Maria **Mukhanova**

Bachelor's Student in Biological Sciences · Drexel University

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Education

Drexel University — *Philadelphia, Pennsylvania*

BS in Biological Sciences: Cell, Molecular, Genetics, & Biochemistry Concentration — *Expected grad. June 2020*

Neuroscience & Bioinformatics Minors — *current-GPA-here*

Experience

Department of Anesthesiology & Critical Care, University of Pennsylvania — *Philadelphia, Pennsylvania*

Research Assistant in Epigenetic Regulation — *April 2019 – Present*

- Investigating the mechanisms of lipopolysaccharide (LPS) tolerance by triggering a variety of immune responses in the corresponding cell lines
- Conducting examinations of the control of genetic expression in survivors of critical care illnesses by processing respective blood samples
- Developed a semi-independent research project on the demand of *locum tenens* practice under the PI supervision
- Co-authored two abstracts, entitled *Disturbed Acquired Immunity After Elective Cardiopulmonary Bypass Surgery* and *Long Term Alterations In Reactivity Of Circulating Monocytes After Elective Heart Surgery*, as well as an upcoming review paper

Department of Psychology, Drexel University — *Philadelphia, Pennsylvania*

Research Assistant in Cognitive Neuroscience — *June 2019 - Present*

- Investigating the neural bases of flexible idea generation and evaluation by altering neural activity in different cortex regions using transcranial direct current stimulation (tDCS)
- Responsible for preparing appropriate stimuli for the individual experiments and the set-up of experimental designs, onboarding participants and test them on the brain stimulation protocol, applying brain imaging methods, and thereafter conducting complex data analyses

Department of Biological Sciences, Drexel University — *Philadelphia, Pennsylvania*

Research Assistant in Epigenetic Regulation — *September 2018 – June 2019*

- Studied the mechanisms underlying function of neural Tip60 histone acetyltransferases in neuroprotective epigenetic gene control under in vivo disease state Alzheimer's disease neurodegenerative condition
- Selected the certain type of Drosophila species for crossbreeding, brain dissection, and evaluation of the neural Tip60 HAT activity through subsequent molecular manipulations

Department of Higher Nervous Activity, Moscow State University — *Moscow, Russia*

Research Assistant in Behavioral Neuroscience — *March 2018-September 2018*

- Assisted PI directly in the experimental study of physiological mechanisms and genetic bases of audiogenic epilepsy in rodents
- Contributed to anesthesia application, transcardial perfusion, administration of therapeutics, and minor brain dissections and surgeries in rats and mice
- Performed experiments and data analysis, equipment and laboratory management, and maintenance duties

Mbam Djerem National Park — *Cameroon*

Research Assistant in Conservation Biology & Tropical Ecology — *June 2017 – July 2017*

- Researched and collected data in the Cameroonian tropical forests and manipulated R and QGIS to solve conservation problems
- Co-designed an original research project on butterfly and plant diversity and interaction in tropical ecology
- Worked effectively as a team member in a group environment communicating key concepts of conservation biology through both oral presentation and a final written report

Skills

Molecular Bio Laboratory Skills

- Experience with transgenic animal models (*Drosophila*; rats; mice) and human subjects.
- RNA/DNA/Protein Isolation, Western Blot, Southern Blot, ELISA, IHC Staining, Flow Cytometry, Mass Spectrometry, ChIP-Seq, Blood Separation (Processing of MNC, MO Isolation/Stimulation, T cell Isolation/Stimulation, Whole Blood Stimulation, Serum Separation), Microscopy, Restriction Digestion, 2-D Gel Electrophoresis, Ligation, Transformation, β-Gal Screening of Clones, PCR, qPCR, CO2 Tank/Liquid Nitrogen Management, Biosafety Cabinet/Fume Hood Maintenance, Sterilization/Autoclave, blood separartion, neurostimulation and neuromodulation

Neuroscience and Computational Biology Laboratory Skills

- EEG, EMG, tDCS, R, Mothur, RDP4, QGIS; BLAST, SeaView, Datamonkey, RepeatMasker, tRNAscan-SE, RNAmmer, Rfam, GLIMMER, CIPRES, IMG/M

Languages

- Fluent English and Russian, conversational French. Basic knowledge of Python and familiarity with programming paradigms.

Honors and Extracurricular Activities

CoAS Research Fellowship in Neuroscience, Recipient (2019-Present); Drexel Global Scholarship for Outstanding Leadership, Recipient (2016-Present); A.J. Drexel Scholarship, recipient (2016-Present); TriBeta Honor Biology Society, Member (2017-Present), American Society for Biochemistry & Molecular Biology, Student Chapter Member (2017-Present); Engineers Without Borders, Member (2017-Present)