

XII training course on KARST HYDROGEOLOGY



HYDROKARST 2019

Málaga, 21st - 22nd September 2019

INTRODUCTION

Karstifiable terrains cover around 15% of the Earth's continental surface and their aquifers are at least a partial source of drinking water supply of almost 25% of the world's population. In Europe, for example, one third of its territory overlies karst aquifers and in some countries karst water resources mean more than half of the water supply. Overall, the hydrogeological behavior of karst aquifers shows heterogeneity in its processes and storage dynamics: 1) duality of infiltration and recharge mechanisms (diffuse and/or concentrated, allogenic vs autogenic), 2) spatial heterogeneity and marked anisotropy in the distribution of the characteristics hydraulic parameters, 3) duality of discharge conditions, from continuous discharge when the system is dominated by flow through the matrix and fissures to high discharge variability when flow through the conduits is dominant.

PROGRAMME

Saturday, September 21

- 08:30 - 09:00 Welcome, reception and opening of the course
- 09:00 - 09:40 Introduction to the study of karst aquifers. General concepts. **Juan José Durán [Spanish Geological Survey, SPAIN]**
- 09:40 - 11:00 Sampling strategies, instrumentation and monitoring of natural responses of karst aquifers. **Matías Mudarra [University of Málaga, SPAIN]**
- 11:00 - 11:30 *Coffe break*
- 11:30 - 13:00 Hydrogeochemical tools applied to the study of carbonate aquifers. **Juan Antonio Barberá [University of Málaga, SPAIN]**
- 13:00 - 14:30 *Lunch*
- 14:30 - 16:00 Use of isotopic techniques in karst hydrogeology. **Marco Petitta [Sapienza Universita di Roma, ITALY]**
- 16:00 - 16:30 *Coffe break*
- 16:30 - 18:00 From conceptual models to mathematical approaches in karst aquifers. **Bartolomé Andreo [University of Málaga, SPAIN]**

LOCATION

Research building **Ada Byron**. Arquitecto Francisco Peñalosa, 18. Campus of Teatinos. University of Málaga.



HYDROKARST 2019 is the 12nd edition of a course given usually by researchers from the Partnership Association "Advanced Hydrogeological Studies", constituted of the Center of Hydrogeology of the University of Málaga (CEHIUMA) and the Spanish Geological Survey (IGME), on methods applied to hydrogeological research into carbonate aquifers. On the occasion of the 46th IAH Congress, also members of the IAH Commission on Karst Hydrogeology participate, in the framework of the KARMA project (Karst Aquifer Resources availability and quality in the Mediterranean Area). The course is an activity of the Spanish Group of the International Association of Hydrogeologists (AIH-GE) in collaboration with the International Hydrological Program of UNESCO. In this new edition of the HYDROKARST course, researchers will have the opportunity to learn the methods used to characterize the functioning of carbonate aquifers, as well as for the evaluation, protection and management of water resources in this type of medium.

Sunday, September 22

- 09:00 - 10:30 Statistical methods for simulating karst aquifers. **Eulogio Pardo [Spanish Geological Survey, SPAIN]**
- 10:30 - 11:00 *Coffe break*
- 11:00 - 13:00 Tracer techniques in karst hydrogeology. **Nico Goldscheider [Karlsruhe Institute of Technology, GERMANY]**
- 13:00 - 14:30 *Lunch*
- 14:30 - 16:00 Numerical modelling in karst hydrogeology I. **Hervé Jourde [University of Montpellier II, FRANCE]**
- 16:00 - 16:30 *Coffe break*
- 16:30 - 18:00 Numerical modelling in karst hydrogeology II. **Andreas Hartmann [University of Freiburg, GERMANY]**

ADDITIONAL INFORMATION

COORDINATORS

Bartolomé Andreo Navarro [University of Málaga]
Juan José Durán Valsero [Spanish Geological Survey]

SECRETARY

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AVAILABILITY AND FEE

At least 20 inscriptions are necessary to organize the course. The reserve criteria will be in order of inscription arrival to the secretary email adress. **Course fee: 250 €** (includes coffe breaks and lunches).

PAYMENT (by bank transfer in the following account):

Bank name: UNICAJA
Bank account: 2103 0146 96 0030028661
IBAN: ES 24
SWIFT: UCJAES2MXXX
Reference: HYDROKARST2019

HYDROKARST 2019 is a contribution to the Research Group RNM-308 founded by the Autonomous Government of Andalucía (Spain), and to the research projects CGL2015-65858 (General Office of Scientific and Technical Research of Spanish Government) and KARMA (PRIMA programme, European Commission)

Organizing:



Partnership:

