Liubov “Lyuba” Chechik

303 Tee Dr, Bryan, TX, 77801 | (979)676-5793 | lyuba.chechik@gmail.com

Summary

Detail-oriented and enthusiastic postdoctoral researcher with broad training in cell and molecular biology, including gene editing, stem cell biology, epigenetics, and DNA repair. Passionate about applying genetic engineering methods to create environmentally friendly solutions to human needs or innovative therapies. Looking for a career in research and development in areas such as cell and gene therapies, conservation, or vector and pest control.

Skills

- **Genetic engineering:** CRISPR-Cas9, gene editing, molecular cloning, complex vector construction
- **Cell and molecular biology:** stem cell culture, PCR-based methods, immunostaining
- **Management:** attention to detail, multitasking, problem-solving, flexibility, collaboration
- **Computer:** GraphPad Prism, BioRender, FlowJo, SnapGene, ApE, ICE, gRNA design, IGV

Experience

10/22-present Postdoctoral Research Associate (Entomology Department, Texas A&M University, College Station, Texas)

- Coordinated a team effort in multitasking several projects, including: comparing gene drive performance in *D. melanogaster*; optimizing gene drive removal technology in *D. melanogaster*; identifying and validating haploinsufficient genes in *Ae. aegypti*; establishing an efficient gene drive in *Ae. aegypti*.
- Lead a team of 5 and focused efforts by using clear communications and mentorship.
- Independently planned, executed, troubleshooted, and analyzed experiments
- Conducted research on model and non-model insect organisms, including vector construction, genetic modification, confirmation, and analysis.
- Performed a variety of molecular biology experiments, including DNA and RNA isolation and manipulation, quantification by qPCR, and sequencing.
- Introduced and maintained clear and detailed electronic records that facilitated efficient communication within the team and transfer of knowledge to new team members.
- Established an international collaboration to expand project goals into getting more comprehensive functional analysis.

09/21-09/22 Research Associate (Entomology Department, Texas A&M University, College Station, Texas)

- Proactively established cloning pipeline based on a combination of multiple cloning methods, improved protocols, and trained lab members on cloning.
- Re-established a small RNA library preparation workflow.

05/21-06/21 Intern at Lamina Therapeutics (Strasbourg, France)

- Optimized RT-qPCR protocol for analysis of experimental samples.
- Performed cost and quality assessment of equipment, reagents, and protocols.

11/15-12/20 Graduate Student (IGBMC, Illkirch, France).

- Project focused on evaluating the impact of chromatin organization on the fidelity of DNA double strand break repair using mouse embryonic stem cells as a model system.
- Communicated results to the PI, the team, or at conferences as oral or poster presentations.
- Cultured mammalian cells including mouse embryonic stem cells, NIH3T3 and HeLa cells. Experiments involved aseptic cell handling, propagation, transfection, stable cell line creation, directed differentiation, and genetic modification with CRISPR-Cas9.
- Performed experiments according to existing protocols, optimized and established protocols upon necessity.

- Confirmed chromatin status at the areas of interest by examining histone modifications presence and dynamics by ChIP-qPCR, fluorescent microscopy, and Western blotting.
- Performed molecular cloning, DNA and RNA manipulations, and cell cycle analysis by flow cytometry.

09/13-05/15 Graduate Student (Max Planck Institute of Immunobiology and Epigenetics, Freiburg im Breisgau, Germany).

- Project focused on the role of Satb2 in pluripotency and differentiation by characterization of Satb2 conditional knock-out mouse embryonic stem cells.
- Performed and verified conditional gene knock-out on mouse embryonic stem cells and evaluated various cell properties, including differentiation, proliferation, and cell cycle.
- Assessed multiple pluripotency and differentiation related gene expression levels by RT-qPCR, Western blotting and alkaline phosphatase staining.

07/12-09/12 Summer Research Intern (Adolf Butenandt Institute for Molecular Biology and Biochemistry, LMU Munich, Munich, Germany).

- Project involved investigation of the role of CHRAC subunits p14 and p16 in *D. melanogaster* oogenesis by characterizing their knock-down in various cell types.
- Performed insect tissue preparation and immunostaining, conducted biochemical manipulations including Western blotting, chromatin isolation and co-IP.

07/11-08/11 Summer Research Intern (Max Planck Institute of Immunobiology and Epigenetics, Freiburg, Germany). Project involved cloning of genes of several transcriptions factors.

09/09-08/13 Student Researcher (Institute of Cytology, Saint Petersburg, Russia).

- Project focused on the role of Lgr5 in the process of differentiation of mouse embryonic stem cells into intestinal epithelium.
- Performed lentivirus packaging and subsequent mouse embryonic stem cell transduction, Handled mammalian cell lines, including mouse embryonic stem cells and HEK 293T.
- Created a cell line stably expressing the gene of interest, reproduced a published protocol of 3D organoid differentiation.

Education

2015-2020 Doctor of Philosophy in Cellular and Molecular Biology, Strasbourg University, Doctoral School for Life and Health Sciences in Strasbourg, France

2011-2013 Master of Science in Biophysics with honors, St. Petersburg State Polytechnical University, School of Physics and Mechanics, Department of Biophysics, St. Petersburg, Russia

2007-2011 Bachelor of Science in Physics, St. Petersburg State Polytechnical University, School of Physics and Mechanics, Department of Biophysics, St. Petersburg, Russia

Honors, Scholarships, Prizes, Awards, Certificates

2024 Postdoctoral Mentoring Academy Fellow, Texas A&M University, USA

2018 ARC 4th year of PhD Scholarship (Aides doctorales) recepient, Fondation ARC, France

2015 LabEx International PhD Program Scholarship recepient, Investissements d'Avenir, France

2013 IMPRS fellowship recepient, IMPRS, Germany

2012 Scholarship recipient, Amgen Summer Scholars Programme, LMU Munich, Germany

2012 Student of the year 2012, Institute of Cytology of the Russian Academy of Sciences, Russia

2011 Oral presentation, first prize, student conference at Saint Petersburg State Polytechnical University, Russia

Service

2025 Reviewer for Communications Biology

2024 Co-founder, AgriLife Postdoc and Staff Association, Texas A&M University

2022-2025 Lab team captain, Walk Across Texas challenge

2017 Organizer, Forum BIOTechno Grand Est (fundraising, speaker invitation)

2016-2018 Member, Student and Postdoc Board of IGBMC (CineClub organizing committee)