

# The Fourth National Mars Science Seminar

28.10.2022 | <https://mars.uj.edu.pl>

*Modeling the modification process of Mars' atmosphere  
using hexagonal cellular automata*

**Prof. Robert Olszewski**  
**Warsaw University of Technology**

The presentation will discuss the concept and prototype of a system that allows numerical modeling of changes in the atmosphere of Mars relevant to the terraformation process of this planet. The modeling process uses hexagonal cellular automata of varying size and iterative simulation calculations. The author will present different variants of the increase in temperature and pressure of Mars' atmosphere related to the modeling of the greenhouse gas release process and the controlled impact of a nitrogen-rich asteroid.

The work was funded by POB Research Centre Cybersecurity and Data Science of Warsaw University of Technology within the Excellence Initiative Program - Research University (ID-UB).



JAGIELLONIAN UNIVERSITY  
IN KRAKÓW

Faculty of Physics, Astronomy  
and Applied Computer Science  
Faculty of Geography and Geology