

Aruna Nyssanbay

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Education

NAZARBAYEV UNIVERSITY

B.Sc. Biological Sciences. cGPA 3.49

Relevant Coursework:

Neuroscience course (grade A), Genetics (A), Human Anatomy and Physiology I and II (A-), Programming Fundamentals (A-), Biology of Behavior (A-), Developmental Biology (A-).

Astana, Kazakhstan

Aug 2019- May 2023

Experience

NEUROSCIENCE LAB

Research Assistant

Astana, Kazakhstan

Oct 2022 – Aug 2023

- Working on a project “The effect of Paeoniflorin (a biologically active component of Paeonia plant) on human astrocytoma cell viability in vitro”.
- Studying anti-cancer properties of Paeoniflorin by measuring cytotoxicity using alamarBlue cell viability assay.
- Quantifying cell apoptosis using annexin V-FITC staining and reactive oxygen species (ROS) levels using MitoSOX staining.
- Got familiar with neuroscience lab equipment and applications, including cell culturing, electrophysiological recordings, cryostat manipulation, and brain microscopy.

MECHANOBIOLOGY LAB

Research Assistant

Astana, Kazakhstan

Nov 2021– Mar 2022

- Worked with *Drosophila* flies. Learned the usage of equipment and principles to maintain the flies. Prepared nutritious media for *Drosophila* flies’ growth.
- Made dissection of *Drosophila* larvae under a stereoscope.
- Visualized cells on the confocal fluorescent microscopes ZEISS LSM 980 with Airyscan and Leica Thunder Imager. Observed cellular divisions of neural stem cells in *Drosophila* larvae’ brains.
- Studied the effects of Cathepsin G protease on the division of neural stem cells.

RESEARCH INSTITUTE OF MICROBIOLOGY

Intern

Almaty, Kazakhstan

Aug 2021– Oct 2021

- Analyzed the properties of various bacteria and fungi.
- Prepared nutritious media for bacterial and fungal growth (broth tube, agar slant, agar tube, agar plate).
- Participated in research experiments, including discovering bacteria that would enhance soil fertility in Kazakhstani steppe or discovering bacteria that can purify the Caspian Sea from oil contamination coming from neighboring factories.
- Learned how to use microbiology lab equipment and applications.
- Learned the principles of research design, ethics as well as data collection and interpretation.

RESEARCH INSTITUTE OF VIROLOGY

Intern

Almaty, Kazakhstan

Aug 2021 – Oct 2021

- Learned how to analyze the activity of viruses. Checked viral infections using chicken embryos.
- Tested the effectiveness of various plant-based antiviral drugs on different viral species.
- Learned how to use virology lab equipment.

Leadership and Activities

“SYNAPSE” BIOLOGY CLUB

Event manager

Astana, Kazakhstan

Aug 2022 – May 2023

- Actively participated in the organization of student events on biology topics (guest lectures, interviewing professors and successful alumni, social-media content creation). Collaborated with a team of 10 people as well as professors at Nazarbayev University.

TAEKWONDO CLUB

Active participant

Astana, Kazakhstan

Apr 2022 – May 2023

- Actively participated in events. Showed taekwondo performances and taught beginners.
- Organized and participated in taekwondo tournaments held at Nazarbayev University. Winner of the 1st place in my weight category (57 kg) in May 2022. The organizer of the international taekwondo tournament held in November 2022 at Nazarbayev University.

IGEM CLUB

Event manager

Astana, Kazakhstan

Aug 2021 – May 2021

- Organized competitions on biology topics for students.
- Coordinated a team of 5 people in the organization of events.

MINISTRY OF RESEARCH AND INNOVATIONS

Event manager

Astana, Kazakhstan

Aug 2020 – May 2020

- Organized online events and contests for students in a team of 10 people.
- Created posters and scripts for social media and made email announcements.

STUDENT COUNCIL

Event manager

Astana, Kazakhstan

Aug 2018 – May 2019

- Organized social and educational events for Foundation year students.
- Was selected from 50 applying students for this position.

Skills & Interests

Laboratory: Cytotoxicity assays, fluorescent microscopy, visualization of cellular division under a confocal microscope, handling of *Drosophila*, dissection of *Drosophila* larvae under a stereoscope, electrophoresis, polymerase chain reaction (PCR), DNA/RNA extraction, anti-viral drug testing, gravimetric analysis, preparation of agar media for bacterial growth, bacterial culturing techniques, bacterial enumeration, usage of various research tools and equipment (weighting balance, bunsen burner, alcohol burner, pipettes, flasks, beakers, etc.).

Technical: Python programming.

Language: Russian (native proficiency), English (professional working proficiency), Kazakh (professional working proficiency), German (elementary proficiency, A2 Goethe Certificate).