

# Ilia V. Popov, MD

 [Scopus](#) |  [Web of Science](#) |  [ORCID](#) |  [Google Scholar](#) |  [ResearchGate](#)

 [GitHub Profile](#) |  [Personal website](#)

## EDUCATION

### **Bioinformatics Institute**

**Saint Petersburg, Russia**

Retraining program, Bioinformatics for Biologists

Sep 2023 - May 2024

- Research project: The shadow of HIV: searching for indirect signs of HIV infection in cell-free DNA samples – [GitHub](#)
- Study projects – [GitHub](#)
- Developed beginner-level tool [SequenceForge-Lite](#) and [simple EDA Python module](#)

### **Rostov State Medical University**

**Rostov-on-Don, Russia**

Medical Doctor degree, Faculty of Pediatrics

Sep 2017 – June 2023

- Graduated with honors
- GPA: 4.85 (5.0 – max)

## EXPERIENCE

### **Research Assistant**

**Rostov-on-Don, Russia**

«Agrobiotechnology Centre», Don State Technical University

Sep 2022 – present

- Papers & grant applications writing
- DNA extraction and PCR
- NGS data processing: metagenomic studies within gut microbiota of bats

### **Research Intern**

**Jakarta, Indonesia**

Department of Food Technology, Bina Nusantara University

Feb 2023 – July 2023

- Field work: trip to East Nusa Tenggara Province: Kupang City & North Kodi Township. Participation in the organization of a clinical trial involving more than 100 children in 4 different groups. Collection of biological samples for data analysis (blood, stool)
- Dry lab work: genome annotation of *L. plantarum* strain IS-10506; metagenomic data analysis; visualization of the results with publication-quality graphs
- [GitHub](#)

### **Laboratory Assistant**

**Rostov-on-Don, Russia**

Histological laboratory, «Agrobiotechnology Centre»,

Sep 2021 – Aug 2022

Don State Technical University

- Post-mortem examination of laboratory animals
- Tissue processing: tissue fixation, embedding and microtomy
- Staining of histological slices
- Analysis and interpretation of histological slices

## Laboratory Assistant

Rostov-on-Don, Russia

Laboratory of the «Microbiology and Virology» department,  
Rostov State Medical University

Sep 2020 – June 2021

- Preparation of culture media, bacterial and fungal extraction and inoculation, cell culturing
- Serial dilution of antibacterial and antimycotic agents
- Assessment of cytotoxicity (MTT test) and Minimum Inhibitory Concentration (spectrophotometry)

## **SKILLS**

### **Programming**

- Python (Numpy, Pandas, Matplotlib, Seaborn, Biopython, etc3)
- R (dplyr, ggplot2, tidyverse, tidyr, ape, ggtree, DeSeq2, MaAsLin2)
- Linux, Bash, git, GitHub

### **Statistics**

- Summary statistics, hypothesis testing
- Correlation analysis, linear models
- Graphical visualization of statistics

### **Bioinformatics**

- Databases (NCBI, UniProt, dbSNP, ClinVar, SNPedia, OMIM)
- Analysis of NGS data:
  - Quality checking, trimming
  - Genome assembly, genome annotation
  - Haplogroups establishing, SNPs annotation
  - RNA-seq data analysis for differential expression
  - Analysis of 16s rRNA metagenomic data
  - scRNA-seq analysis

### **Machine Learning Methods**

- k-Nearest Neighbors, Linear Regression, Clustering (t-SNE), Decision Trees, Ensemble Methods, Multilayer Perceptron, Convolutional Neural Networks

### **Phylogenetics**

- Alignment of nucleotide and protein sequences
- Model selection and construction of a tree
- Topology verification, tree rooting and comparison
- Bayesian methods and dating

### **Life Sciences**

- Medical education, which helps me understand specialized biological and medical literature
- Work experience in microbiological and histological labs

### **Languages**

- Russian – Native
- English – Advanced, IELTS C1 – 8.0 (TRF: 23ID001367POPI010A)

## COURSES

- «Integrating AI into scientific work», Blastim, Moscow
- «Food Microbiology», BINUS University, Jakarta
- «Analysis of NGS data», Bioinformatics Institute, Saints-Petersburg
- «School of Mathematical Modelling in Drug Development», M&S Decisions, Moscow
- «Management of R&D projects», Sirius University, Sochi
- «Python & Linux for Bioinformatics and Biology», Blastim, Moscow
- «Fundamentals of Theranostics», Sirius University, Sochi
- «Summer school of biomedical data analysis», MIPT, Moscow
- «Statistics, R and data analysis», Blastim, Moscow

## AWARDS

- Student of the Year-2020, Winner in the nomination «Intellect of the Year», Ministry of Science and Higher Education of the Russian Federation
- Scholarship of the Ministry of Science and Higher Education of the Russian Federation (2019-2020)
- Scholarship of the Governor of the Rostov region, Ministry of General and Professional Education of the Rostov region (second semester of the 2019-2020)
- Winner of the All-Russian contest of R&D projects «GREAT CHALLENGES for students», Sirius University

## GRANTS

- Internship grant from the Ministry of Science and Higher Education of the Russian Federation to study abroad (BINUS University, Jakarta, Indonesia), 2023 (14 100 EUR)
- Grant «UMNIK» of the Foundation for Assistance to Innovations, 2021 (500 000 RUB)
- Four-time winner of the «Smart Scholarship» educational grant of the «Education and Science of the South of Russia» endowment fund, 2019-2022 (160 000 RUB)
- Rostov Region Governor's Award «The Innovator», 2022 (105 000 RUB)

## SELECTED PUBLICATIONS

1. Surono, I.S.; **Popov, I.V.**; Verbruggen, S.; Verhoeven, J.; Kusumo, P.D.; Venema, K. Gut microbiota differences in stunted and normal-length children aged 36–45 months in East Nusa Tenggara, Indonesia. **PLoS ONE** 2024, 19, doi:10.1371/journal.pone.0299349
2. Popov, Igor.V.; Mazanko, M.S.; Prazdnova, E.V.; **Popov, Ilia V.**; Trukhachev, V.I.; Derezina, T.N.; Kochetkova, N.A.; Ermakov, A.M.; Chikindas, M.L.; et al. Effects of Spore-Forming Bacillus Probiotics on Growth Performance, Intestinal Morphology, and Immune System of Broilers Housed on Deep Litter. **Journal of Applied Poultry Research** 2024, 33, doi:10.1016/j.japr.2023.100396.
3. Popov, Igor.V.; **Popov, Ilia V.**; Krikunova, A.A.; Lipilkina, T.A.; Derezina, T.N.; Chikindas, M.L.; Venema, K.; Ermakov, A.M. Gut Microbiota Composition of Insectivorous Synanthropic and Fructivorous Zoo Bats: A Direct Metagenomic Comparison. **International Journal of Molecular Sciences** 2023, 24, doi:10.3390/ijms242417301.

4. Popov, Igor.V.; Berezinskaia, I.S.; **Popov, Ilia V.**; Martiusheva, I.B.; Tkacheva, E.V.; Gorobets, V.E.; Tikhmeneva, I.A.; Aleshukina, A.V.; Tverdokhlebova, T.I.; Chikindas, M.L.; et al. Cultivable Gut Microbiota in Synanthropic Bats: Shifts of Its Composition and Diversity Associated with Hibernation. **Animals** 2023, 13, doi:10.3390/ani13233658.
5. Popov, Igor.V.; Ohlopkova, O.V.; Donnik, I.M.; Zolotukhin, P.V.; Umanets, A.; Golovin, S.N.; Malinovkin, A.V.; Belanova, A.A.; Lipilkin, P.V.; Lipilkina, T.A.; **Popov, Ilia V.**; et al. Detection of Coronaviruses in Insectivorous Bats of Fore-Caucasus, 2021. **Scientific Reports** 2023, 13, doi:10.1038/s41598-023-29099-6.

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