

SERGEY ISAEV

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[LinkedIn](#) · [Google Scholar](#) · [GitHub](#)

Current positions PhD student at the Medical University of Vienna

Research interests Bioinformatics · Single-cell genomics · Oncoimmunology

EDUCATION

- 2022 — PhD in neuroscience, Center for Brain Research, **Medical University of Vienna**, Vienna, Austria
- 2015-2021 Specialist degree, Bioengineering and Bioinformatics, Faculty of Bioengineering and Bioinformatics, **Moscow State University**, Moscow, Russia

RESEARCH EXPERIENCE

- 2022 — Project "Reconstruction of neural crest-derived cells' fates during mouse embryogenesis", **Medical University of Vienna**, Vienna, Austria
Supervisor: Igor Adameyko, Medical University of Vienna and Karolinska Institute
- 2021 — Project "Systematic comparison of multimodal single-cell omics integration methods", **National Medical Research Center for Endocrinology**, Moscow, Russia
Supervisor: Peter Kharchenko, Harvard Medical School
- 2021-2022 Project "Thymic mesenchymal niche cells and their role in T cell immune regeneration", **National Medical Research Center for Endocrinology**, Moscow, Russia
Supervisor: Peter Kharchenko, Harvard Medical School
- 2020-2021 Project "Analysis of interactions between follicular lymphoma and its microenvironment using scRNA-Seq", **BostonGene**, Moscow, Russia
Supervisors: Alexander Bagaev, BostonGene, and Mikhail Gelfand, Institute for Information Transmission Problems of Russian Academy of Science
- 2018-2019 Project "Circular DNA in *Dicyema sp.* genome", **Institute for Information Transmission Problems of Russian Academy of Sciences**, Moscow, Russia
Supervisor: Yuri Panchin, Institute for Information Transmission Problems of Russian Academy of Sciences
- 2018 Project "Metagenomic study of eukaryotic microbiota of meromictic lakes on the coast of Kandalaksha Bay of the White Sea", **White Sea Biological Station of Lomonosov Moscow State University**, Republic of Karelia, Russia
Supervisor: Elena Krasnova, White Sea Biological Station of Lomonosov Moscow State University

PUBLICATIONS

- Oct 2022 Gustafsson K, **Isaev S**, Kooshesh KA, et al. Thymic mesenchymal niche cells drive T cell immune regeneration. *bioRxiv* doi:10.1101/2022.10.12.511184
- Aug 2022 Mihecheva N, Postovalova E, Lyu Y, . . . , **Isaev S**, et al. Multiregional single-cell proteogenomic analysis of ccRCC reveals cytokine drivers of intratumor spatial heterogeneity. *Cell reports* doi:10.1016/j.celrep.2022.111180

- Jun 2022 Han G, Deng Q, Dai E, . . . , **Isaev S**, et al. Follicular lymphoma microenvironment characteristics associated with tumor cell mutations and MHC class II expression. *Blood cancer discovery* doi:10.1158/2643-3230.BCD-21-0075
- Jun 2022 Radtke A, Postovalova E, Varlamova A, . . . , **Isaev S**, et al. A Multi-scale, Multiomic Atlas of Human Normal and Follicular Lymphoma Lymph Nodes. *bioRxiv* doi:10.1101/2022.06.03.494716
- May 2019 Zverkov OA, Mikhailov KV, **Isaev SV**, et al. Dicyemida and Orthonectida: Two Stories of Body Plan Simplification. *Frontiers in Genetics* doi:10.3389/fgene.2019.00443

CONFERENCES

- Aug 2022 **Isaev SV**, "How to deal with single-cell multi-omics? Comparison of single-cell multimodal data vertical integration methods". Oral presentation at the *Computational biology and artificial intelligence for personalized medicine-2022* conference, Online ([YouTube video](#))
- Dec 2020 Radtke AJ et al., "Using Advanced, High-Content Imaging and Single-Cell Gene Expression Analysis to Uncover Unique Aspects of Follicular Lymphoma Biology". Co-author of a poster at the *62nd ASH Annual Meeting & Exposition*, Online ([Conference paper](#))
- Nov 2019 **Isaev SV** et al., "Metagenomic study of eukaryotic microbiota of meromictic lakes on the coast of Kandalaksha Bay of the White Sea". Poster at the *VII International conference "Marine Research and Education"*, Moscow, Russia ([Conference paper in Russian](#))
- Sep 2018 **Isaev SV** et al., "Circular DNA in *Dicyema sp.* genome". Poster at the *Information Technologies and Systems 2018* conference, Kazan, Russia ([Conference paper in Russian](#))

TEACHING

- 2022 Creator and lecturer of the course "Transcriptomics", **MSU**, Moscow, Russia
- Jun 2022 Instructor at the course "Single cell profiling and analysis in neuroscience", **Bordeaux School of Neuroscience**, Bordeaux, France
- 2021-2022 Lecturer of the course "NGS data analysis", **Blastim**, Moscow, Russia
- 2020 Lecturer of course "Introduction to NGS analysis" for undergraduate students, **MIPT**, Moscow, Russia
- 2018-2021 Teacher of course "Introduction to Bioinformatics" for high school students, **Letovo School**, Moscow, Russia

SKILLS

- Languages English (fluent), Russian (native)
- Hard skills **Programming:** Python, R, C++; Git, CWL, Docker, Nextflow
NGS data analysis: bulk RNA-Seq data processing (STAR, RSEM, kallisto) and analysis (DESeq2, edgeR, GSEAPY and other); scRNA-Seq and snRNA-Seq data processing and analysis (CellRanger, Seurat, SCANPY, velocity, scVelo, CytoTRACE, Monocle2/3, CellPhoneDB and other)
Other bioinformatics: homology search (HMMER3, BLAST), phylogenetics (Mr. Bayes, RAxML, BEAST 2)
Basic "wet" lab skills: DNA / RNA extraction, PCR, vector cloning, Sanger sequencing, SEM / TEM
- Soft skills Partying with me is really fun