

EMIL KRIUKOV

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[Google Scholar](#) | [GitHub](#)

EDUCATION

IM Sechenov First Moscow State Medical University (Sechenov University), Moscow, Russia
MD, General Medicine, expected Aug 2028

September 2021 – August 2028
GPA: 5.0/5.0, top 1%

Russian State Management University
BSc, Management

September 2022 – June 2025
GPA: 3.8/4.0

Privolzhsky Research Medical University, Nizhny Novgorod, Russia
transferred to Sechenov University

September 2017 – August 2021
GPA: 5.0/5.0, top 1%

RESEARCH EXPERIENCE

Lead Bioinformatician
UPMC Mercy, University of Pittsburgh

June 2026 - Present

My major project is Eye1k, an integrated collection of 13 single-cell atlases of the mouse retina and optic nerve designed for comprehensive cell-subtype characterization across healthy and neurodegenerative conditions. I assembled and coordinate a consortium of domain experts supporting systematic subtype annotation across retinal and optic nerve cell classes. In parallel, I am developing scCS (single-cell Commitment Scores), a computational package framework for quantitative assessment of cell-fate commitment from single-cell transcriptomic data. I also lead a five-member bioinformatics team, overseeing individual projects and coordinating computational work across internal and collaborative studies.

Lead Bioinformatician

July 2022 – June 2026

**Schepens Eye Research Institute of Massachusetts Eye and Ear;
Department of Ophthalmology, Harvard Medical School (PI – Petr Baranov)**

I have built and analyzed large-scale single-cell atlases to investigate retinal development across in vivo and in vitro systems, with emphasis on retinal ganglion cell specification and maturation. Developed computational workflows for integration, trajectory inference, and cross-system comparison across datasets totaling >3 million cells. Led development of the Human Retinal Organoid Cell Atlas and Human Fetal Retina Atlas.

Research Intern

September 2021 – February 2023

**Laboratory of Bone and Cartilage Physiology (PI – Andrei Chagin),
Karolinska Institutet, Stockholm, Sweden**

My project was focused on analysis of the cartilage stem cell niche and its role during the development and regeneration of cartilage. Here I mastered light-sheet microscopy, single-cell transcriptomics, RNA Velocity and deep learning models for light-sheet microscopy images.

Research Intern

June 2021 - August 2021

Laboratory of Developmental Biology and Regenerative Medicine (PI – Igor Adameyko), Department of Neuroimmunology, Center for Brain Research, Medical University of Vienna, Vienna, Austria

Study of the merFISH-slide-seq2 methodology, slide-seq2. Analysis of the ‘bridge-cells’ populations role in embryogenesis modulation of the adrenal glands and the organ of Zuckerlandl at the single-cell level, analysis of the nonmyelinating fibroblasts’ role, their plasticity and potency in the mutual regulation of their development in the niche of Schwann progenitor derivatives. RNA Scope, advanced microscopy and data visualization techniques, Seurat in processing of single-cell RNA-seq data.

Research Intern

January 2020 - February 2020

**Laboratory of Skeletal Tissues Regeneration (PI – Andrei Chagin),
Sechenov University, Moscow, Russia**

The methods of mineralized tissue analysis during regeneration. Mastered Lambda- and AiryScan, IHC modifications, whole-mount IHC.

Research Intern

July 2019 - August 2019

Laboratory of Developmental Biology and Regenerative Medicine (PI

– **Igor Adameyko**), Karolinska Institutet, Stockholm, Sweden

I was working on understanding embryogenesis of neural crest derivatives, non-canonical approaches in neuroblastoma therapy. Mastered confocal microscopy, cryotomy, IHC.

Student Researcher

January 2019 – September 2021

**Laboratory of Regenerative Medicine (PI – Aleksandra Kashina),
Institute of Experimental Oncology and Biomedical Technologies,
Nizhny Novgorod, Russia**

Study of colorectal cancer tumor metabolism in terms of chemoresistance; remodeling of the neural crest derivatives embryogenesis; analysis of the tumor stem cells pool and its characteristics in colorectal cancer. Study of the metabolic characteristics of the Langerhans islets during the transplantation from different objects; analysis of the regenerative potential of cartilaginous growth plate stem cell niche in transgenic mouse models.

SELECTED PUBLICATIONS (as of Aug 2026)

Total published scientific papers: 29. First/co-first author: 6. Citations: 465. H-index: 11.

1. Jun Wang, Ye Zheng, Jin Li, Xuan Bao, Ismail Yaman, Tingting Yang, Gerda Cristal Villalba Silva, Jianming Shao, Jinjing Jian, Jean Li, **Emil Kriukov**, Andrea Rivera, Melissa Cooper, Susannah Waxman, Gulab Zode, David Gutmann, Carl Sheridan, Dongfeng Chen, Zhigang He, Xian-Jie Yang, David Osumi-Sutherland, Ajith Pankajam, Richard Scheuermann, Pei Tan, Han Chen, Petr Baranov, Margaret DeAngelis, Tim Stout, Yumei Li, Rui Chen. **An Integrated Single-cell Multi-Omics Atlas of the Human Optic Nerve** – *Nature Genetics*, in review, 2026.
2. **Emil Kriukov**, Jit Chatterjee, Nikita Bagaev, Aboozar Monavarfeshani, Zhigang He, David Gutmann, Petr Baranov. **Systems-level dissection of a preclinical murine model of NF1 optic glioma at single-cell resolution** – *Communications Biology*, in review, 2026.
3. **Emil Kriukov**, Ekaterina Ivleva, Petr Baranov. **Quantitative assessment of cell fate commitment in single-cell transcriptomics using scCS** – *bioRxiv*, 2026. doi: [10.64898/2026.07.27.741070v1](https://doi.org/10.64898/2026.07.27.741070v1)
4. Nelson Tsz Long Chu, Ostap Dregval, Yu-Wei Chang, **Emil Kriukov**, ..., Claes Ohlsson, Giovanni Volpe, Andrei S Chagin. **Three-dimensional quantitative tissue clearing reveals differences in osteovascular niche of aged and young human mesenchymal stromal cells** – *Nature Biomedical Engineering*, 2026. doi: [10.1038/s41551-026-01645-3](https://doi.org/10.1038/s41551-026-01645-3)
5. Soumitra Mitra, Sulochana Devi, Mi-Sun Lee, Aresh Sahu, Jonathan Jui, **Emil Kriukov**, Petr Baranov, Daniel Goldman. **Müller glia–microglia cross talk reprograms the Müller glia transcriptome for cell division–related processes during retina regeneration** – *PNAS*, 2026. doi: [10.1073/pnas.2535044123](https://doi.org/10.1073/pnas.2535044123)
6. Wai Lydia Tai, Kin-Sang Cho, **Emil Kriukov**, Ajay Ashok, Xuejian Wang, Aboozar Monavarfeshani, Wenjun Yan, Yingqian Li, Timothy Guan, Joshua R Sanes, Petr Baranov, Dong Feng Chen. **Suppressing DNMT3a Alleviates the Intrinsic Epigenetic Barrier for Optic Nerve Regeneration and Restores Vision in Adult Mice** – *Science Translational Medicine*, in revision, 2026. doi: [10.1101/2023.11.17.567614](https://doi.org/10.1101/2023.11.17.567614)
7. **Emil Kriukov**, Anthony Mukwaya, Paul Francis Cullen, George Baldwin, Volha V Malechka, Nasrin Refaian, Nikita Bagaev, Everett Labrecque, Sthavir Vinjamuri, Milica A Margeta, Petr Baranov. **Single-cell transcriptome of retinal myeloid cells in response to transplantation of human neurons reveals reversibility of microglial activation** – *iScience*, accepted. 2026. doi: [10.1101/2025.05.16.654622v1](https://doi.org/10.1101/2025.05.16.654622v1)
8. **E. Kriukov**, JR Soucy, E. Labrecque, P. Baranov. **Unraveling the developmental heterogeneity of human retinal ganglion cells within the developing retina to study to the continuity of maturation** – *Developmental Biology*, 2025. doi: [10.1016/j.ydbio.2025.08.025](https://doi.org/10.1016/j.ydbio.2025.08.025)
9. Suman Chaudhary, Jean Moon, Zhengping Hu, **Emil Kriukov**, Sergio Pestun, Petr Y Baranov, Yin-Shan Eric Ng, Patricia A D'Amore. **The Mechanism of PMC (2,2,5,7,8-Pentamethyl-6-chromanol), a Sterically Hindered Phenol Antioxidant, in Rescuing Oxidized Low-Density-Lipoprotein-Induced Cytotoxicity in Human Retinal Pigment Epithelial Cells** – *Antioxidants*, 2025. doi: [10.3390/antiox14080996](https://doi.org/10.3390/antiox14080996)
10. Raghavi Sudharsan, Natalia Dolgova, Jennifer Kwok, Alexa Gray, Yu Sato, Agustin Luz Madrigal, Praveen Joseph Susaimanickam, **Emil Kriukov**, Petr Baranov, John H Wolfe, Gustavo D Aguirre, David M Gamm, William A Beltran. **Metabolic stress and early cell death in photoreceptor precursor cells following retinal transplantation** – *Stem Cell Research & Therapy*, 2025. doi: [10.1186/s13287-025-04509-w](https://doi.org/10.1186/s13287-025-04509-w)
11. Duygu Payzin-Dogru, Tim Froitzheim, Steven J Blair, Siddhartha G Jena, Hani Singer, Julia C Paoli, Ryan T Kim, **Emil Kriukov**, ... , Jessica L Whited. **Adrenergic signaling coordinates distant and local responses to amputation in axolotl** – *Cell*, 2025. doi: [10.1101/2021.12.29.474455](https://doi.org/10.1101/2021.12.29.474455)
12. Jonathan R Soucy, Julia Oswald, **Emil Kriukov**, Monichan Phay, John Masland, Christian Pernstich, Petr Baranov. **Sustained neurotrophic factor co-treatment enhances donor and host retinal ganglion cell survival**

in mice – TVST, 2025. doi: [10.1167/tvst.14.9.27](https://doi.org/10.1167/tvst.14.9.27)

13. **Emil Kriukov**, Daisy Y Shu, Wenjun Yan, Giulia Romano, Wai Lydia Tai. **Multimics Approaches in the Central Nervous System and Neuropathies** – *Frontiers in Neuroscience*, 2025. doi: [10.3389/fnins.2025.1670706](https://doi.org/10.3389/fnins.2025.1670706)

14. **Emil Kriukov**, Everett Labrecque, Nasrin Refaian, Petr Baranov. **Human retinal organoid single-cell atlas allows to reconstruct retinal development at high resolution and identify nature restricted transcriptional states in vitro** – *bioRxiv*, 2025. doi: [10.1101/2025.08.02.668295](https://doi.org/10.1101/2025.08.02.668295)

15. Thale K Olsen, Jörg Otte, Shenglin Mei, Bethel Tesfai Embaie, Polina Kameneva, Huaitao Cheng, Teng Gao, Vasilios Zachariadis, Ioanna Tsea, Åsa Björklund, **Emil Kriukov**, Ziyi Hou, Anna Johansson, Erik Sundström, Tommy Martinsson, Susanne Fransson, Jakob Stenman, Shahrzad Shirazi Fard, John Inge Johnsen, Per Kogner, Igor Adameyko, Martin Enge, Peter V Kharchenko, Ninib Baryawno. **Joint single-cell genetic and transcriptomic analysis reveal pre-malignant SCP-like subclones in human neuroblastoma** – *Molecular Cancer*, 2024. doi: [10.1186/s12943-024-02091-y](https://doi.org/10.1186/s12943-024-02091-y)

16. Xudong Wang, Tianxi Wang, Satoshi Kaneko, **Emil Kriukov**, Enton Lam, Manon Szczepan, Jasmine Chen, Austin Gregg, Xingyan Wang, Angeles Fernandez-Gonzalez, S Alex Mitsialis, Stella Kourembanas, Petr Baranov, Ye Sun. **Photoreceptors inhibit pathological retinal angiogenesis through transcriptional regulation of Adam17 via c-Fos** – *Angiogenesis*, 2024. doi: [10.1007/s10456-024-09912-0](https://doi.org/10.1007/s10456-024-09912-0)

17. Volha V Malechka, Monichan Hayes Phay, Josy Augustine, **Emil Kriukov**, John Dayron Rivera, Clemens Alt, Meredith Gregory-Ksander, Petr Baranov. **Improvement of human donor retinal ganglion cell survival through modulation of microglia** – *bioRxiv*, 2024. doi: [10.1101/2024.07.06.602307](https://doi.org/10.1101/2024.07.06.602307)

18. Cameron Church, Christian X Fay, **Emil Kriukov**, Hui Liu, Ashley Cannon, Lauren Ashley Baldwin, David K Crossman, Bruce Korf, Margaret R Wallace, Andrea M Gross, Brigitte C Widemann, Robert A Kesterson, Petr Baranov, Deeann Wallis. **snRNA-seq of human cutaneous neurofibromas before and after selumetinib treatment implicates role of altered Schwann cell states, inter-cellular signaling, and extracellular matrix in treatment response** – *Acta Neuropathologica Communications*, 2024. doi: [10.1186/s40478-024-01821-z](https://doi.org/10.1186/s40478-024-01821-z)

19. Tianxi Wang, Satoshi Kaneko, **Emil Kriukov**, David Alvarez, Enton Lam, Yidi Wang, Sara La Manna, Daniela Marasco, Angeles Fernandez-Gonzalez, S Alex Mitsialis, Stella Kourembanas, Andreas Stahl, Mei Chen, Heping Xu, Petr Baranov, Guoshuai Cai, Ulrich H von Andrian, Ye Sun. **SOCS3 regulates pathological retinal angiogenesis through modulating SPP1 expression in microglia and macrophages** – *Molecular Therapy*, 2024. doi: [10.1016/j.ymthe.2024.03.025](https://doi.org/10.1016/j.ymthe.2024.03.025)

20. Jonathan R Soucy, Levi Todd, **Emil Kriukov**, Monichan Phay, Volha V Malechka, John Dayron Rivera, Thomas A Reh, Petr Baranov. **Controlling donor and newborn neuron migration and maturation in the eye through microenvironment engineering** – *PNAS*, 2023. doi: [10.1073/pnas.2302089120](https://doi.org/10.1073/pnas.2302089120)

21. Darya Krupenko*, Aleksei Mirolubov*, **Emil Kriukov***, Louis Faure*, Ryo Minemizu, Lars Haag, Magnus Lundgren, Polina Kameneva, Maria Eleni Kastriti and Igor Adameyko. **Polymorphic parasitic larvae cooperate to build swimming pseudo-colonies luring hosts** – *Current Biology*, 2023. doi: [10.1016/j.cub.2023.08.090](https://doi.org/10.1016/j.cub.2023.08.090)

22. Kameneva P., Melnikova V., Kastriti M., Kurtova A., **Kriukov E.**, Murtazina A., Faure L., Artemov A., Kalinina T., Kydryashov N., Bader M., Skoda J., Chlapek P., Curylova L., Sourada L., Neradil J., Tesarova M., Pasqualetti M., Gaspar P., Yakushov V., Sheftel B., Zikmund T., Kaiser J., Fried K., Alenina N., Voronezhskaya E., Adameyko I. **Serotonin limits generation of chromaffin cells during adrenal gland development** – *Nature Communications*, 2022. doi: [10.1038/s41467-022-30438-w](https://doi.org/10.1038/s41467-022-30438-w)

23. Li Pan, Kin-Sang Cho, Xin Wei, Fuyi Xu, Anton Lennikov, Guangan Hu, Jing Tang, Shuai Guo, Julie Chen, **Emil Kriukov**, Robert Kyle, Farris Elzaridi, Shuhong Jiang, Pierre A. Dromel, Michael Young, Petr Baranov, Chi-Wai Do, Robert W. Williams, Jianzhu Chen, Lu Lu, Dong Feng Chen. **IGFBPL1 is a Master Driver of Microglia Homeostasis and Resolution of Neuroinflammation in Glaucoma and Brain Tauopathy** – *Cell Reports*, 2023. doi: [10.1016/j.celrep.2023.112889](https://doi.org/10.1016/j.celrep.2023.112889)

SKILLS

Programming, computational biology, data analysis; Machine learning; GPU-accelerated analysis

1. Large-scale transcriptomics data analysis
 - a) Single-cell (single-nuclei) RNA-seq – R, Python, bash
 - Primary analysis -- Seurat, scanpy, RAPIDS-singlecell cell ranger, sratoolkit, samtools, velocity, Pagoda2
 - Dimensionality reduction, large-scale ML integration and clustering – ForceAtlas2, SCTransform, Harmony, scVI, scArches, scPoli, GeneSys
 - Cell-cell communications and gene regulatory networks – CellChat, SCENIC
 - Cell fate trajectories – monocle3, RNA Velocity, PAGA, Cellrank, CytoTRACE, slingshot
 - Bifurcations and cell fate decisions – scFates

	b) ATAC-seq – Signac, Seurat, mudata
	c) TCR (VDJ) – scRepertoire
	d) ChIP-seq
	e) merFISH, Visium – Seurat
	f) Bulk RNA-seq – Salmon, kallisto, DESeq2
	2. Machine learning GPU-accelerated application in computational biology: ray, jax, torch, sklearn, zarr, RAPIDS-singlecell, cuML
	3. Biology-related mathematics: gradients, expression modelling, fate commitment
	4. Other: In-Silico PCR: <i>Ugene</i> , <i>goldengate</i> , vectors and constructions 3D modeling of CT / MRI images: <i>ITK-SNAP</i> , <i>c3d</i> Git
Microscopy	Advanced methods in microscopy: <i>confocal</i> , including <i>Lambda-</i> and <i>AiryScan</i> , <i>FLIM</i> , <i>light-sheet</i> Image Analysis and Processing - <i>ZEN</i> , <i>Imaris</i> , <i>SPCImage (TCSPC)</i> , <i>imageJ</i> , <i>LAS X</i>
Cells, tissues, and model organisms work	Animal work: mice, rats, human material (including tumors), embryos, cell lines (HCT116, HT29, HeLa) and primary cultures (including FACS-sorted), genetically modified mice (cre, Prrx1-tdTomato, 5HTR3a-EGFP, Plp1-YFP), retinal organoids Microtomy, Cryotomy, Sample Preparation Immunohistochemistry, Immunocytochemistry, Histology, RNA Scope, HCR, Whole-mount 3D Flow cytometry: data analysis and processing: <i>flowjo</i> Basic techniques in "wet" biology: PCR, RT-PCR, genotyping, gel electrophoresis, basic skills in partition chromatography FELASA Animal Handling Certificate
Languages	Russian (native) English (fluent, C2) French (basic, A2) Chinese/Mandarin (basic, A2)

SELECTED CONFERENCE PRESENTATIONS

Association for Research in Vision and Ophthalmology	May 2026 Denver, CO
Human Retinal Organoid Cell Atlas v.1 scverse 2025	November 2025 Palo Alto, CA
Human Retinal Organoid Cell Atlas v.1 International Society for Stem Cell Research	June 2025 Hong Kong SAR
Understanding human fetal retina and retinal organoids development to guide retinal cell differentiation and replacement Association for Research in Vision and Ophthalmology	May 2025 Salt Lake City, UT
Poster presentation High-resolution human fetal retina and retinal organoids atlas to guide retinal cell differentiation and replacement Association for Research in Vision and Ophthalmology	June 2024 Seattle, WA
Paper presentation Digital eye: single-cell multiomics simulation to model and study cell-cell-interactions during development, regeneration and in the pathogenesis of retinal and optic nerve diseases Association for Research in Vision and Ophthalmology	April 2023 New Orleans, LA
Poster presentation Advanced integrated transcriptomics-based computational models to improve a function-of-interest in donor stem-cell-derived retinal ganglion cells. Developmental and Regenerative Biology Symposium of Harvard Medical School	April, 2023 Boston, MA
Advanced integrated transcriptomics-based computational models to improve a function-of-interest in donor stem-cell-derived retinal ganglion cells. American Society for Bone Mineral Research	September 2022 Austin, TX
Poster presentation: Exploring metabolism of the growth plate chondrocytes using FLIM revealed least glycolytic metabolism in chondroprogenitors. 5th Biomedicum – Bioclinicum Young Researchers Symposium	November 2021 Stockholm, Sweden
Oral presentation: FLIM and single-cell transcriptomics reveal metabolic features in the cartilage growth plate development. 5th Sechenov International Biomedical Summit	November 2021

Oral presentation, 1st place: Analysis of the cartilage growth plate development and stem cell niche state via metabolic parameters using FLIM and single-cell transcriptomics.

XII Congress of Oncologists and Radiologists of the CIS and Eurasia

April 2021

Countries - Competition of Young Scientists

Oral presentation, invited talk: Malignant Schwann cell precursors mediate intratumoral plasticity in human neuroblastoma.

VII All-Russian conference of young scientists with international participation VolgaMedScience

March 2021

Nizhny Novgorod, Russia

Oral presentation, 1st place: Analysis of alignment and pseudo-alignment tools using HISAT2 / kallisto / Salmon in RNA-seq data processing.

International conference Cancer Stem Cells: Impact on Treatment

December 2020

Oral presentation: Cancer stem cells metabolism studies in HCT116 chemoresistant lines.

SCIENTIFIC GRANTS AND SCHOLARSHIPS

ARVO Travel Grant 2026

Travel grant for research conference (~1.000\$)

RRestore Consortium Travel Grant 2024

Travel grant for research conference (~1.000\$)

ARVO Travel Grant 2024

Travel grant for research conference (~1.000\$)

Individual grant for the program "UMNIK" 2020-2022

Development of a method for personalized predictive assessment of the anticancer therapy efficacy. - UMNIK No. 67070 (~8.500 \$).

Travel grant *January 2020*

Funding for a winter internship at Sechenov University from January to February 2020 from Privolzhsky Research Medical University (~800 \$).

Travel grant *May 2019*

Funding for a summer internship at the Karolinska Institute from July to August 2019 from Privolzhsky Research Medical University (~3.000 \$).

Scholarship of the Russian Federation President for studying abroad (0.06% acceptance rate) 2021-2022

For a research internship at the Laboratory of Bone and Cartilage Physiology, Karolinska Institute, Stockholm, Sweden (~18.000 \$).

Scholarship of the Russian Federation President (0.2% acceptance rate) - three-time scholarship holder 2021-2022;
2020-2021;

For outstanding achievements in educational and scientific activities. 2019-2020

Increased State Academic Scholarship of Sechenov University (2% acceptance rate) 2021-2022

For outstanding achievements in research and development.

Scholarship of the Gennady Komissarov Foundation for the Support of Young Scientists in the 'Scientific Internship' competition (1.5% acceptance rate) 2021

For a research internship at the Department of Neuroimmunology, Medical University of Vienna, Vienna, Austria (~2.500 \$).

Increased State Academic Scholarship of Privolzhsky Research Medical University (4% acceptance rate) – announced every term, nine-time winner, Privolzhsky Research 2018-2021

Medical University Rector's Scholarship (2% acceptance rate) – announced every term, five-time winner

For outstanding achievements in educational and scientific activities.

SCIENTIFIC AWARDS AND ACHIEVEMENTS

Mass General Hospital Research Day 2025

Boston, MA

Human fetal retina atlas was selected as distinguished research of the year in the field of computational biology.

All-Russian Science Slam – finals *November 2021*

Kazan, Russia

Oral presentation about the recent species discovered: When Google keeps silence: modern scientific discoveries and how they are made.

Russian Student Spring*May 2021**Nizhny Novgorod, Russia*

Laureate of the 1st degree in the direction "Science Slam" for "Cell fates: about the latest revolutions in modern biology".

XII Congress of Oncologists and Radiologists of the CIS and Eurasia Countries*April 2021*

"Opening of the competition for young scientists ADIOR 2021" (prize-internship at the National Medical Research Center of Radiology of the Russian Federation Ministry of Health) for "Malignant Schwann cell precursors mediate intratumoral plasticity in human neuroblastoma".

Student of the Year*December 2020*

Winner in the category "Intelligence of the Year".

International Olympiad for medical students "Samarkand-2020"*December 2020*

Winner of the competition for young scientists for "The neural crest and its derivatives in the aspects of tumor heterogeneity."

International Science Slam Medicine*November 2020*

Winner for "How cancer can kill itself".

Federal Tournament of Three Sciences*November 2020*

The best opponent according to the results of the Tournament finals.

TEACHING EXPERIENCE**Research Mentoring and Teaching (computational biology)**

Sergio Pestun – High School Student, 2023

Sthavir Vinjamuri – College Student, 2024-2025

Everett Labrecque – High School/College Student, 2024-Present

Chien-Yu Lin – Master's Student, 2025-Present

Anil Upreti – Postdoc, 2025-2026

Lecturer at Master's program "Bioinformatics: Single-cell multiomics"

Tomsk National Research Medical Center (<https://master-omics.ru/lectors/kriukove/>)

Belgrade Bioinformatics Workshop

Organized and hosted the bioinformatics workshops on single-cell RNA sequencing data analysis in Belgrade University (14 people) and Institute for Biological Research "Siniša Stanković" (5 people).

Organiser of BNV Lab Summer School 2025**SCIENTIFIC COURSES****Molecular Bases of Eye Disease, Schepens Eye Research Institute of Mass Eye and Ear, Boston, USA***2022 - 2023*

Theoretical clinical course on eye diseases

Winter School BioMedFest 2.0 on Mathematical Modeling, Sechenov University, Moscow, Russia*February 2021*

3D modeling and segmentation of organs with CT / MRI images, basics of chromatography, introduction to atomic force microscopy

Summer School on Bioinformatics, Bioinformatics Institute, St. Petersburg, Russia*July 2020*

RNA-seq analysis approaches, GWAS, data analysis, single-cell RNA-seq methodology

OTHER ACADEMIC EXPERIENCE

Ad-hoc scientific reviewer

IOVS, TVST, Experimental Eye Research, Frontiers, Scientific Reports, Molecular Therapy Nucleic Acids – 21 reviews in total

Special issue Editor in Frontiers in Neuroscience - 2025

Multiomics approaches in the Central Nervous System and Neuropathies.

Invited talks

Zhongshan Ophthalmic Center in Guangzhou - 2025

“Unraveling the developmental heterogeneity of human retinal ganglion cells within the developing retina to study to the continuity of maturation”

The Hong Kong Polytechnic University – 2025

“The application of single-cell methods to advance retinal neuron differentiation and transplantation”

EXTRACURRICULAR ACTIVITIES

Designed and built the website for the laboratory (bnv-lab.org)

Lecturer and guest speaker of scientific and popular science format at various venues (Science Park, Science Slam, Voskhod, PRO Human, SMTB)

Lecturer and member of Science Slam Association

Member of the Russian Youth Union. Active medical volunteer, COVID-19 volunteer (1200+ hrs)

Jury member for the Tournament of Young Biologists