CURRICULUM VITAE
VIKTORIAN MIOK

Personal Information

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Summary

Committed and highly motivated postdoctoral researcher in the field of Bioinformatics. Comprehensive understanding of quantitative and integrative analysis of complex biological datasets. Dedicated team player and collaborator in interdisciplinary settings. Eager to use my skills and passion to improve and develop algorithms for the analysis and visualisation of omics data in order to generate actionable biological insights, discover molecular targets and identify mechanisms and biomarkers.

Academic Experience

02/2019- **Postdoctoral Researcher in Bioinformatics**, Institute for Diabetes & Obesity, German Center for Diabetes Research, Helmholtz Center Munich, Germany

• Development of methodology to decipher molecular control of cell state transitions in cell to cell communication models, under different nutrition availability using scRNA-seq data.
• Developed Python pipelines for analysis of single-cell transcriptome data.
• Developed R package and Shiny application for machine learning analysis and visualisation of cellular spatial point patterns.
• Performed consultation providing statistical and bioinformatics data analysis for various projects aiming to investigate development of diabetes and obesity.

09/2017-09/2019 **Bioinformatician**, Victor Babes University of Medicine and Pharmacy Timisoara, Timisoara, Romania

• Bioinformatics support at the at the Department of Biochemistry and Pharmacology.
• Analysed the genomics, transcriptomics and metabolomics data aiming to investigate long non-coding RNAs (IncRNAs) in biological fluids, in order to identify the potential biomarkers.
• Together with the members of the group we worked in a number of collaborative projects with other departments.

01/2012-10/2016 **Doctoral Researcher in Bioinformatics**, Department of Epidemiology & Data Science, Amsterdam Public Health Research Institute and Department of Pathology, Amsterdam University Medical Center, Amsterdam, The Netherlands

• Theoretical analysis and software implementation of univariate and multivariate statistical machine learning methodology for temporal integrative differential expression analysis (tigaR R-package) and reconstruction of dynamic regulatory networks (rags2ridges R-package).
• Developed statistical design of the experiments, performed state of the art data preprocessing and analysed data sets employing developed methodology for temporal integration of multilevel molecular (DNA copy number, methylation, mRNA and microRNA gene expression) omics data
• Worked in close collaboration with the biomedical researchers and regularly presented research findings to the mixed audience.

10/2010-12/2011 **Research Fellow in Statistics** Faculty of Mathematics and Computer Sciences, University of Bucharest, Bucharest, Romania

• Worked on theoretical background of Bayesian statistics and various regression models for analysing biomedical and clinical data.
• Performed simulation studies in order to implement theoretical results and compare with different statistical software for analysing the data.

11/2011-12/2012 **Visiting Researcher** Faculty of Science, Louvain School of Statistics, Biostatistics and Actuarial Sciences, Université catholique de Louvain, Louvain-la-Neuve, Walloon Region, Belgium

• Worked at the Louvain School of Statistics, Biostatistics and Actuarial Sciences on the project: ”Least squares estimation in presence of right-censored selection biased data”.

Industry Experience

09/2017-01/2019
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Bioinformatics Engeneer,
Seven Bridges, Belgrade, Serbia

• Part of the team working on Seven Bridges and Cancer Genomics Cloud platforms, one of the most advanced cloud-based environment for conducting bioinformatic analysis and storage of large genomics data sets.
• Development, optimisation and implementation of end-to-end tools and pipelines on AWS and Google cloud infrastructure, that allow automatisation of the analysis and visualisation of large and complex omics NGS data sets.
• Benchmarked common bioinformatics tools in terms of performance, usability and computation costs, as well as, worked on product improvements and conducted analyses of genomics data.

08/2009-08/2010

SAS Analyst,
Cmed Clinical Services, Timisoara, Romania

• SAS programming for both production and QC of derived datasets, data listenings, data summaries, figures and statistical appendices for global Phase I-IV trials.
• Responsible for the accuracy of SAS programs by reviewing output, reviewing code, reviewing log files and running all checking utilities.
• Responsible for the quality and timeliness of programming deliverables, while providing SAS programming support for all data management activities performed by Cmed.

Teaching Experience

09/2018-01/2019
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Teaching Assistant,
Department of Functional Sciences, Victor Babes University of Medicine and Pharmacy, Timisoara, Romania

• Course: Biostatistics
Teaching practical part of the courses.

• Course: Medical Informatics
Teaching practical part of the courses.

02/2016-07/2016
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Teaching Assistant,
Faculty of Medicine, VU University Amsterdam, The Netherlands

• Course: Biostatistics
Guided medical students in their practical work using software SPSS.

08/2008-10/2008

Teacher of Mathematics,
Economical High School Jovan Trajković, Zrenjanin, Serbia

• Course: Mathematics
Teaching mathematics the high school students.

Education

01/2012- 09/2018 .	**Doctorate in Computational Biology**, VU University Amsterdam, Amsterdam, The Netherlands, PhD Thesis: **"Comprehensive molecular characterisation of HPV-induced transformation by longitudinal statistical modelling".** Advisor: Dr. Wessel van Wieringen and Prof. Dr. Mark van de Wiel
10/2016-07/2017	**Master in Business Administration and Management**, West University of Timisoara, Timisoara, Romania
09/2008-07/2010	**Master in Statistics**, West University of Timisoara, Timisoara, Romania, Master Thesis: **"Bayesian statistics and applications.** Advisor: Dr. Ilie Stan
09/2004-07/2008	**Diploma in Mathematics**, University of Belgrade, Belgrade, Serbia

Selected Publications

• Monroy Kuhn, J.M., **Miok, V.**, Lutter, D. (2021), **"Correlation guided Network Integration (CoNI) of omics data generates multiform graph representation to study molecular interaction networks"**, Submitted.

• Suwandhi, L., Altun, I., Karlina, R., **Miok, V.**, ... Theis, F. J., Ussar, S. (2021), **"Asc-1 regulates white versus beige adipocyte fate in a subcutaneous stromal cell population"**, Nature communications, 12(1), 1-12.

• Karlina, R., Lutter, D., **Miok, V.**, Fischer, D., ... Cypess, A.M., Ussar, S. (2021), **"Identification and characterization of distinct brown adipocyte subtypes in C57BL/6J mice"**, Life science alliance, 4(1).

• Babion, I., **Miok, V.**, Jaspers A., ... van Wieringen, W.N., Wilting, S.M. (2020), **"Identification of Deregulated Pathways, Key Regulators, and Novel miRNA-mRNA Interactions in HPV-Mediated Transformation"**, *Cancers*, 12(3), 700.

• **Miok, V.**, Wilting, S.M., van Wieringen, W.N. (2019), **"Ridge estimation of network models from time-course omics data"**, *Biometrical Journal*, 61(2), 391-405.

• **Miok, V.** (2018), **"Comprehensive molecular characterisation of HPV-induced transformation by longitudinal statistical modelling"**, *Ph.D. Thesis, VU University of Amsterdam*.

• **Miok, V.**, Wilting, S.M., van Wieringen, W.N. (2017), **"Ridge estimation of the VAR(1) model and its time series chain graph from multivariate time-course omics data"**, *Biometrical Journal*, 59(1), 172-191.

• Wilting, S.M., **Miok, V.**, Jaspers, A., ... Snijders, P.J.F., Steenbergen, R.D.M. (2016), **"Aberrant methylation-mediated silencing of microRNAs contributes to HPV-induced anchorage independence"**, *Oncotarget*, 7(28), 43805-43819.

• **Miok, V.**, Wilting, S.M., Van de Wiel, M.A., ... Steenbergen, R.D.M., Van Wieringen, W.N. (2014), **"tigaR: integrative significance analysis of temporal differential gene expression induced by genomic abnormalities"**, *BMC Bioinformatics"*, 15, 327.

Conference and Workshop Presentations

11/2019	Helmholtz Diebetes Seminars, München, Germany
06/2017	The Annual International Conference of the Romanian Society for Biochemistry and Molecular Biology, Timisoara, Romania
03/2017	Bioinformatics for Aging Seminar Series, Bucharest, Romania
02/2016	Statistical Methods for Post Genomic Data (SMPGD) Conference, Lille, France
08/2015	International Society of Clinical Biostatistics (ISCB) Annual Conference, Utrecht, The Netherlands
06/2015	Integration Meeting, Delft, The Netherlands
04/2015	International Biometrics Society, Nijmegen, The Netherlands
04/2014	Netherlands Bioinformatics Centre (NBIC) Conference, Lunteren, The Netherlands
11/2013	Hexa-Symposium, Hasselt University, Hasselt, Belgium
10/2011	The ISCB Cross-Border Biostatistics Meeting, University of Szeged, Hungary

Miscellaneous

Languages:	**Romanian** (native or bilingual proficiency), **Serbian** (native or bilingual proficiency), **English** (professional working proficiency), **Russian** (elementary proficiency)
Technical skills:	• *Currently I use:* **R, Python, git, bash, Docker, Jupyter, LaTeX, HPC** • *Used before:* **SAS, SPSS, CWL, AWS, Google Cloud** • *Familiar with:* **C, C++, JavaScript, Mathematica, mySQL.**

Side Activities

01/2011-01/2013	Member of the International Society for Clinical Biostatistics (ISCB), Romanian National Group
05/2008-	Member of Society of Romanian Minority in Serbia
Workshops:	Presentation skills, Team building.
Organiser:	Summer school of Japanese language and culture - Timisoara, Romania. Conference and events - ASCOR Timisoara, Romania Festivals and travelling for GIK-Banat folk-dance school, Zrenjanin, Serbia.
Sports:	I like to play football and basketball for fun.
Dancing:	I attended dance lessons