

Contribution ID: 149

Type: Poster (+) Presentation

# CPG modelling in fluvial channelised systems under uncertainty

Monday, 31 May 2021 19:35 (1 hour)

CO2-plume geothermal (CPG) operations are considered for sufficiently permeable formations. Fluvial sedimentary reservoirs affect losses in pump energy in heat extraction from hot sedimentary aquifers (HSA). It has been shown previously that the losses for heat extraction from HSAs can be reduced by up to 10% by orienting a doublet well pair parallel to the paleo flow trend rather than orienting it in perpendicular. In this study, we examine the same orientation-dependency of geothermal heat extraction for highly fluvial CPG operations. We use multiple realisations of highly channelized domains with control over the width, number, and straightness of the channels. We investigate the physical processes involved in CPG (such as salt precipitation, porosity-permeability changes, and pressure build-up) for these realisations.

## **Time Block Preference**

Time Block B (14:00-17:00 CET)

## References

### Acceptance of Terms and Conditions

Click here to agree

Newsletter

### **Student Poster Award**

**Primary authors:** NOROUZI, Amir Mohammad (Department of Chemical Engineering and Analytical Science, The University of Manchester, Manchester, UK); BABAEI, Masoud (University of Manchester)

**Presenter:** NOROUZI, Amir Mohammad (Department of Chemical Engineering and Analytical Science, The University of Manchester, Manchester, UK)

#### Session Classification: Poster +

**Track Classification:** (MS8) Mixing, dispersion and reaction processes across scales in heterogeneous and fractured media