Oleg Ovcharenko

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INTERESTS Seismic wave simulation, full-waveform inversion, natural stress state reconstruction, HPC, machine learning

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EDUCATION

King Abdullah University of Science and Technologies, KSA

PhD student at Seismic Modeling and Inversion group, 2016 - now

Affiliated to Earth Science and Engineering department (ErSE) and Extreme Computing Research Center (ECRC)
Advisor: Prof. Daniel Peter

GPA: 3.67/4.00

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

M.Sc., Exploration geophysics, 2014 - 2015

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

GPA: 14.15/20.00 (Magna Cum Laude), Ranked #1 Master thesis

Lomonosov Moscow State University, Russia

M.Sc., Physics, 2009 - 2014

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

GPA: 4.0/5.0

LANGUAGES

Russian	Native
English	Fluent
French	Intermediate

PROGRAMMING Python, Matlab, C/C++, Fortran

LIBRARIES AND FRAMEWORKS Tensorflow, Keras, PyTorch, Pandas, PETSc, etc.

SELECTED COURSEWORK **Computational Geophysics** (ErSE390C, Prof. Daniel Peter), **Introduction to HPC** (AMCS312, Prof. David Keyes), **Inverse Problems** (ErSE213, Prof. Ibrahim Hoteit), **Machine Learning** (*in progress* CS 229, Prof. XiangLiang Zhang), Technology **Innovation and Entrepreneurship** (EID210, Gordon McConnell)

Field Experience

Geophysicsl **field training** in Chambon la Foret with GPX of IPGP — Oct 2014

Seismic data acquisition using industry geophones and software
Final report: Green′s Function Retrieval Using Active Interferometry

Geological-geophysical **expedition** to North Caucasus, IPE RAS — Jun 2013

Collecting rock samples
Measuring tectonophysical features with geological compass

Research Experience

Engineer — 2013 - 2014

Laboratory of Tectonophysics,
The Schmidt Institute of Physics of the Earth of the Russian Academy of Sciences (IPE RAS)
Supervisor: Dr. Yuriy L. Rebetskiy, Head of lab.

Teaching Experience

Tutor — 2010 - 2016

Physics, math, informatics and chemistry for high-school

Honors and Awards

KAUST PhD Fellowship, Saudi Arabia — 2016 - 2020

GPX scholarship for the International Master of Research in Exploration Geophysics at IPGP and MINES ParisTech, France — 2014 - 2015

Conference and Journal Articles

1. Variance-based salt body reconstruction for improved full-waveform inversion
   O Ovcharenko, V Kazei, D Peter, T Alkhalifah
   Under review for publication in Geophysics

2. Neural Network Based Low-Frequency Data Extrapolation — 2017
   O Ovcharenko, V Kazei, D Peter, T Alkhalifah
   SEG FWI Workshop, Manama, Bahrain, 2017

3. 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

4. Variance-based Salt Body Reconstruction — 2016
   O Ovcharenko, VV Kazei, D Peter, T Alkhalifah
   79th EAGE Conference and Exhibition 2017

5. 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

6. Present stress field of the crust in South-West Europe and Mediterranean Sea 2014
   Rebetskiy, Yu., Ovcharenko, O., Savvichev, P.
   Bulletin of Kamchatka Regional Association "Educational-Scientific Center". Earth Sciences, No. 2(24), 2014.

REFERENCES

Available upon request