



KEY DATES

Submission of application form: 15 July 2016

Notification of acceptance: 1 August 2016

Winter School: 4 - 15 December 2016

APPLICATION

Target group are young researchers from universities, and research institutions, in particular Master and PhD students, with specific interest in the Dead Sea region.

Interested students and researchers are expected to fill in the application form and send it back to the organizers. The application form and details on the application procedure are provided on the DESERVE website.

FUNDING AND GRANTS

The Winter School is funded by DESERVE and free of charge. DESERVE provides funding for accommodation expenses at Mosaic City Hotel Madaba for all participants.

In consultation with each participants home institution the granting of credit points (ECTS) is possible.

VENUE

Mosaic City Hotel
Al Yarmouk St.
Madaba
Jordan



DESERVE

DEAD SEA
RESEARCH
VENUE

Helmholtz
Virtual Institute

DESERVE
The Virtual Institute DEad SEa Research VEnue

WINTER SCHOOL 2016

Madaba, 4 - 15 December

TOPICS

The Dead Sea region with its unique landscape and cultural area is the central basis of life in the region and of great economic and ecological importance. On the other hand, the region is faced to hazardous natural phenomena and rapid environmental changes. The Winter School focuses on [sinkholes](#), [seismicity](#) and [hydrogeology](#), all related to the dominant geological structure, the Dead Sea Transform fault system.

Sinkholes, a common phenomenon along the Dead Sea shore, form suddenly. [Groundwater](#), under-saturated with respect to easily soluble minerals, uses [faults](#) as conduits to percolate to subsurface [salt deposits](#). The water dissolves and flushes the salt, leading to a collapse of the underground substrate structure and, thus, to the development of sinkholes. Besides triggering sinkhole formation, groundwater determines the [available water resources](#). The spatio-temporal quantification of [groundwater recharge](#) and [flow](#) in the Dead Sea Basin is thus essential for sustainable groundwater management.

Lying in an active fault zone, the region is exposed to severe [earthquake](#) hazard. In 1995, the magnitude 7.3 earthquake in the Gulf of Aqaba was a reminder of previous strong devastating earthquakes. The [seismic hazard](#) is estimated by integrating various databases from the region with new seismic monitoring techniques. In particular, the physical understanding of the evolution of strain, stress, and seismicity can serve as the basis for future hazard assessment.

The Virtual Institute DEad SEa Research VEnue

The Dead Sea faces big water-related challenges. Among them are sea level decline, flash flood occurrence, sinkhole development, and ascending brines polluting freshwater. DESERVE is aimed at studying these coupled atmospheric, hydrological, and lithospheric processes.

DESERVE is designed as a cross-disciplinary and cooperative international project of the Helmholtz Centers KIT, GFZ, and UFZ with well-established partners of the riparian countries.

CONCEPT

The Winter School is composed of a variety of modules enabling a close combination of theory and practice. [Lectures](#) provide the theoretical background on the topics addressed. [Exercises](#) and [field trips](#) contribute to a better understanding of the gained knowledge. To detect and characterize earthquakes, the seismological software ‚[SeisComp 3](#)‘ is applied. [Measurements](#) and [field work](#) put the acquired knowledge into practice. To identify and characterize areas of high sinkhole potential, various monitoring methods, such as [shear-wave reflection seismics](#) and [aerial photography](#) are applied. In addition, hydrogeological measurements to estimate discharge, groundwater recharge and age are conducted. Finally, [data analysis](#) enables to evaluate and interpret the collected data.

All modules are given by [internationally recognised researchers](#) of DESERVE and [invited experts](#).

The [exchange](#) of own knowledge and research ideas as well as the exchange between the different disciplines is fostered in the Winter School. The Winter School contributes to a closer [cooperation](#) between the different disciplines, as well as between young scientists working in the Dead Sea region.

Detailed information on the Winter School are available on the DESERVE website and updated regularly.

DESERVE is offering the unique opportunity to integrate the scientific results already achieved or presently elaborated in the Dead Sea region into a joint scientific approach based on earth, water, and environmental sciences.

The interdisciplinary research approach will contribute to a sound scientific understanding of the ongoing processes and enable the development of prediction models, remediation strategies, and risk assessments with respect to environmental risk, water availability, and climate change.

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Contact

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