 private sector Oil&Gas companies, 2 mining sector companies, 1 biotechnology company, 1 geopolitics think tank, 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 PhD students at its core. SALTGIANT is developed within the EU MEDSALT COST action: <https://medsalt.eu/the-project/>

NEWSLETTER

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1. Network updates

In January 2019 we were able to welcome the latest recruit to the SaltGiant team, Simon Blondel!



ESR 10 – Simon Blondel

Affiliation: Istituto Nazionale Di Oceanografia E Di Geofisica Sperimentale (OGS)(Italy)

Project title: Seismic imaging and geological evolution of Mediterranean salt structures

Scientific background: Geology/Geophysics/GIS

Why this project? I am reprocessing vintage seismic data from public organisations and industry partners in order to bring out a new understanding of the Messinian deposits in the Mediterranean Sea. I am aiming to use the best

current techniques for amplitude preserving processing and high-resolution velocity and attenuation models. Through these models, seismic horizons interpretations and seismic attributes, I will try to associate lithology, and on-site conditions to the Messinian seismic facies. Ultimately, I would also like to model the evolution of some local Mediterranean basins for estimating their pressure and temperature evolutions through time. Favourite food: Raclette.

2. 2019 ACTIVITIES

2.1 Training school MEDSALT

From the 22nd to the 26th of April 12 ESRs joined the third training school organized by MEDSALT (COST action) and got a first taste of the challenges posed by Messinian deposits in the field. The school in Sorbas was organized by María Josefa Herrero (University Complutense of Madrid), Konstantina Agiadi (University of Athens), Francisco Javier Sierro Sánchez (University of Salamanca), Juan Carlos Braga (University of Granada) and Frits Hilgen (Utrecht University) and with guest lectures and field assistance by Cristino Dabrio (University Complutense of Madrid) and José Ignacio Escayv (University Politécnica of Madrid). We took a close look at the causes and effects of Milankovitch cyclicity in the (pre)evaporites and learned a ton about the complexity of constructing an age model for the Messinian Salinity Crisis onshore. The trainers provided great insight into the controversy concerning possible erosional surfaces, and facilitated lively discussions in the field.



MEDSALT participants at the Río Aguas gypsum deposits.

2.2 First SALTGIANT field course



From the 27th April to the 4th of May we had the first Saltgiant field course, in a superb location: Sicily. The whole week was based on understanding the geology of the Messinian Salinity Crisis: starting from Monte Gibliscemi and Falconara outcrops, where we saw Messinian pre-evaporitic deposits and the transition to the Calcare di Base, we then visit the evaporitic Basin of Monte Capodarso. In this site Antonio Caruso (University of Palermo) and his collaborators showed us the evaporative and sulphur-bearing limestones during the settlement of the Messinian Salinity Crisis. To enter the last phase of the Messinian Salinity Crisis we visit the Realmonte Salt

Mine, and Capo Rossello area, with a last stop at Eraclea Minoa, where post-evaporitic deposits and the return to Pliocene normal marine conditions can be found. Athina and Beatriz wrote about this field course extensively: "The Mediterranean seabed hides precious secrets that geologists are struggling to understand for years now. Their major obstacle? Technological and technical difficulties that convert the seafloor in an unreachable place...Unless you are in Sicily, where you can literally touch the rock without getting "wet". Check it out:

<https://thesaltgiantfellowship.wordpress.com/2019/07/13/exploring-the-salty-sicily-the-messinian-salinity-crisis-from-a-fieldwork-perspective/> .



Diatomites found in the outcrop of Gibliscemi. This really weak rock is made up of fossilised remains of diatoms (a type of microalgae) and through all those layers it was not difficult to find the remnant of other marine life forms.



Antonio Caruso (UniPa) explaining the geology of the outcrop of Giblisce mi.



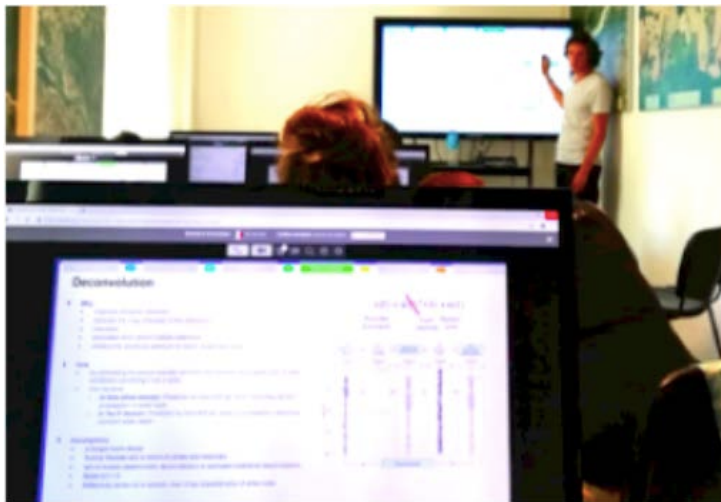
Gypsum at two different locations.



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2.3 SALTGIANT short course: Seismic data analysis

June 17-19 saw the second Saltgiant course held in Trieste, aimed at familiarizing the ESRs with seismic data acquisition, processing and interpretation, as seismic stratigraphy is one of the most important sources of information on the Messinian Salinity Crisis offshore. The course was organized by Angelo Camerlenghi (OGS) and Anna del Ben (University of Trieste). Besides interesting lectures on wave propagation physics, the workings of research vessels, environmental effects of seismic acquisition and processing and interpretation of data we had plenty of opportunities to work on practical exercises. The ESRs had the opportunity to acquire a line of data at the University of Trieste by hammer, and set to work selecting a prospective borehole location for future IODP drilling in the Western Mediterranean based on seismic data. Some pictures:



TRANSFERRABLE SKILLS TRAINING #2, SCIENCE JOURNALISM AND CONTROVERSY (SISSA MEDIALAB)

The second (out of 3) training in transferable skills was held in Trieste on the 20th and 21st of June, organized by Simona Cerrato from SISSA Medialab. The first day was focussed on translating research results for the general public and diffusion through (social)media with science journalist Eleonora Degano. On the second day controversies in science and their impact on scientist and society were discussed, while Giulio Salvaggi and Alessandro Amato from the Italian National Institute of Geophysics and Volcanology told the story of how the L'Aquila earthquake (2009) led to the prosecution of scientist involved in seismic risk assessment.

MID-TERM CHECK MEETING AND SECOND SALTGIANT WORKSHOP

A year and a half into the runtime of the project the mid-term meeting with our European Project Officer Luisa Marconi was held on monday 24th of June. The ESRs presented their backgrounds and the state of their projects, leading to a favorable evaluation. The meeting was followed by two days of scientific presentations and discussions. Notable was the attendance of Yasuhiru Yamada, director of exploration and R&D for the Chikyu vessel, to discuss the potential for riser drilling in the Mediterranean to recover the full Messinian sequence. Also included in the workshop programme was a visit to the Elettra Sincrotrone facility. All in all, the meeting and workshop left us with high expectations of the next 2 years of the project, with many budding collaborations promising exciting results!

3. Upcoming events

Short Course Modelling in Geoscience, Utrecht, Netherlands

The third Saltgiant course, organized by Paul Meijer of Utrecht University will be held from the 7th to the 11th of october, on the topic of modelling applied to the MSC. Students will be introduced to both numerical and analogue modelling techniques used in many aspects of MSC research, from geodynamics to water budgets and geochemistry.

This short course will be open to external participants ! The deadline to apply is August 25th.

For more details see our website :

<https://www.saltgiant-etn.com/the-2nd-saltgiant-short-course-will-be-held-in-utrecht-october-7-to-10-2019/>

Short Course Paleoenvironments, Salamanca, Spain

In November (exact date to be specified) the third short course will be organized in Salamanca by Francisco Sierro. The Saltgiant ESRs will be trained in how sediment and fossil records are used for the reconstruction of paleoenvironments and paleoceanography.

Keep up with the project through social media!

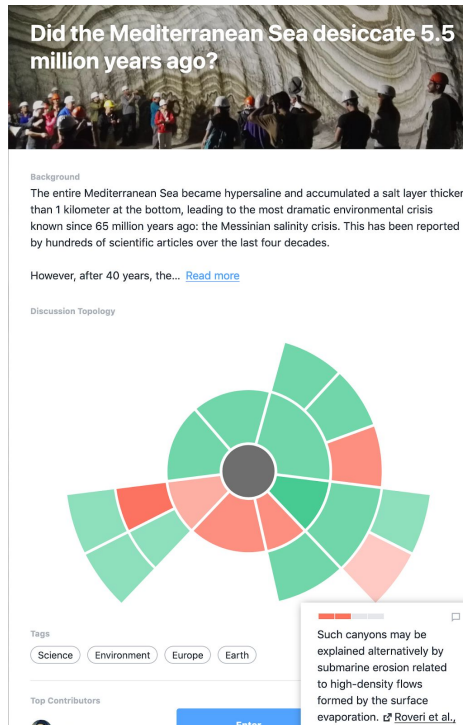
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Join now the SaltGiant [discussion on Kialo](https://www.kialo.com/did-the-mediterranean-sea-desiccate-55-million-years-ago-9531) contributing the existing (published) scientific arguments you have found in the literature. We currently have around 20 claims and counterclaims already, each with the corresponding reference.

You can also review which arguments you find more sound than others.

Full address:

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