Svetlana Volkova

CURRICULUM VITAE

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PERSONAL INFORMATION

Born 26 November 1993 in Khabarovsk, Russia
Nationality: Russian
Languages: Russian, English
Now I live in Copenhagen, Denmark

EDUCATION

2017-Now	**Novo Nordisk Foundation Center for Biosustainability (DTU Biosustain) Denmark** **NNF Copenhagen Bioscience PhD programme** PhD student 2017-2018, Pre-doc year student (Research Assistant)	
2015 - 2017	**Skolkovo Institute of Science and Technology (Skoltech), Skolkovo** Biomedical Science and Technology Programme Master of Science in Biotechnology Language of instruction - English Diploma with honours	**GPA 5.0/5.0**
2011 - 2015	**Lomonosov Moscow State University, Moscow** Biological Faculty, Division of Biophysics and Bioengineering Bachelor of Science in Biology Diploma with honours	**GPA 4.9/5.0**

RESEARCH EXPERIENCE

2017 - Now	**Novo Nordisk Foundation Center for Biosustainability (DTU Biosustain), Denmark** Supervisor: Prof. Lars Keld Nielsen PhD project is aimed at metabolomics data analysis with the help of mechanistic model to explain the metabolism of Red Blood Cells and aberrant metabolic phenotype, anaemias. I construct kinetic models, perform data integration and analysis. Big part of my project is dedicated to Bayesian models creation and inference.
2016 - 2017	**Center for Translational Biomedicine, Skoltech, Skolkovo** Supervisor: Prof. Yuri Kotelevtsev Master thesis: Validation of Egr2 as a target for RNAi based suppression of liver fibrosis.
2014 - 2015	**Cellular Neurobiology of Learning Lab, Institute of Higher Nervous Activity and Neurophysiology of RAS, Moscow** Supervisor: Kolosov PM, PhD Bachelor Thesis: Deep sequencing-based identification of immediate-early genes set during activation of central nervous system of Helix lucorum.
2012-2014	**Confocal Microscopy Lab, Lomonosov Moscow State University, Moscow** Supervisor: Moisenovich MM, PhD Project: Silk fibroin application in tissue regeneration and 3D culturing

INDUSTRY EXPERIENCE

May 2016 - December 2016	**BostonGene, Boston MA, USA (Moscow office)** Bioinformatician, Analyst Responsibilities: SNP/indels calling based on NGS data, variant filter (false positive variants detection) development and usage, variant annotation, tumor neoantigen detection pipeline development

HONORS, AWARDS, SCHOLARSHIPS

March 2019	3rd Advanced Lecture Course on Computational Systems Biology fellowship, selected short talk, Aussois
April 2017	PhD fellowship, Copenhagen Bioscience PhD programme, Novo Nordisk Foundation
September 2016	Academic Excellence Award, Skoltech
September 2013	Heightened state scholarship for the scientific achievements, MSU

TECHNICAL SKILLS

I do metabolic modelling on every day basis. It involves data cleaning, handling, statistical test usage and visualisation, creation of mechanistic models and data integration. For these activities one need a range of programming skills and several programming languages usage. Below, you can find the keywords that can give you a better idea of typical work I do.

Computer skills	Unix, R, python, Matlab, statistics, exploratory data analysis, data visualization, Bayesian inference (PyMC3), Approximate Bayesian Computation, MCMC, pandas, scipy
Metabolic modelling	Metabolic kinetic modelling, Metabolic Control Analysis, CobraPy, Flux Balance Analysis, Metabolic Flux Analysis
NGS bioinformatics	Transcriptome assembly, transcriptome reads mapping, differential gene expression analyses, pathway/GO enrichment analyses, annotation Exome reads mapping, SNP/indels calling and filtering based on NGS data, variant annotation, variants manual revision, neoantigen peptide identification
Analytical chemistry	Chromatography, Mass Spectrometry, LC-MS, HPLC
Communication	MS Powerpoint, Adobe Illustrator, Twitter
Lab biology	**My interests now lie in the area of metabolic modeling and do not require the usage of vlassical molecular and cell biology techniques. However, I have a strong experience in such work that gives me a good feeling about work performed around me and helps in collaboration with both wet-lab and dry-lab colleagues, especially while looking for the "translation".**
Molecular biology	Isolation of RNA, DNA, PCR, qPCR, cloning, Gibson assembly, agarose gel electrophoresis, PAGE
Microbiology	Media preparation and usage, aseptic and sterile techniques, plating methods, bacterial staining
Animal cell culture	2D, 3D cell culturing, cells transfection: electroporation, lipofection, cells fixation and staining
Histology	Basic histological skills: fixation, paraffin embedding, sectioning, immunohistochemistry
Animals	Mice – injections, handling

CONFERENCES

Selected talk, presentation: Towards personalized mechanistic models of red blood cell metabolism// CompSysBio, Advanced Lecture Course on Computational Systems Biology, Aussois, March 2019

RESEARCH PUBLICATIONS Google scholar link

- Chromosomal barcoding as a tool for multiplexed phenotypic characterization of laboratory evolved lineages / Leonie Johanna Jahn, Andreas Porse, Christian Munck, Daniel Simon, **Svetlana Volkova**, Morten Otto Alexander Sommer // Scientific reports - 2018. doi:10.1038/s41598-018-25201-5

- Adaptive changes in the vestibular system of land snail to a 30-day spaceflight and readaptation on return to Earth / Nikolay Aseyev, Aliya Vinarskaya, Matvey Roshchin, Tatiana A. Korshunova, Aleksey Malyshev, Alena Zuzina, Victor N. Ierusalimsky, Maria Lemak, Igor S. Zakharov, Ivan A. Novikov, Peter Kolosov, Ekaterina Chesnokova, **Svetlana Volkova**, Artem Kasianov, Leonid Uroshlev, Yekaterina Popova, Richard D Boyle, Pavel M. Balaban // Frontiers in Cellular Neuroscience - 2017. doi: 10.3389/fncel.2017.00348
- Composite scaffolds containing silk fibroin, gelatin, and hydroxyapatite for bone tissue regeneration and 3d cell culturing / M. M. Moisenovich, A. Yu. Arkhipova, A. A. Orlova**,** M. S Drutskaya, **S. V. Volkova**, S. E. Zacharov, I. I. Agapov, M. P. Kirpichnikov// Acta naturae - 2014. PMID: 24772332
- Gelatin concentration impact in composite silk fibroin-based scaffolds on mouse embryonic fibroblasts adhesion and proliferation / A. Orlova, M. Kotlyarova, V. Lavrenov, **S. Volkova**, A. Arkhipova //Bull Exp Biol Med. - 2014 (In Russian). doi: 10.1007/s10517-014-2699-2