

Pavel Nikitin

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25 February 2001, Russian Federation

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Google Scholar https://scholar.google.com/citations?hl=ru&user=uPP_MccAAAAJ

EDUCATION

Since 2019 **Specialist (combined BSc+MSc) in Bioengineering and Bioinformatics, Undergraduated**
Faculty of Bioengineering and Bioinformatics, Lomonosov Moscow State University
Thesis: Transcription Initiation in Pericentromeric DNA Regions of Human Chromosomes

CURRENT OCCUPATION

Since 2022 A.N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences, Ecological and Ethological Adaptations Sector, Laboratory of Comparative Ethology and Biocommunication, Moscow, Russia
Supervisor: Victor Spangenberg, PhD

PAST OCCUPATIONS

2024 **Scientific intern, 3 months**
Centre for Genomic Regulation (CRG), Repetitive DNA Biology group, Barcelona, Spain
PI: Bernardo Rodríguez Martín, PhD

2020-2024 Lomonosov Moscow State University, Faculty of Biology, Department of Higher Plants, Moscow, Russia
PI: *Professor* Sokoloff Dmitry, head of department
Supervisors: Speranskaya A. S., PhD; Krinitsina Anastasia, PhD

2018-2022 Vavilov Institute of General Genetics, Department of Genomics and Human Genetics, Laboratory of Cytogenetics, Moscow, Russia
Supervisor: Victor Spangenberg, PhD

2019 **Scientific intern, 3 weeks**
School of Molecular and Theoretical Biology, Laboratory of Comparative and Functional Genomics, Barcelona, Spain
PI: *Professor* Mikhail Gelfand
Supervisor: Nurislam Shaykhutdinov

PUBLICATIONS

- 2024 Variants of a major DNA satellite discriminate parental subgenomes in a hybrid parthenogenetic lizard *Darevskia unisexualis* (Darevsky, 1966)
Pavel Nikitin, Sviatoslav Sidorov, Thomas Liehr, Ksenia Klimina, Ahmed Al-Rikabi, Vitaly Korchagin, Oxana Kolomiets, Marine Arakelyan, Victor Spangenberg, *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution (JEZ-B)*
doi: 10.1002/jez.b.23244
- 2022 Genome Analysis of Two Lichen Bacteriobionts, *Lichenibacterium ramalinae* and *Lichenibacterium minor*: Toxin–Antitoxin Systems and Secretion Proteins
T. A. Pankratov, **P. A. Nikitin**, E. O. Patutina, *Microbiology (Russia)*
doi: 10.1134/S0026261722020096
- 2021 DNA Environment of Centromeres and Non-Homologous Chromosomes Interactions in Mouse
Victor Spangenberg, Mikhail Losev, Ilya Volkhin, Svetlana Smirnova, **Pavel Nikitin**, Oxana Kolomiets, *Cells*
doi: 10.3390/cells10123375
- 2021 Gene Loss, Pseudogenization in Plastomes of Genus *Allium* (Amaryllidaceae), and Putative Selection for Adaptation to Environmental Conditions
Victoria A. Scobeyeva, Ilya V. Artyushin, Anastasiya A. Krinitsina, **Pavel A. Nikitin**, Maxim I. Antipin, Sergei V. Kuptsov, Maxim S. Belenikin, Denis O. Omelchenko, Maria D. Logacheva, Evgenii A. Konorov, Andrey E. Samoilov and Anna S. Speranskaya, *Frontiers in Genetics*
doi: 10.3389/fgene.2021.674783

TEACHING EXPERIENCE

- Since **Lecturer**, Bioinformatics
- 2022 Elective 1-year course for last-year high-school students, The Advanced Educational Scientific Center (faculty) – Kolmogorov's boarding school of Moscow State University, Russia

STUDENT SUPERVISION

- 2023- **Bamba Nayminov**, Surface Electrostatic Potential of Myoglobins in Different
2024 Vertebrate Species

CONFERENCES

- 2023 Differential Transcription of Pericentromeric Tandem Repeats in Human Cells
Pavel Nikitin, Victor Spangenberg, Anastasia Zharikova, Sviatoslav Sidorov
Moscow Conference on Computational Molecular Biology (MCCMB), Moscow, Russia, poster presentation
- 2022 Bioinformatic Analysis of Pericentromeric Repeats in Unisexual Lizards *Darevskia* of Hybrid Origin
Pavel Nikitin, Victor Spangenberg
29th International Scientific Conference for Undergraduate and Graduate Students and Young Scientists "Lomonosov", Moscow, Russia, poster presentation

- 2021 Selection Events in *Allium* (Amaryllidaceae) Plastomes
Pavel Nikitin, Anna Speranskaya
 Plant Genetics, Genomics, Bioinformatics, and Biotechnology (PlantGen2021): The 6th International Scientific Conference, Novosibirsk, Russia, poster presentation
- 2019 Super-spread-cells method in prophase I meiosis and detailed research of mammalian (*Mus Musculus*) and reptilian (*Darevskia raddei*) chromosomes
 Mikhail Losev*, **Pavel Nikitin***, Victor Spangenberg
 Intel ISEF Qualifier, Baltic Scientific and Engineering Competition, Saint-Petersburg, Russia, poster presentation
- 2019 Search for genomic rearrangements in *Polypedilum vandeplanki* cell line in experiment of desiccation-rehydration cycles
 Daniil Vladimirov*, **Pavel Nikitin***, Nurislam Shaykhtudinov, Mikhail Gelfand
 School of Theoretical and Molecular Biology, Barcelona, Spain, poster presentation

* *equal contribution*

SKILLS

- GNU/Linux, R, Python
- Nextflow and nf-core pipelines construction
- Evaluation of quality and trimming Illumina and Nanopore sequencing data
- *De novo* genome assembly (SPAdes, flye)
- Mapping reads to a reference genome (BWA MEM, bowtie2, HISAT2)
- Manipulations with SAM, BAM, GFF and BED files (samtools, bedtools)
- SNP calling
- Sequence alignment and BLAST
- Construction of phylogenetic trees
- PyMol visualization
- GitHub
- NCBI GenBank data submission and curation

PARTICIPATION IN GRANTS

RSCF: 22-14-00227 <https://rscf.ru/project/22-14-00227/>

RSCF: 19-14-00055 <https://rscf.ru/project/22-14-35012/>

AWARDS

Grand Prize in Intel ISEF Qualifier, Baltic Scientific and Engineering Competition, Saint-Petersburg, 2019

FBB Alumni Prize, 2021*

First Kaulen prize for best student scientific paper, 2022*

FBB Alumni Prize, 2024*

* Internal awards of Faculty of Bioengineering and Bioinformatics, Lomonosov Moscow State University