

COST Action ES1301 FLOWS
Dead Sea workshop
March 6th-8th 2017
Tel Aviv, Israel

Summary of activities



Monday, March 6th was dedicated to presentations. The morning talks were about the current knowledge of the geochemistry and hydrology of the Dead Sea. This was followed by geochemical approaches to the studies of cold seeps in general, a tectonic and geologic overview of the Dead Sea and work conducted in the northern section of the Dead Sea fault in Turkey. The final two presentations brought up the use of technological innovations to study inland lakes, using the Sea of Galilee as an example.

List of talks:

- Elan Levi, Ben Gurion University of the Negev Israel: Persistent paleoclimate influence on deep lake chemistry and limnological processes from Dead Sea deep ICDP core pore fluids
- Yossi Yechieli, Geological Survey of Israel: The hydrogeology of the Dead Sea and its relation with the adjacent aquifers
- Orit Sivan, Ben Gurion University of the Negev Israel: Methane in Dead Sea sediments
- Volker Liebetrau, GEOMAR Kiel Germany: Isotope geochemistry and geochronology approaches on cold seep driven authigenic precipitates
- Zvi Ben-Avraham, Universities of Haifa and Tel Aviv Israel: Structure and dynamics of the Dead Sea Basin

- Galip Yuce, Hacettepe University, Ankara Turkey: Determination of faults/fractures and geothermal origin by soil and groundwater degassing within the DSFZ in the Amik Basin (Hatay), Turkey
- Alina Polonia (Ismar-Cnr Bologna Italy)+ Michael Lazar (University of Haifa, Israel): Novel technologies for earthquake geology in the Sea of Galilee, central Dead Sea fault
- Luca Gasperini (Ismar-Cnr Bologna Italy): Monitoring Gas emission and seismic activity in the Sea of Galilee Is it feasible/interesting?

After the talks, a discussion about the Sea of Galilee vs. the Dead Sea as the ideal place to conduct collaborative research arose. It was decided that both lakes are of interest and could be studied as endmembers of the central Dead Sea fault in a comparative way.

The fieldtrip to the Dead Sea occurred on Tuesday March 7th. The first stop was the Einot Zukim nature reserve where a number of issues were discussed – mainly the influence of lowering Dead Sea levels on the nature reserve and how ecologists are trying to deal with it by active intervention. Between Einot Zukim and the second stop – Masada – the formation of sinkholes along the shores of the lake was discussed. At the second stop, the laminated layers of the Dead Sea sediments were seen in Lake Lisan outcrops, along with indications for paleo-earthquakes. The top of Masada offered a view of the extent of the Lisan sediments as well as the passage from the northern to southern Dead Sea basins. The Lisan salt diapir separating the northern and southern basins was seen and briefly discussed. Dinner was eaten in the old city of Jerusalem, where discussions on research continued. It was decided that we would all try to use some of our own funds for the purpose of beginning research in the area. The idea is collect data, write a short, quick paper showing the potential and use this as the basis for the submission of a grant proposal (or proposals).

Wednesday, March 8th was dedicated to more discussions and wrap-up. Gaps in knowledge of the group were mentioned. In order to overcome this issue, a Dropbox folder will be created and relevant literature pertaining to the Dead Sea and the Sea of Galilee will be added to form a library/database for the use of the group.

It was decided that the possibilities of bi- or tri-lateral funding opportunities will be explored by members of the group with the intention of including the rest as sub-contractors. Other approaches to funding aside from the “classic” earth sciences were mentioned. These include submitting to calls dealing with seismic hazards, engineering, infrastructures (new technologies) and archaeology.

All participants agreed on the need to stay in contact and not to lose momentum.