

## Education

- September 2021    Ph.D. in Neurobiology  
University of Haifa, Haifa, Israel  
**Dissertation:** Sex-specific roles of hippocampal microRNAs in stress vulnerability and resilience  
**Principal Investigator:** Dr. Gal Richter-Levin
- August 2016        M.A. in Psychobiology  
University of Haifa, Haifa, Israel  
**Thesis:** TrkB knockdown in the dentate gyrus is implicated in learning under stress and hippocampal local circuit activity  
**Final Grade:** 93. Dean's Honor List  
**Principal Investigator:** Dr. Gal Richter-Levin
- September 2014    B.A. in Psychology and Education  
Max Stern Yezreel Valley College, Yezreel Valley, Israel  
**Final Grade:** 96. Dean's Honor List

## Research Experience

- 2023- 2024        **Postdoctoral Research Fellow**  
Department of Diabetes, Obesity and Metabolism Institute, Icahn School of Medicine at Mount Sinai, New York, NY  
**Principal Investigator:** Dr. Sarah Stanley  
**Project:** Identification of mechanisms underlying trauma induced alterations in psychological and metabolic function
- 2021-2023        **Postdoctoral Research Fellow**  
Department of Neuroscience, Albert Einstein College of Medicine, Bronx, NY  
**Principal Investigator:** Dr. Jelena Radulovic  
**Project:** Functional organization of dorsal and ventral hippocampal projections to the retrosplenial cortex
- 2014 - 2021        **Doctoral researcher, Ph.D**  
Department of Neurobiology, University of Haifa, Haifa, Israel  
**Principal Investigator:** Dr. Gal Richter-Levin

**Project:** Understanding of the neurobiology of stress-related disorders, particularly post-traumatic stress disorder (PTSD)

2011 - 2014     **Research Assistant**  
Department of Psychology, Max Stern Yezreel Valley College, Yezreel Valley, Israel

## Teaching Experience

2018 - present     **Lecturer**  
Merkaz-Shiluv, Kiryat Tiv'on, Israel  
**Course:** Statistics (Graduate Level)

2018 - 2021     **Teaching Assistant**  
Max Stern Yezreel Valley College, Yezreel Valley, Israel  
**Department:** Educational Psychology  
**Course:** Advanced Methodologies (Graduate Level)

2014 - 2021     **Teaching Assistant**  
Max Stern Yezreel Valley College, Yezreel Valley, Israel  
**Departments:** Psychology, Social Work, Behavioral Science, Sociology, and Criminology  
**Courses:** Statistics, SPSS program, Psychology and Physiology of Behavior (Undergraduate Level)

2016 - 2017     **Lecturer**  
Max Stern Yezreel Valley College, Yezreel Valley, Israel  
**Department:** Social Work  
**Course:** Statistics (Graduate Level)

2016 - 2017     **Teaching Assistant**  
University of Haifa, Haifa, Israel  
**Department:** Education  
**Course:** Advanced Methodologies (Graduate Level)

2014 - 2016     **Teaching Assistant**  
University of Haifa, Haifa, Israel  
**Department:** Psychology  
**Course:** Physiology of Behavior (Undergraduate Level)

## Publication

### Peer-Reviewed Articles

**Krispil-Alon, M.,** Jovasevic, V., Rudulovic, J., & Richter-Levin, G. (2022). Sex-specific roles of hippocampal microRNAs in stress vulnerability and resilience. *Translational Psychiatry*, 12(1). <https://doi.org/10.1038/s41398-022-02267-4>

Barel, E., **Krispil-Alon, M.,** & Yaari, I. (2019). Cognitive performance across the menstrual cycle. *Journal of Psychology and Cognition*, 4(3).

\*Based on my undergraduate research project.

### Preprints

Hampton, R.F., Jimenez-Gonzalez, M., Kang, R., Alvarsson, A., Espinoza, D., Carty, J.R.E., Seibold, F., Lambertini, L., Alexeyev, L., Li, R., Devarakonda, K., Lu, G., Agyapong, B., Choudhury, J., **Krispil-Alon, M.,** Scott, D., Stewart, A., Garcia-Ocana, A., Stanley, S.A. (2025). Nutrient excess remodels islet autonomic innervation via pancreatic Schwann cells. bioRxiv

### Under Review

**Krispil-Alon, M.,** Salami-Abo, Roza., Tenenhaus-Zamir, Adi., Benhos, Amir., Radulovic, J., & Richter-Levin, G. (2025). Ventral dentate gyrus modulation of synaptic plasticity in the dorsal dentate gyrus. Submitted to *Brain Communications*

Zhang, H., **Krispil-Alon, M.,** Rudulovic, J., et al. Unreliable Expression of Adolescent Memories Linked to Multilevel Cortical Reorganization During Post-Adolescence. Submitted to *Nature Neuroscience*

Zhang, H., **Krispil-Alon, M.,** Rudulovic, J., et al. Retrosplenial Cortical Reorganization During Late Adolescence Introduces Instability of Episodic Memory Circuits.

### Manuscripts in Preparation

Stanley, S., **Krispil-Alon, M.,** Rajbhandari, A., al. The effect of medial amygdala (MeA) neuron modulation on diet-dependent behavioral and metabolic responses to trauma

## **Technical Specialties**

### **Molecular Biology**

RNA Isolation, cDNA synthesis, mRNA and miRNA extraction, Gene expression analysis, PCR, qPCR, quantification

### **Immunohistochemistry & Staining**

Primary and secondary immunofluorescence, double and triple immunofluorescence, DAB staining, crystal violet staining

### **Surgical Techniques & Neural Manipulation**

Stereotaxic surgery, viral injection, intracranial cannulation, DREADDs (Designer Receptors Exclusively Activated by Designer Drugs), fiber photometry, neural circuit modulation

### **Behavioral Assays (Rodents)**

Fear conditioning, elevated plus maze, open field, zero maze, Morris water maze, startle response, saccharin preference, two-way shuttle box

**Stress Models:** Chronic mild stress (CMS: cage tilt, wet bedding, water deprivation), juvenile stress (forced swim, elevated platform, restraint), maternal separation

### **Metabolic Testing**

Glucose tolerance test (GTT), insulin tolerance test (ITT)

### **Microscopy**

Confocal microscopy, brightfield/light microscopy

### **Bioinformatics & Data Analysis**

Gene ontology analysis, STRING, TargetScan, miRDB

### **Statistical Software & Programming**

GraphPad Prism, SPSS, R, MATLAB

### **Scientific Illustration & Imaging**

BioRender, Adobe Illustrator

### **Animal Models**

Extensive experience with both rat and mouse models

## Awards and Scholarships

- 2021-2024 **Israel Scholarship Education Foundation (ISEF)**, Excellence Scholarship for Postdoctoral Fellows
- 2021 **Excellent Oral Presentation**, Integrated Brain and Behavior Center (IBBRC) Online International Conference, Haifa, Israel
- 2016 - 2020 **ISEF Excellence Scholarship for PhD students**
- 2019 **Poster Presentation Prize**, Biological Psychiatry Conference, Kfar Blum, Israel
- 2019 **Rikchalsk Foundation Excellence Scholarship**, Research Authority, University of Haifa
- 2013 **B.A. Excellence Scholarship**, Max Stern Yezreel Valley College
- 2013 'Pais' Scholarship, Israel  
Funding Awarded for community service
- 2012 Gruss Fund Scholarship, Israel
- 2012 'Perach' Scholarship, Israel  
Awarded for volunteer tutoring of unprivileged children
- 2009 Savil Foundation Award, Israel- for excellence in national service

## Presentation

### Oral Presentations

- 2023 **Sex-specific roles of hippocampal microRNAs in stress vulnerability and resilience.** Women in Social Neuroscience Conference, Online International Conference
- 2021 **Sex-specific roles of hippocampal microRNAs in stress vulnerability and resilience.** The Integrated Brain and Behavior Center (IBBRC), Online International Conference

- 2019 **Sex-specific roles of hippocampal microRNAs in stress vulnerability and resilience.** Research Conference, Max Stern Yezreel Valley College, Yezreel Valley, Israel
- 2019 **GABA-related microRNAs in stress vulnerability and stress resilience.** Biological Psychiatry Conference, Kfar Blum, Israel
- 2019 **GABA-related microRNAs in stress vulnerability and stress resilience.** Neurobiology Department Conference, University of Haifa, Haifa, Israel
- 2019 **GABA-related microRNAs in stress vulnerability and stress resilience.** Mini-Symposium on PTSD, University of Haifa, Haifa, Israel

### Poster Presentations

- 2023 **Neural Circuitry in Fear Conditioning.** Psychiatry Research Institute of Montefiore and Einstein (PRIME) Conference, Albert Einstein College of Medicine.
- 2020 **Sex-specific roles of hippocampal microRNAs in stress vulnerability and resilience.** Federation of European Neuroscience Societies (FENS), Online Virtual Forum
- 2019 **Sex-specific roles of hippocampal microRNAs in stress vulnerability and resilience.** Israel Society for Neuroscience (ISFN), Eilat, Israel
- 2019 **GABA-related microRNAs in stress vulnerability and stress resilience.** Epigenetic of the "Incubation" Conference, Bar-Ilan University, Bar-Ilan, Israel
- 2019 **GABA-related microRNAs in stress vulnerability and stress resilience.** Biological Psychiatry Conference, Kfar Blum, Israel
- 2019 **The effect of oligodendrogenesis overexpression in the DG on hippocampal-related behavior and plasticity.** ISEF Scholarship Conference, Jerusalem, Israel

## **Additional Conferences Attended**

- 2022 Society for Neuroscience (SFN) Conference, San Diego, California
- 2021 Molecular and Cellular Cognition Society (MCCS), Online International Conference
- 2018 Regulatory RNA in the Brain and Brain Diseases Conference, Weizmann institute of science, Rehovot, Israel
- 2016 Israel Society for Biological Psychiatry Conference, Kibbutz Hagoshrim, Israel
- 2016 The neuroscience of Social Interactions and Memory Conference, University of Haifa, Haifa, Israel
- 2015 - 2017 Israel Society for Neuroscience (ISFN), Eilat, Israel

## **Statistics Private Consultant**

- 2018 - 2021 **Statistics Private Consultant, Israel**  
Provided statistical analysis consulting for faculty and students

## **Community Service and Public Outreach Activities**

- 2022-2024 **Regional Manager, ScienceAbroad, NYC Chapter, New York, NY**  
Organize professional and social events for Israeli scientists living in the New York city area.
- 2022-present **Co-founder, ScienceAbroad Mentoring Program, New York, NY**  
Established and implemented a mentoring program for early-career Israeli scientists abroad.
- 2022 **Contributor, Little, Big Science**, published an article aimed at making recent scientific discoveries accessible to the general public.

- 2019 - 2020     **Mentor, "Exposure to Academy" Program**, ISEF Foundation, Israel  
Introduced underprivileged high school students to academic pathways and encouraged their pursuit of higher education.
- 2019           **Speaker, 'Science on Tap'**, Haifa, Israel  
Delivered a public lecture on neuroscience in an informal setting to a broad community audience.
- 2017, 2018     **Demonstrator, Microscope Station – Researchers' Night**,  
University of Haifa, Israel  
Led interactive demonstrations in microscopy for children and families during public science outreach events.
- 2013 - 2014    **Social and Educational Instructor, Ahava Boarding School**, Israel  
Provided individualized support and social skills instruction to adolescents with behavioral challenges.