



## GEOHERMAL LABORATORY FOR EXPERIMENTAL THERMAL TESTS

10:00-13:00 (CET), February 12, 2021

Polytechnic University of Valencia, Valencia, Spain

Free access to this meeting (on Teams) at <https://bit.ly/3p4xIKW>

Register by email for a free attendance certificate [loucasso@upv.es](mailto:loucasso@upv.es)

### WORKSHOP SCOPE

This session will showcase the geothermal laboratory at the Polytechnic University of Valencia, in Spain. The first presentation will show a virtual tour of this facility, detailing its main features and singularities, which make this laboratory a reference facility. The session will also focus the main stages of a typical experimental thermal test. Following this educational aim, an immersive virtual reality laboratory, designed for this purpose, will be used for the explanation of how this facility operates. The session will include a Q&A section as well as a round table.

### PROGRAMME

Time	Description
<b>10:00</b>	Welcome and context of the GEOCOND Project <i>Prof. Javier F. Urchueguía-GEOCOND's coordinator</i>
<b>10:30</b>	Structure, Production and Instrumentation of the Test Site Video <i>Dr. Borja Badenes</i>
<b>11:00</b>	Test Site Operation <i>MSc. Prof. Miguel Ángel Mateo-Pla</i>
<b>11:30</b>	Virtual Test Site <i>Prof. Dr. Begoña Sáiz-Mauleón</i>
<b>12:00</b>	Q&A
<b>12:30</b>	Concluding remarks. European Centre of Excellence <i>Prof. Javier F. Urchueguía</i>



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## SPEAKERS' BIOGRAPHIES



**Prof. Dr. Javier F. Urchueguía Schölzel**  
(GEOCOND's Coordinator)

Prof. Urchueguía graduated in Theoretical Physics from the University of Valencia and Doctor of Physical Sciences from the Polytechnic University of Valencia (UPV), his career as a researcher has been focused on areas such as energy (alternative internal combustion engines, cooling and heat pumps, geothermal heat pumps, improved energy techniques in building...) and biological engineering. He began his professional career in 1988, until reaching, in 2003, the place of Full Professor in the Department of Applied Physics of the UPV. He has participated in more than 80 projects and research contracts with local, national and international administrations. He has been principal investigator in twenty of them, has directed more than 30 end-of-career projects and DEA, directed 20 doctoral theses and has been organizer of more than 30 congresses, symposia or scientific meetings. Professor Urchueguía is the author of more than 90 research articles in indexed international journals and more than 150 publications in research congresses, national and international. Javier Urchueguía is Chairman of the European Geothermal Panel and a Chairman of the European Platform of Renewable Heating and Cooling [www.rhc-platform.org](http://www.rhc-platform.org).



**Prof. Dr. Borja Badenes**  
(Thermal engineer)

Dr Badenes is an Industrial Engineer from the UPV (2010) and Postgraduate Master's Degree in Mathematics Research (2013). He has been an Assistant Professor in the Department of Hydraulic Engineering and the Environment since 2015. Specifically, in the Degree in Energy Engineering he collaborates in teaching "Geothermal energy", a field in which he has developed his professional and research career. He has worked for 4 years on the design and installation of air conditioning using geothermal energy. He has taken part in the INNFACTO research project "Thermo-Mechanical Characterisation and New Techniques of Design of Thermo-active Piles" and the European projects "Regulations of Geothermal HP systems at local and regional level in Europe" and the European project H2020 "Cheap and Efficient Application of Reliable Ground Source Heat Exchangers and Pumps" (CHEAP-GSHPs). It is currently taking part in the Horizon 2020 project "Most easy, efficient and low-cost geothermal systems for retrofitting civil and historical buildings - GEO4CIVHIC". The result of this research activity has been the publication of 19 contributions to conferences, both national and international, and 9 articles in international journals.



**MSc. Prof. Miguel Ángel Mateo-Pla  
(Thermal Response Test lead engineer)**

Miguel Ángel Mateo-Pla is an Informatician and Monitoring and Control expert. In 1996 he was hired as an Associate Professor at the Polytechnic University of Valencia (UPV), where in 2001 he was promoted to the position as Full Professor of University School, a place he currently holds. His research work has focused on distributed systems and multi agent systems, especially with applications to process control and distributed simulation. At present, this work focuses on advanced sensor systems, embedded systems, and the convergence of conventional distributed systems to new concepts derived from the revolution promoted by the Internet of Things (IoT). He currently leads, within the European projects GEOCOND and GEO4CIVHIC, the development of the Thermal Response Tests related with the project goals.



**Prof. Dr. Begoña Sáiz-Mauleón  
(Responsible for Designing and Virtualisation of the  
Virtual Reality Laboratory)**

Prof. Dr. Sáiz holds a PhD in Fine Arts, Master's in Physics and a Master's in Graphic Arts. She is a Professor in the Department of Architectural Graphic Expression (EGA) in the Degree in Industrial Design and Product Development Engineering and the master's degree in Design Engineering, both taught at the School of Design Engineering (ETSID) of the Polytechnic University of Valencia (UPV). Her research area focuses on the development of immersive virtual environments that are important for the properly development of the educational and dissemination part of GEOCOND's project.