

ILONA GOLYNKER

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Sharp, insightful researcher looking to translate scientific discoveries into therapeutic solutions.

Critical thinking | Quick and independent learning | Project planning and execution | Strong interpersonal skills

EDUCATION

University of Pennsylvania

Student for Doctor of Philosophy, Neuroscience

Philadelphia, PA

August 2022 – Present

Georgia State University

Bachelor of Science, Neuroscience

Atlanta, GA

August 2016 – May 2020

- GPA: 4.17
- Related coursework: Principles of Biology; Molecular Cell Biology; Principles of Chemistry; Principles of Neuroscience; Clinical Neuroscience; Drugs and the Nervous System; Organic Chemistry; Women Lead in Science; Scientific Method in Neuroscience; Principles of Physics; Neurovirology; Hormones and Behavior
- Awards: Georgia State University President's List (Spring/Fall 2017, 2018, 2019, 2020); 14th Annual Georgia State Undergraduate Research Conference – 2nd place in Natural & Computational Sciences: "Neonatal Knock-Down of Tet Enzymes Prevents Masculinization of the Mouse Hypothalamus"; Georgia State's Women Tennis All-Academic student-athlete; Sun Belt Conference Champion (2018)
- Honors thesis – "Effects of early-life inhibition of DNA methylation on calbindin cell number in the mouse brain". Advisor: Dr. Nancy Forger. Georgia State University, December 2019.

EXPERIENCE

tenOever Laboratory, Microbiology Department, Icahn School of Medicine at

Mount Sinai & Grossman School of Medicine at NYU Langone

Research Associate and Executive Coordinator

New York, NY

July 2020 – July 2022

- Investigating the utility and efficacy of over 50 FDA-approved drugs on ameliorating the symptoms of SARS-CoV-2 in a hamster model
- Comparing the transmissibility and the host response between fomite and intranasal modes of SARS-CoV-2 infection
- Characterizing brain pathophysiology related to SARS-CoV-2 infection
- Validate a novel mouse model for studying SARS-CoV-2 infection and host response
- Laboratory techniques include collecting and processing hamster tissues, RNA extractions, microscopy, cell culture, gene target screening and data visualization
- Establish and maintain all appropriate protocols for scientific approval including: IBC, IACUC, Environment Health and Safety, BSL2, BSL3, research training, chemical inventories, and controlled substances license
- Responsible for coordinating the logistics of moving the laboratory to a new institution
- Responsible for lab website development as first-point of contact with contractor including gathering information, providing input on design and content, and meeting strict deadlines

Forger Laboratory, Neuroscience Institute, Georgia State University

Research Assistant

Atlanta, GA

October 2017 – May 2020

- Investigating the role of epigenetics in sexual differentiation of the mouse brain
- Work included intracerebroventricular injections, collecting brain tissue, Nissl staining and immunohistochemistry, microscopy, PCR, data processing as well as attending lab meetings and leading scientific discussions

Pierce Laboratory, Microbiology Department, Georgia State University

Research Assistant

Atlanta, GA

January 2019 – January 2020

- Responsible for activity characterization of the enzyme asparaginase from the bacteria *R. rhodochrous* DAP 96622 to obtain insight on potential treatments for human leukemia
- Work included performing protein assays, purifications, and spectrophotometry, and documenting experimental protocols

Joseph Segol Neuroscience Center, Sheba Medical Center

Ramat Gan, Israel

Research Assistant

July 2019

- Responsible for motor, cognitive, and neurochemical assessment of mice that have undergone traumatic brain injury to investigate mechanisms of recovery
- Project included analyzing markers of neuroinflammation and damage of the blood-brain barrier using immunofluorescence and microscopy, as well as performing behavioral tests such as the Barnes Maze and Neurological Severity Score

PEER-REVIEWED PUBLICATIONS

- Frere, J.J., Serafini, R.A., Pryce, K.D., Zazhytska, M., Oishi, K., **Golyunker, I.**, Panis, M., Zimering, J., Horiuchi, S., Hoagland, D.A., Møller, R., Ruiz, A., Kodra, A., Overdevest, J.B., Canoll, P.D., Borczuk, A.C., Chandar, V., Bram, Y., Schwartz, R., Lomvardas, S., Zachariou, V., tenOever, B.R. SARS-CoV-2 infection in hamsters and humans results in lasting and unique systemic perturbations post recovery. *Sci Transl Med.* 2022 Jun 7:eabq3059. doi: 10.1126/scitranslmed.abq3059. Epub ahead of print. PMID: 35857629; PMCID: PMC9210449.
- Higgins, C.A., Nilsson-Payant, B.E., Kurland, A.P., Adhikary, P., **Golyunker, I.**, Danziger, O., Panis, M., Rosenberg, B.R., tenOever, B.R., Johnson, J.R. (2021). SARS-CoV-2 hijacks p38 β /MAPK11 to promote viral protein translation. *bioRxiv*. Preprint. doi: <https://doi.org/10.1101/2021.08.20.457146>.
- Si, L., Bai, H., Rodas, M., ... **Golyunker, I.**, ... Ingber, D.E. (2021). A human-airway-on-a-chip for the rapid identification of candidate antiviral therapeutics and prophylactics. *Nature Biomedical Engineering* 5(8):815-829.
- Hoagland, D.A., Møller, R., Uhl, S.A., Oishi, K., Frere, J., **Golyunker, I.**, Horiuchi, S., Panis, M., Blanco-Melo, D., Sachs, D., Arkun K., Lim, J.K., tenOever, B.R. (2021). Leveraging the antiviral type I interferon system as a first line of defense against SARS-CoV-2 pathogenicity. *Immunity* 54(3):557-570.e5.
- Cisternas, C.D., Cortes, L.R., **Golyunker, I.**, Castillo-Ruiz, A., Forger, N.G. (2020). Neonatal inhibition of DNA methylation disrupts testosterone-dependent masculinization of neurochemical phenotype. *Endocrinology* 161(1):bqz022.

SCIENTIFIC COMMUNICATIONS

- Public speaking. "How testosterone affects brain development by modifying DNA." (2019). Presented at the Honors College, Georgia State University.

POSTER PRESENTATIONS

- **Golyunker, I.**, Cortes, L. R., Cisternas, C. D., & Forger, N. G. Neonatal knock-down of Tet enzymes prevents masculinization of the mouse hypothalamus. Georgia State Undergraduate Research Conference, Atlanta GA, April 2020.
- Cortes, L.R., Cisternas, C.D., **Golyunker, I.**, Castillo-Ruiz, A., & Forger, N.G. Effects of early-life knock-down of DNMTs and TETs on sex differences in cell type in the hypothalamus. Society for Neuroscience, Chicago IL, October 2019.
- Cortes, L.R., Cisternas, C.D., **Golyunker, I.**, & Forger, N.G. The impact of DNA methyltransferase inhibition on early-life masculinization of cell phenotype. Organization for the Study of Sex Differences, Washington DC, May 2019.
- **Golyunker, I.**, Cisternas, C. D., Cortes, L. R., & Forger, N. G. DNA methylation mediates the effects of testosterone on calbindin cell number in the mouse brain. Georgia State Undergraduate Research Conference, Atlanta GA, April 2019.
- **Golyunker, I.**, Cisternas, C. D., Cortes, L. R., & Forger, N. G. DNA methylation mediates the effects of testosterone on calbindin cell number in the mouse brain. National Undergraduate Research Conference, Kennesaw State University, Atlanta GA, April 2019.

- Cortes, L.R., Cisternas, C.D., **Golyner, I.**, & Forger, N.G. Effects of neonatal testosterone and a DNA methyltransferase inhibitor on the sexual differentiation of cell phenotype in the mouse brain. Society for Neuroscience, San Diego CA, November 2018.
- **Golyner, I.**, Cisternas, C. D., Cortes, L. R., & Forger, N. G. DNA methylation mediates sexual differentiation of calbindin cell number in the mouse brain. Georgia State Undergraduate Research Conference, Atlanta GA, April 2018.

MEMBERSHIPS

- *Society for Neuroscience (SfN)*, 2019

MILITARY SERVICE

Israel Defense Forces (IDF)

Israel

Sergeant

April 2014 – March 2016

- Learned sophisticated HR and management tools, responsible for a unit of over 30 soldiers
- Conducted confidential recruiting for the army infantry
- Managed financial outcomes for soldiers and IDF workers

COMMUNITY OUTREACH

C. A. Roberts Elementary School

Dallas, GA

Guest Instructor & Exhibitor

February 2020

- Led an interactive lesson about neuroscience fundamentals tailored to young students. Real brains from a variety of animals were used to illustrate neuroanatomy related to learning, memory, disease, and behavior.

Volley Against Violence

Atlanta, GA

Volunteer assistant coach

October 2017

- Worked with several groups of children ages 5 to 15, provided them with basic tennis skills, led a series of technical drills, and gave them encouraging feedback

Universal Tennis Academy

Atlanta, GA

Volunteer

November 2017

- Assisted with coaching of 3 groups of young tennis players at the local tennis club, ages 10 to 15
- Advised and encouraged young tennis players to engage in sports by addressing questions and providing information from personal experience

SKILLS & INTERESTS

- Languages: Hebrew (native), Russian (native), English (fluent)
- Computer skills: Prism; DataView; ImageJ; Stereo-Investigator; Microsoft Office Suite
- Achievements in tennis as junior: ranked top 3 in Israel; Doubles National Champion (twice); ranked in ITF
- Interests: traveling, food, tennis, cinema, music, yoga, science communication