Description of individual research project and research results achieved to date

During my time as Postdoc I worked in the project POGE – Assessing the potential for deep geothermal energy. The goal of the project was to couple hydraulic, thermal, chemical and mechanical processes in fractured geothermal reservoirs. Fluid density, heat capacity and fluid viscosity are functions of both pressure and temperature. The finite volume method (with two-point and multipoint flux approximations) is used for space discretization while time discretization was handled by novel Rosenbrock-type schemes.