Andrei Chertkov

Date of birth June 1, 1990
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EDUCATION

2014 – up to present, Ph.D. student.
Skolkovo Institute of Science and Technology.
Work theme. "Tensor methods for multiscale problems". Supervisor Prof. Ivan Oseledets.

2014, Master's degree with honors.
Moscow Institute of Physics and Technology.
Work theme. "Optimizing of anti-Compton protection for large gamma-ray detector made of liquid scintillator LAB".

2014, Internal graduation work (the project proposal).
Department of Technological Entrepreneurship RUSNANO.
Work theme. "Development and analysis of prospects for commercialization of devices for the automatic detection of hidden explosives and drugs".

2012 – 2014, Master's student.
Moscow Institute of Physics and Technology.
Faculty of General and Applied Physics.
Department of Technological Entrepreneurship RUSNANO.

2012, Bachelor's degree with honors.
Voronezh State University.
Work theme. "New methods for band structure calculations of nanotubes".

2010 – 2012, Undergraduate student.
Voronezh State University.
Faculty of Physics.
Department of Solid State Physics and Nanostructures.

2007 – 2010, Undergraduate student.
Moscow Institute of Physics and Technology.
Faculty of General and Applied Physics.
Department of Theoretical Physics Problems.

ACHIEVEMENTS

2015 – up to present, Grant of the Ministry of Education and Science of RF.
Responsible executor and manager of the grant "QTT technology for multiscale problems" (joint work with the group of Prof. C. Schwab, ETH Zurich).

2013, Traineeship in the United States.
The two-week traineeship «StartUp Access» at MIT (Massachusetts Institute of Technology).

2013, Diploma at the Russian Championship finals.
Championship (Global Management Challenge) in strategy and business management.

2007, Diploma at the Russian Championship finals.
National Olympiad in Physics.

2005, Candidate Master of Sports in acrobatics.

Work experience

2013 – 2014, Engineer at All-Russia Research Institute of Automatics (ROSATOM).
Development (mathematical modeling, experimental data processing, etc.) in the field of new technologies of radiation detectors, and detectors of explosives and drugs.

2012 – 2013, Engineer and project Manager at "FM Lab" company.
Development of the new rechargeable lithium-air power cells.

2007 – 2010, Teacher at Extramural School of Engineering and Physics at MIPT.

Publications

2016, *A. V. Chertkov, I. V. Oseledets, M. V. Rakhuba, "Robust discretization in quantized tensor train format for elliptic problems in two dimensions", arXiv:1612.01166 [math.NA].*

2016, *I. V. Oseledets, M. V. Rakhuba, A. V. Chertkov, "Black-box solver for multiscale modelling using the QTT format", Proc. ECCOMAS, Crete Island, Greece.*

2015, *M. V. Kosov, A. V. Chertkov, "Statistical analysis of the Neumann-Pirson detection criterion for random quantities obeying a Poisson distribution", Instruments and Experimental Techniques.*

2012, *A. V. Chertkov, N. S. Pereslavtseva, O. I. Dubrovskii, S. I. Kurganskii, "Linearized augmented cylindrical waves method for calculation of the band structure of nanotubes", Condensed matter and interphases.*

Talks

***2016**, "Quantized Tensor Train Decomposition for Multiscale Modeling", 1st Annual Workshop of Skoltech/MIT Next Generation Program, Russia.*

***2016**, "Black-box solver for multiscale modelling using the QTT format", ECCOMAS congress, Greece.*

***2015**, "A Tensor train approximation in active subspace variables with application to parametric partial differential equations", 4th International Conference on Matrix Methods in Mathematics and Applications, Russia.*

Skills

- *Numerical methods in linear algebra, especially, low-parametric representations (tensor networks) in fields of high-dimensional problems, multiscale problems and data mining.*
- *Advanced Python (and a list of python packages), basic C++ / Fortran / MATLAB.*
- *Basic web development (Django and Tornado frameworks, html, css, js); project management.*
- *Solid State Physics packages (WIEN2k, Gaussian), Electrochemical packages (EC-Lab), Nuclear physics packages (Geant4).*

December, 2016
Andrei Chertkov