

INVITATION TO THE LECTURE

OCTOBER 6, 2021

9:30

CONFERENCE ROOM

MODELLING PROCESSES IN POROUS MEDIA III: FROM POROELASTICITY TO THERMOPOROELASTICITY

Tomáš Ligurský

Institute of Geonics of the Czech Academy of Sciences, Ostrava

The Lagrangian and Eulerian saturated poroelasticity models will be extended to thermoporoelasticity ones in this talk. To start with, the skeleton and water mass balance equations will be recalled and the equilibrium equation will be derived from the balance of momentum. Energy conservation of a porous continuum will be presented and constitutive equations for the continuum will be introduced in connection with the first and the second law of thermodynamics. Complete governing equations will be established and relation between the Lagrangian and the Eulerian model will be discussed in detail.