Title, Name and surname
dr Marcin Moździerz

Faculty and Department
Faculty of Energy and Fuels
Department of Fundamental Research in Energy Engineering

Keywords.
mathematical modeling, CFD, numerical simulation, numerical methods, heat and mass transfer, fluid mechanics, thermodynamics, optimization, fuel cells, hydrocarbons reforming, energy

Scientific profile.
My research interests are mainly focused on mathematical modeling and numerical simulations of various processes of interest of energy engineering, fluid dynamics and heat transfer phenomena. I am especially interested in the research of fuel cells. In my work, I am using in-house codes (in Python, Matlab, C++) and various well-established commercial tools: Ansys Fluent and OpenFOAM.

Exemplary thesis titles
- Numerical optimization of a methane/steam reforming system using the entropy generation minimization method
- A solution of partial differential equations using an artificial neural network on an example of solid oxide fuel cell mathematical model

The form of conducting master's theses
Students participate in weekly meetings where the research progress and plans for the next week are presented. The meeting is organized together with other group members.