Mladen Jurak

Associate Professor, Department of Mathematics,
University of Zagreb
Dr.sc. , Unversity of Zagreb, 1993

Research interest: **Mathematical Modeling and Scientific Computing**. More specifically: Mathematical models in geohydrology and reservoir engineering. Finite element and finite volume methods, object oriented numerical code. Mathematical homogenization, calculation of effective properties of heterogeneous media and materials

Recent publications:

[1] B. Amaziane, M. Jurak, A. Žgaljić Keko: *Modeling Compositional Compressible Two-phase Flow in Porous Media by the Concept of the Global Pressure*, **Comput Geosci. Vol. 18, 3-4** (2014) 297-309.
[2] B. Amaziane, M. El Ossmani, M. Jurak: *Numerical simulation of gas migration through engineered and geological barriers for a deep repository for radioactive waste*, **Computing and Visualization in Science Vol. 15, 1** (2012) 3-20.
[3] E. Ahusborde, B. Amaziane, M. Jurak: *Three-dimensional numerical simulation by upscaling of gas migration through engineered and geological barriers for a deep repository for radioactive waste* , **Geological Society, London, Special Publications, 415, first published on November 14,** (2014).
[4] A. Bourgeat, M. Jurak, F. Smaï, *On persistent primary variables for numerical modeling of gas migration in a nuclear waste repository*, **Comput Geosci Vol. 17, 2**, (2013) 287-305.
[5] B. Amaziane, M. Jurak, A. Žgaljić Keko: *Numerical Simulations of Water-Gas Flow in Heterogeneous Porous Media with Discontinuous Capillary Pressures by the Concept of the Global Pressure*, **Journal of Computational and Applied Mathematics, Vol. 236, 17,** (2012) 4227–4244.

Selected publications:

[1] B. Amaziane, M. Jurak, A. Žgaljić Keko: *Modeling Compositional Compressible Two-phase Flow in Porous Media by the Concept of the Global Pressure*, **Comput Geosci. Vol. 18, 3-4** (2014) 297-309.
[2] B. Amaziane, M. El Ossmani, M. Jurak: *Numerical simulation of gas migration through engineered and geological barriers for a deep repository for radioactive waste*, **Computing and Visualization in Science Vol. 15, 1** (2012) 3-20.
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[5] B. Amaziane, M. Jurak, A. Žgaljić Keko: *Numerical Simulations of Water-Gas Flow in Heterogeneous Porous Media with Discontinuous Capillary Pressures by the Concept of the Global Pressure*, **Journal of Computational and Applied Mathematics, Vol. 236, 17,** (2012) 4227–4244.