

ERE2.8

Shallow geothermal systems for building heating and cooling: geoscience and engineering approaches

Convener: Giorgia Dalla Santa^{ECS} | Co-conveners: Witold Bogusz^{ECS}, Francesco Cecinato, Fleur Loveridge, Donatella Sterpi

[Displays](#)

Chat time: Tuesday, 5 May 2020, 14:00–15:45

Please note that the chat live discussion will follow the following order:

GEOSTRUCTURES

D948 - EGU2020-584

Elaboration of charts based on geometry variations for the design of **thermo-active piles** – authors: Mila Smiljanovska, Hussein Mroueh, Julien Habert, and Josif Josifovski

D950 EGU2020-4626

A case study of 5th generation district heating and cooling based on foundation pile heat exchangers (Vejle, Denmark) - authors: Søren Erbs Poulsen, Maria Alberdi-Pagola, Karl Woldum Tordrup, Davide Cerra, and Theis Raaschou Andersen

D962 EGU2020-3684

Using buildings' foundation as a GHE in moderate climates - authors: Lazaros Aresti, Paul Christodoulides, and Georgios A. Florides

D963 EGU2020-20003

Numerical investigation of the performance of geothermal energy piles under different soil moisture conditions- authors: Abubakar Kawuwa Sani and Rao Martand Singh

D964 EGU2020-11711

Observations from shallow geothermal modelling case studies in Canada and the UK - authors: Corinna Abesser, Robert Schincariol, Jasmin Raymond, Alejandro Garcia Gil, Jonathan Busby, Ronan Drysdale, Al Piatek, Nicolo Giordano, Nehed Jaziri, and John Molson

D949 EGU2020-15060

Development and testing of an innovative energy wall system in Torino (Italy) – authors: Matteo Baralis and Marco Barla

D965 EGU2020-21366

Numerical modelling of energy geo-structures for building retrofitting - authors: Diana Salciarini and Francesco Cecinato

D967 EGU2020-19412

Harvesting Energy from Buried Infrastructure: current UKCRIC research - authors: Fleur Loveridge, Paul Shepley, Ross Stirling, and Anil Yildiz

D971 EGU2020-5622

In situ investigation of the impact of cyclic thermal variations impact on the mechanical properties of sandy soil - authors: Sandrine Rosin-Paumier, Hossein Eslami, and Farimah Masrouri

D951 EGU2020-20952

Experimental and numerical performance assessment of **standing column well operating strategies** - authors: Gabrielle Beaudry, Philippe Pasquier, Denis Marcotte, and Alain Nguyen

D973 EGU2020-19601

The impact of Standing Column Well operation on Carbonate Scaling - authors: Léo Cercllet, Benoît Courcelles, and Philippe Pasquier

THERMAL INTERACTIONS

D952 EGU2020-20710

Interactions between energy geostructures in the same aquifer - authors: Thibault Badinier, Jean de Sauvage, Fabien Szymkiewicz, and Bruno Regnicoli Benitez

D953 EGU2020-22207

A calibrated 3D thermal model of urban heat fluxes into the shallow subsurface - authors: Monika Kreitmair, Asal Bidarmaghz, Ricky Terrington, Gareth Farr, and Ruchi Choudhary

MATERIALS PROPERTIES AND MAPPING

D954 EGU2020-21015

Assessing **grouting mix thermo-physical properties for shallow geothermal systems** - authors: Enrico Garbin, Ludovico Mascarin, Eloisa Di Sipio, Gilberto Artioli, Javier Urchueguía, Dimitris Mendrinos, David Bertermann, Jacques Vercruyssen, Riccardo Pasquali, Adriana Bernardi, and Antonio Galgaro

D972 EGU2020-19052

Online ground temperature and soil moisture monitoring of a shallow geothermal system with **non-conventional components** - authors: Ludwin Duran, Darius Mottaghy, Ulf Herrmann, and Rolf Groß

D955 EGU2020-21275

Determination of thermal conductivities in the laboratory and the field: A comparison - authors: Linda Schindler, Sascha Wilke, Simon Schüppler, Christina Fliegau, Hanne Karrer, Roman Zorn, Hagen Steger, and Philipp Blum

D956 EGU2020-19146

Concept for shallow geothermal opportunity mapping - authors: David Boon, Gareth Farr, Laura Williams, Stephen Thorpe, Ashley Patton, Rhian Kendall, Alan Holden, Johanna Scheidegger, Suzanne Self, Corinna Abesser, and Gareth Harcombe

D969 EGU2020-8584

European drillability mapping for shallow geothermal applications - authors: Antonio Galgaro, Eloisa Di Sipio, Giorgia Dalla Santa, Adela Ramos Escudero, Jose Manuel Cuevas, Burkhard Sanner, Davide Righini, Riccardo Pasquali, Jacques Vercruyse, David Bertermann, Luc Pockele, and Adriana Bernardi

D968 EGU2020-2912

Geological and numerical modelling of Thermal Ground Potential for building's heating and cooling, using low temperature shallow geothermal: The "Pietralata Pilot Site" (Roma Capitale Area, Italy) - authors: Nunzia Bernardo and Fabio Moia

ECONOMIC POINT OF VIEW

D957 EGU2020-10980

How will geothermal energy transform the environmental performance of the heating mix of the State of Geneva from a life-cycle perspective? - authors: Astu Sam Pratiwi, Marc Jaxa-Rozen, and Evelina Trutnevyte

D975 EGU2020-20414

Challenges in implementing energy geo-structures in developing markets: Evidence from Romania – author: Iulia Prodan, Horia Ban, and Octavian Bujor

OTHER APPLICATIONS

D958 EGU2020-11511

A Net Present Value-at-Risk Objective Function for Uncertainty Mitigation in the Design of Hybrid Ground-Coupled Heat Pump Systems - authors: Bernard Dusseault and Philippe Pasquier

D970 EGU2020-18915

Assessing underground heat exchange and solar heat storage capabilities based on ground thermo-physical properties: the Euganean hills demo site (Italy) - authors: Eloisa Di Sipio, Raffaele Sassi, Stefano Buggiarin, Silvia Ceccato, and Antonio Galgaro

D966 EGU2020-1953

Uncertainty Quantification of Borehole Thermal Energy Storage Facilities - authors: Philipp Steinbach, Jens Lang, Daniel Otto Schulte, and Ingo Sass

D974 EGU2020-9184

Experimental risk assessment of carbonate scaling in the operation of high temperature – aquifer thermal energy storage (HT-ATES) systems – author: Hester E. Dijkstra, Cjestmir V. de Boer, Mariëlle Koenen, and Jasper Griffioen

D959 EGU2020-7895

Utilizing the road bed for combined ground source heating and sustainable rainwater drainage in Hedensted, Denmark - authors: Theis Raaschou Andersen, Karl Woldum Tordrup, and Søren Erbs Poulsen

D960 EGU2020-508

Shallow geothermal technology as alternative to diesel heating of subarctic off-grid autochthonous communities in Northern Quebec (Canada) - authors: Nicolò Giordano, Evelyn Gunawan, Félix-Antoine Comeau, Mafalda Miranda, Hubert Langevin, Matteo Covelli, Paul Piché, Jessica Chicco, Stéphane Gibout, Didier Haillot, Alessandro Casasso, Giuseppe Mandrone, Cesare Comina, Richard Fortier, and Jasmin Raymond