

ADELAJDA TURKU

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EDUCATION

PhD Student, Biomedical Sciences, **Icahn School of Medicine at Mount Sinai**, NY, 2023—2028

BA/MA, dual degree, Biological Sciences (Honors) conc. in Biotech, **Hunter College**, NY, 2020—2023

AS, Associate in Science, Chemistry (Honors), **Bergen Community College (BCC)**, NJ, 2017—2020

SKILLS

Molecular Biology. DNA extraction, RNA extraction, nanodrop quantification. Southern blot, western blot. Agarose and SDS-PAGE gel electrophoresis. Real-Time PCR, standard PCR, and reverse-transcription PCR. Gene cloning, cell culture, cell engineering, tissue culture, cryosection. Cellular assays (calcium flux). Immunofluorescence (IF), immunohistochemistry (IHC), proximity ligation assay (PLA), microscopy (wide-field, confocal).

Biochemistry. ELISA, FRET, flow cytometry (killing assay, phenotypic and cytokine staining).

Programming. Beginner: R, Python, PRISM.

EXPERIENCE

Rotating PhD student, at Icahn School of Medicine at Mount Sinai (ISMMS), Manhattan, NY 08/2023—Present
Selected with 60 students from a 1,200 international pool of applicants (top 5%)

- Testing the effect of calcium signaling in astrocyte development in mouse model by sectioning brain tissue, imaging and quantifying the markers for glial cells' morphology and distribution in the cortical region (Dr. Panagiotakos lab).
- Investigated the epigenetic modifications of a pioneer transcription factor involved in cycling of hair follicle stem cells using proximity ligation assay (PLA) on mouse skin sections (Dr. Millar's lab).
- Manufactured CAR-T cells targeting BCMA-expressing multiple myeloma cells and validated results via phenotypic analysis using flow cytometry on healthy donor cells (Dr. Parekh's lab).
- Assessing the synergistic effect of a drug with CART therapy on immune cell activation using flow cytometry and the effect on cancer cell death using kill assay (Dr. Parekh's lab).

Student Researcher, at Neurobio Lab, Hunter College (CUNY), Manhattan, NY 01/2022—05/2023

- Evaluated the efficacy of a kinase inhibitor to treat multiple sclerosis symptoms in mouse model, staining brain tissue with IHC, imaging with wide-field microscope, quantifying markers via ImageJ and Imaris, and analyzed via PRISM (thesis).
- Prepared gels of different elastic modulus to mimic the brain extracellular environment and study the effect of the extracellular matrix in oligodendrocyte cells differentiation.

Scientific Summer Intern, Novartis Institute for Biomedical Research (NIBR), Cambridge, MA 06/2022—09/2022
Selected with 30 students from 800 applicants across the nation (top 4%)

- Identified expression levels of a G-protein coupled-receptor (GPCR) responsible for a metabolic disease, in diverse cell lines via reverse-transcriptase PCR, and its protein activity via calcium flux assay.
- Assessed high-affinity binding antibodies for an ion pump leading to heart failure by conducting ELISA and FRET assays.

Research Intern at Microbio Lab, 3SP Program, Bergen Community College (BCC), Paramus, NJ 06/2018—12/2019
STEM Student Scholar Program (3SP) is a selective program for the top 2% STEM students at BCC.

- Developed a real-time PCR assay for rapid detection of E. coli in pharmaceutical products, with low levels of bacterial contamination to optimize quality control of non-sterile pharmaceutical products.
- Identified a S. aureus carriage in a suburban NJ population via PCR and characterized the genotype and frequency of the pathogenicity genes through DNA sequencing to prevent outbreaks from the community.
- Detected microbial cellulase gene from soil via PCR, cloning, and phylogenetics analysis, identifying the enzymes degrading cellulose to glucose, with high potential of using cellulose as a source of fuel.

Peer Support, Bergen Community College (BCC), Paramus, NJ 01/2018—08/2020

- Peer tutor for college-level STEM courses to a diverse student population providing homework help or preparing study group sessions. Awarded the D. Scalcione award for tutoring mathematics courses with dedication and enthusiasm.
- Supplemental Instructor Leader for microbiology course across multiple semesters, preparing and leading tri-weekly study sessions based on learning techniques for 20+ student groups.
- Peer mentor for Pathway Scholars Program, training students on time management and goal setting to meet their academic goals. Returning as an alumnus holding workshops on transferring tips.

PROJECTS

Graduate project: Detect GFP gene and protein

01/2022

- DNA, RNA, and protein extraction and quantification of GFP from a cloned plasmid, using southern, western blot, RT-PCR.
- **NJ Governor's STEM Scholar's Project: Brain network and addiction** 07/2019— 05/2020
- Designed the project to investigate the neuronal network response to sugar to study addiction. Selected as top 1% STEM student in the state of NJ to conduct the project while leading and mentoring a group of outstanding high school students in STEM.
- **Brain Tingles project: ASMR and college student anxiety** 06/2018— 06/2019
- Trained peers to use Electroencephalogram to conduct the first comprehensive study on ASMR. First place from 1,300 projects at Spring 2019 PTK convention. First place from 150 projects at regional 2019 STEM C² conference at BCC.

MEMBERSHIPS, HONORS and SCHOLARSHIPS

- 2023 First Generation Scholar Mentor, mentoring first-gen students from underrepresented communities, Fall 2023— Present
- 2023 Women in Biology, national organization supporting women's careers, leadership in the life sciences, Fall 2023— Present
- 2020 AKA Education Advancement Scholarship, for academic achievement and financial need, Fall 2020
- Jack Kent Cooke (JKC) Scholarship Semifinalist, as top one-third of 1,500 national applicants, Jan. 2020
- Distinguished Officer Team Member, PTK Honors Society, for outstanding work in the college chapter, Spring 2019
- NJ STEM Scholar, for top STEM student in NJ for academic achievement and research engagement, Fall 2019
- 2018 PTK Global Leader of Promise, for academic achievement and leadership potential, Fall 2018
- Recipient of the BCC Scholarship for academic achievement, Spring 2018, and Spring 2019

CERTIFICATIONS/MINI COURSES

- Data Visualization with scRNAseq Virtual Training project, MILDR, Summer 2021
- R programming and applied statistical computing Certificate, BCC, Spring 2020

PUBLICATIONS

1. Jimenez, L., Vasquez, J., **Turku, A.**, Pincus, L. PCR detection, cloning, and genetic identification of microbial cellulases genes in soils. **BIOS**. August 23, 2022. [Link](#)
2. Jimenez, L., Peca, S., Bochis, J., Vasquez, J., Zapata, S., Ramadan, R., Gardner, M., Perez, S., Pinto, A., Pincus, L., Fadiga, L., and **Turku, A.** Nasal carriage of *Staphylococcus aureus* among a healthy suburban population: genotypic diversity and frequency of pathogenicity genes. **Journal of Microbiology and Experimentation**. October 25, 2021. [Link](#)
3. **Adelajda Turku**. The Microbio Pamphlet. **Amazon**. January 10, 2021. [Link](#)
4. Jimenez, L., Pinto, A., **Turku, A.**, Perez, S., Molina, V. Rapid Detection of *Escherichia coli* by Real-Time PCR in Pharmaceutical Products Contaminated by Low Levels of *Bacillus megaterium*, *Burkholderia cepacia*, *Escherichia coli*, and *Staphylococcus aureus*. **American Pharmaceutical Review**. August 26, 2019. [Link](#)
5. Alpha Epsilon Phi Chapter of PTK, Bergen Community College, Paramus NJ. Transforming Health Through Music Therapy. **2018-2019 Civic Scholar: Phi Theta Kappa Journal for Undergraduate Research**. [Link](#)

(SELECTED) PRESENTATIONS

1. **Adelajda Turku**, Ace Alcantara, Carmen Melendez-Vasquez. Does ROCK2 inhibition promote remyelination in a cuprizone mouse model? **Hunter Undergraduate STEM Research Conference**, April 2023, Manhattan, New York.
2. **Turku, A.**, Alarcon-Contreras, V., Berdichevski, A., Jamontt, J. Expression and activity of an endogenous GPR in human cell lines EA.hy926 and PC3. **Symposium of Novartis Institute for Biomedical Research (NIBR)**, August 2022, Cambridge, Massachusetts.
3. Pincus, L., S. Vasquez, **A. Turku**, and L. Jimenez. Characterization of microbial communities responsible for the biodegradation of cellulose in soils. **52nd Annual Meeting of the Metropolitan Association of College and University Biologists**, October 2019, Monmouth University, West Long Branch, New Jersey.
4. **Turku, A.**, A. Pinto, V. Molina, and L. Jimenez. Rapid Detection of *Escherichia coli* Contamination in Pharmaceutical Products using Real-Time PCR. **51st Annual Meeting of the Metropolitan Association of College and University Biologists**, October 2018, Queensborough Community College, Bayside, New York.
5. Alpha Epsilon Phi Chapter Officers. *Transforming Health Through Music Therapy*. Brain Tingles: Exploring a Holistic Approach to Alleviate Anxiety through EEG Brainwave Monitoring. **STEM C² Research Summit Conference**, May 2019, Bergen Community College, NJ.
6. **Turku, A.**, Thomas, A., DiLauro, C. Efficacy of Infra Slow Fluctuation training (ISF) in Attenuation of Stress and Anxiety, utilizing Brainmaster Discovery Quantitative Electroencephalogram (QEEG) and Self Report. **51st Annual Meeting of the Metropolitan Association of College and University Biologists**, October 2018, Queensborough Community College, Bayside, New York