



Dr. Mantas Povilaitis – chief researcher at Lithuanian Energy Institute (LEI). Has more than 17 years experience of performing numerical research of mass and energy transfer, and studying processes related to the safety of fusion devices, hydrogen safety, turbulent combustion or/and occurring in the containments of nuclear power plants during the severe accidents. In 2013 defended his PhD thesis “Study of the Steam and Gas Mixing Processes in the Containments of Nuclear Power Plants”.

Has published more than 50 scientific publications, 22 from them in the journals indexed in Clarivate Analytics Web of Science database. Works of M. Povilaitis and his co-authors studying processes occurring in the containments of nuclear power plants during the severe accidents were awarded in 2016 with Lithuanian Academy of Sciences Algirdas Žukauskas award. In 2018 M. Povilaitis received European Technical Safety Organization Network (ETSON) award for his exceptional contribution to ETSON activities.

M. Povilaitis actively participates in the international projects, presents in international conferences. In addition to fission and fusion safety, M. Povilaitis performs research in the field of turbulent hydrogen flame propagation. In the frame of this research M. Povilaitis developed open-source turbulent combustion solver flame Foam for computational fluid dynamics toolkit Open FOAM. flame Foam fully corresponds to international state-of-the-art of practical application-oriented hydrogen combustion simulation. It is successfully employed by its authors in international projects. Solver development is continuing, more complex models are being successfully implemented. They are not suitable for practical applications; however they allow more fundamental research of combustion process, flame-turbulence interaction. Research in this area M. Povilaitis performs also in the frame of international project “Towards an improvement of safety management procedures for severe accident late phase including hydrogen and carbon monoxide mitigation and explosion risk assessment models”. He is the head of the LEI part in this project.

Results of the performed studies comprise part of the phenomenological characterization of hydrogen flame propagation under severe accident conditions, which is currently jointly performed in Europe.