Oleg Ovcharenko

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CONTACTS

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INTERESTS

Geophysics & Machine Learning

Inverse Problems, Machine Learning, Numerical Modeling, Entrepreneurship

EDUCATION

King Abdullah University of Science and Technologies, Saudi Arabia

PhD Candidate in Computational Geophysics, GPA: 3.61/4.00 2016 - now

Research is focused on extrapolation of geophysical data using Machine Learning methods (Advisor: Professor Daniel Peter)

Paris VII Diderot, **Institut de Physique du Globe de Paris**, France

M.Sc., Exploration geophysics, GPA: 14.15/20.00 2014 - 2015

Thesis: An accurate finite difference operator for synthetic seismogram calculation for 2D transversely isotropic elastic media with regular meshing. (Advisors: Professor Nobuaki Fuji and Dr. Roland Martin)

Lomonosov Moscow State University, Russia

M.Sc., Physics, GPA: 4.0/5.0 2009 - 2014

Thesis: Analytical solutions for viscous flow in the lithosphere subject to exogenous processes and isostasy. (Advisor: Dr. Yuriy L. Rebetskiy)

WORK EXPERIENCE

Intern at KAUST Innovation Fund, Thuwal, Saudi Arabia 2017
- Participated in planning of the Arabian Venture Forum

Engineer at department of Tectonophysics, IPE RAS, Moscow, Russia 2013 - 2014
- Reconstructed stress state in the crust of Western Europe using method of Cataclastic Analysis of Discontinuous Displacements
- Published a paper based on this work

FIELD EXPERIENCE

Geophysical **field training** in Chambon la Foret with GPX of IPGP Oct 2014
- Acquired seismic data using industrial geophones and software
- Final report on Green's Function Retrieval Using Active Interferometry

Geological-geophysical **expedition** to North Caucasus, IPE RAS Jun 2013
- Collected rock samples
- Measured tectonophysical features with geological compass

TEACHING EXPERIENCE

Tutor in physics and math for high-school students 2010 - now

PROGRAMMING, OS AND MARKUP

Python, Matlab, C LaTeX, HTML, CSS, Git
TensorFlow, Keras, PETSc Mac OS, Unix, Windows

SELECTED COURSEWORK

Computational Geophysics (ErSE390C, Prof. Daniel Peter), **Introduction to HPC** (AMCS312, Prof. David Keyes), **Inverse Problems** (ErSE213, Prof. Ibrahim Hoteit), **Machine Learning** (CS229, Prof. Xiangliang Zhang), Technology **Innovation and Entrepreneurship** (EID210, Prof. Gordon McConnell)

Languages

Russian	Native	**French**	Intermediate
English	Fluent	**Arabic**	Elementary

Honors and Awards

KAUST-NVIDIA GPU Hackathon, won 1st award 2018
EAGE GeoQuiz, won 3rd award out of 37 teams worldwide 2017
KAUST PhD Fellowship, annual funding of 70k$, Saudi Arabia 2016 - 2020
GPX Fellowship from IPGP and MINES ParisTech, France 2014 - 2015

Certificates

Cornell Graduate School of Management
Certificate in Entrepreneurship 2018

Volounteering

Enrichment Programs at KAUST 2016 - now
Charity fund ”Podari Zhizn” activities 2017 - now

Leadership

President of SEG Student Chapter at KAUST 2017
In charge of public transportation cards in Student Union at MSU 2011 - 2014

Hobby

Brazilian Jiu-Jitsu, golf, guitar

Journal articles

1. Variance-based model interpolation for improved full-waveform inversion in the presence of salt bodies
   O Ovcharenko, V Kazei, D Peter, T Alkhalifah
   GEOPHYSICS 2018
2. Present stress field of the crust in South-West Europe and Mediterranean Sea
   Rebetskiy, Yu., Ovcharenko, O., Savvichev, P.
   Bulletin of Kamchatka Regional Association ”Educational-Scientific Center”. Earth Sciences, No. 2(24) 2014.

Selected conference papers

1. Low-frequency data extrapolation using feed-forward ANN 2018
   O Ovcharenko, V Kazei, D Peter, T Alkhalifah
   80th EAGE Conference and Exhibition 2018
2. Feasibility of moment tensor inversion for a single-well microseismic data using neural network 2018
   O Ovcharenko, J Akram, D Peter
   GEO 2018 Conference and Exhibition
3. Neural Network Based Low-Frequency Data Extrapolation 2017
   O Ovcharenko, V Kazei, D Peter, T Alkhalifah
   SEG FWI Workshop, Manama, Bahrain, 2017
4. A robust neural network-based approach for microseismic event detection 2017
   J Akram, O Ovcharenko, D Peter
   SEG Technical Program Expanded Abstracts 2017, 2929-2933
5. Variance-based Salt Body Reconstruction 2016
   O Ovcharenko, VV Kazei, D Peter, T Alkhalifah
   79th EAGE Conference and Exhibition 2017
6. Simple and accurate operators based on Taylor expansion for 2D elastic seismogram calculation under geological discontinuities with regular Cartesian grids 2016
   N Fuji, O Ovcharenko, R Martin, C Cuvilliez
   78th EAGE Conference and Exhibition 2016-Workshops

References

Available upon request