Aleksandr O. Vasilev

North-Eastern Federal University
42, Kulakovskogo
677000 Yakutsk, Russia

Phone: +7-924-1734045
Email: haska87@gmail.com

Personal

Born on April 26, 1987

Russian Federation Citizen

English: Pre-Intermediate

Computer skills

Programming languages: C/C ++, Python

Libraries: MPI (Parallelization), FEniCS (FEM), PETSc, SLEPc (Algebra), VTK (Visualisation)

Applications: NETGEN (Mesh generation), GMSH (Mesh generation), Paraview (Visualisation)

Operating systems: Ubuntu (Linux), Mac OS, Windows OS

Education

M.Sc. in applied mathematics, North-Eastern Federal University, 2011.

Ph.D. in applied mathematics, North-Eastern Federal University, 2018.
Subject: Numerical modeling of neutron diffusion dynamics in a nuclear reactor.

Employment

Programmer, ITERA LLC, Yakutsk, 2011-2011

Specialist Expert, Pension Fund of the Russian Federation, Yakutsk, 2011–2012

Associate Researcher, North-Eastern Federal University, Yakutsk, 2012–2014

Lead Engineer, North-Eastern Federal University, Yakutsk, 2014–2016

Engineer programmer, Nuclear Safety Institute of the RAS, Moscow, 2015–present

Senior Researcher, North-Eastern Federal University, Yakutsk, 2017–present

Research interests

Numerical methods

Multiphysics problems

Spectral problems

Reduction methods

Parallel algorithms

Applied modeling

Neutron diffusion in a nuclear reactor

Medicine problems

Awards

Scholarship of the President of the Russian Federation 2018

Publications

Books

1. N.M. Afanasyeva, M.Yu. Antonov, V.S. Borisov, A.V. Grigoriev, A.E. Kolesov, P.A. Popov, I.K. Sirditov, A.O. Vasilev, M.V. Vasilieva, P.E. Zakharov edited by P.N. Vabishchevich. Computational Technologies. Advanced Topics. Moscow: LENAND, 2017.

Selected articles

1. Avvakumov A. V., Strizhov V. F., Vabishchevich P. N., Vasilev A.O. State change modal method for numerical simulation of dynamic processes in a nuclear reactor // Progress in Nuclear Energy. – 2018. – Vol. 108. – P. 240-261.
2. Vabishchevich P.N., Vasilév A.O. Time step selection for the numerical solution of boundary value problems for parabolic equations // Computational Mathematics and Mathematical Physics. – 2017. – Vol. 57. – P. 843-853.
3. Avvakumov A. V., Strizhov V. F., Vabishchevich P. N., Vasilev A.O. Spectral properties of dynamic processes in a nuclear reactor // Annals of Nuclear Energy. – 2017. – Vol. 99. – P. 68-79.
4. Avvakumov A.V., Vabishchevich P.N., Vasil'ev A.O., Strizhev V.F. Numerical modeling of neutron diffusion non-stationary problems // Matematicheskoe Modelirovanie. – 2017. – Vol. 29 (7). – P. 44-62.
5. Avvakumov A. V., Strizhov V. F., Vabishchevich P. N., Vasilev A.O. Solution of the 3D Neutron Diffusion Benchmark by FEM // International Conference on Large-Scale Scientific Computing. – Springer, Cham, 2017. – P. 435-442.
6. M. Yu. Antonov, A.V. Popinako, G.A. Prokopiev, A.O. Vasilyev. Numerical Modelling of Ion Transport in 5-HT3 Serotonin Receptor using molecular dynamics // International Conference on Numerical Analysis and Its Applications, Springer. – 2016. – Vol. 10187. – P. 195-202.
7. Vasilyev A., M. Yu. Antonov, Popinako A. et al. MD simulation of dynamics and transport in 5-HT3 receptor // The Febs Journal. 2015. – Vol. 282. – P. 402-402.