Darya Stepanenko

Curriculum vitae

✍ Okinawa, Japan
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Scientific Experience

May 2018 - now, Japan
Biological Complexity Unit
Okinawa Institute of Science and Technology
The project aims to model binding process between the transcription factors and DNA due to far-range interactions between transcription factor and the base composition around binding DNA. GitHub

Skills covered: BioPython package, alignment tools, HPC cluster, weblogo, fastx_toolkit.

September 2018 - now, Japan
Biological Systems Unit
Okinawa Institute of Science and Technology
Project targets to analyze a electrogenic bacterial community in dependence of the nutrient supply and time.

Skills covered: MG-Rast tool.

January – May 2018, Japan
Theory of quantum matter Unit
Okinawa Institute of Science and Technology
Using Monte Carlo numerical simulation we showed on a simplified model that protein folding is not an equilibrium process. GitHub

Skills covered: Monte Carlo simulation.

September – December 2017, Japan
Bioinspired Soft Matter Unit
Okinawa Institute of Science and Technology
We implemented particle-tracking microrheology for monitoring the response of the cell to the membrane-targeted molecular self-assembly. GitHub

Skills covered: particle tracking technique, confocal microscopy, image analysis with IDL software.

2016 – 2017, Moscow, Russia
Laboratory of Tissue Engineering
Shumakov National Medical Research Center of Transplantology and Artificial Organs
We modified artificial extracellular matrix for medical tissue engineering purposes.

Skills covered: atomic force microscopy, scanning electron microscopy, chromatography, mass-spectrometry.

Publications

- Influence of the type and the concentration of the plastificator on the surface topology of a biodegradable polymer. Russian Journal of Transplantology and Artificial Organs. 2017;19(s):190 (In Russian)

Education

2017 – now **PhD**
Okinawa Institute of science and technology

2013 – 2017 **Bachelor of Science**
Applied Mathematics and Physics, Moscow Institute of Physics and Technology

Conferences and schools

2018 **Conference Regulatory and Systems Genomics**
NYU Langone Health, USA
Poster: Alternative mechanical way to track the path of cancer cells

2018 **Bioinformatics summer school**
University of Angers, France
School program: overview of tools used for tackling problems of protein folding, metagenomes and proteomes data analysis, SNP detection.

2018 **4th Asia-Pacific Coral Reef Symposium**
Cebu City, Philippines
Poster: Corals, kayaks and citizen science

2017 **National Congress Transplantation and organ donation**
Moscow, Russia

2016 **School Biophysical Methods in Neuroscience**
Bogomoletz Institute of Physiology, Ukraine
School program: electrophysiology and confocal microscopy techniques.

2015 **Fieldwork Biological School**
White Sea Biological Station, Russia
One-month mastering the principles of field work with biological objects such as plants, animals, as well as microorganisms, in the sea and littoral-zone

Work Experience

2016 – 2017 **Developer of online mathematics courses for students**
Education company Uchi.ru
Moscow, Russia

2015 – 2017 **Science journalist**
Moscow Institute of Physics and Technology
Moscow, Russia.

Popular science publications

- How do bionic prostheses work. Popular Mechanics. 2016; 2 (In Russian) web link
- How does the human body grow old? Gazeta.ru. 2016; May (In Russian) web link
- Simple things about the complex: will the machines feel? Theory and Practice. 2016; May (In Russian) web link

Communication skills

Russian	mother tongue
English	TOEFL 101, September 2018
Japanese	beginner

Software skills

Python, High Performance Computing cluster user, LaTeX, gnuplot, R