Sanzhar Kakenov

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Education:

New York University Abu Dhabi - Abu Dhabi, United Arab Emirates May 2025

Bachelor of Sciences in Biology, *Brain and Cognitive Science specialization*

Research experience:

Chaudhury Laboratory, *Abu Dhabi, UAE* October 2022 - present
Research Assistant

- Contributed to research on major depressive disorders and sleep. Mastered neurobiology techniques for mouse models, including stereotaxic surgeries, scRNA-seq tissue preparation, perfusions, behavioural assays, IHC, and electrode preparation neural recordings.
- Expertise in scRNA-seq analysis using Seurat (R), Scanpy (Python), and methods like RNA velocity for gene expression dynamics.

Postgraduate Practical Training, *Abu Dhabi, UAE* May 2025 - July 2025 (2mo.)
Postgraduate Trainee

- Conducted genotyping, colony maintenance, genetic crossings, and surgical procedures in mice, along with data analysis.

Cornille Laboratory, *Abu Dhabi, UAE* November 2024 - May 2025(7mo.)
Student Assistantship (15h/week)

- Applied population genomics tools (STRUCTURE, ADZE, GenoDive, ABC, TreeMix) to analyze the genetic diversity and domestication history of Ficus carica.
- Expertise in inferring population structure, gene flow, and evolutionary history of populations using computational methods.

National center for biotechnology, *Astana, Kazakhstan* June - August 2023 (2mo.)
Research Intern

- Learned isolating, characterising, and cultivating primary cultures of Human Umbilical Mesenchymal Stem Cells.
- Developed metagenomics expertise by contributing to the Brucella detection project in cattle

Zebrafish husbandry, *Abu Dhabi, UAE* November 2022 - June 2023 (8mo.)
Research Technician

- Gained experience in maintaining zebrafish lines and mastered molecular biology techniques.

Publications & Posters

Bouchaib Khadari[1], **Sanzhar Kakenov[2],** Amandine Cornille[3]
"*Unprecedented into the domestication history of the cultivated fig trees: insight from population genetics*"- In preparation.

Sanzhar Kakenov[1], Priyam Narain[1], Giuseppe-Antonio Saldi[2], Dipesh Chaudhury[3]
"*Mechanisms Underlying Rhythmic Excitability in Mammalian Clock Neurons and Application of RNA Velocity in Circadian Neurobiology*" - Poster presented at CGSB Symposium XIII, February 2025

Sanzhar Kakenov[1], Priyam Narain[1], Giuseppe-Antonio Saldi[2], Dipesh Chaudhury[3]
"*Mechanisms Underlying Rhythmic Excitability in Mammalian Clock Neurons and Application of RNA Velocity in Circadian Neurobiology*" - Poster presented at Molecular and Cellular Cognition Conference, February 2025

Skills:

- **Languages:** Kazakh (Native),Russian (Native), English (Advanced), Turkish (Intermediate)
- **Computer:** Python programming language, R programming language, MS Office products (Excel), Adobe Creative Cloud, ADZE, STRUCTURE, ABC, GenoDive, QGIS.

Leadership & Community involvement:

NYUAD Student Government, *Abu Dhabi, UAE* September 2024 - May 2025 (9mo.)
Science Representative

- Gained administrative skills and learned effective communication and organisation.

ALANT, *Abu Dhabi, UAE* September 2023 - May 2025 (21mo.)
Founder

- **EdTech startup** aiming to support students with disabilities in effectively taking notes and studying through the application of neuroscience principles.
- Received 25,000 AED pre-seed grant from Sandooq al Watan

NeuroAD, *Abu Dhabi, UAE* September 2023 - May 2025 (21mo.)
Vice President

- Leading Student Interest Group for promoting Neuroscience.

iGEM 2022, *Abu Dhabi, UAE / Paris, France* March 2022 - October 2022 (8mo.)

- Conducted bioengineering research on developing an aptamer-based biosensor for early Alzheimer's disease detection. Received gold medal at iGEM 2022 competition.