

**EDUCATION**

- 2006 – 2012 **PhD in Molecular Neuroscience**, Department of Physiology and Pharmacology, Tel Aviv University, Israel.
- 2003 – 2005 **MSc in Medical Sciences**, *Magna cum laude*. Department of Physiology and Pharmacology, Tel Aviv University, Israel.
- 1998 – 2001 **BSc in Life Sciences, Sociology, and Anthropology**  
Hebrew University of Jerusalem, Israel.

**EXPERIENCE**

- 2020 – Present **Assistant Professor**, Department of Biology, Texas A&M University, College Station, TX, USA.  
The Farhy lab is specializing in studying the molecular mechanisms of astrocyte-neuron interactions that regulate synapse development and function.
- 2013 – 2020 **Postdoctoral Research Associate**, Molecular Neurobiology Laboratory, Salk Institute for Biological Studies, La Jolla, CA, USA. Mentor: [Dr. Nicola J Allen](#).  
Specialized in astrocyte regulation of neuronal synapse formation and function using pure neuronal cultures, genetic mouse models, histology and single cell transcriptomic analysis
- 2006 – 2012 **PhD in Molecular Neuroscience**, Department of Physiology and Pharmacology, Tel Aviv University, Israel. Mentor: [Prof. Nathan Dascal](#).  
Thesis title: “Mechanisms of modulation of Cav2.2 and GIRK channels by stargazin and lithium”.
- 2003 – 2005 **MSc in Medical Sciences**, *Magna cum laude*, Department of Physiology and Pharmacology, Tel Aviv University, Israel. Mentor: [Prof. Yosef Sarne](#).  
Thesis title: “A single ultra-low dose of  $\delta$ -9-tetrahydrocannabinol causes long term cognitive deficits in mice”

**PUBLICATIONS**

- [Farhy-Tselnicker I](#)**, Boisvert MM, Liu H, Dowling C, Erikson GA, Blanco-Suarez E, Farhy C, Shokhirev M, Ecker JR, Allen NJ. Activity-Dependent Modulation of Synapse-Regulating Genes in Astrocytes. *eLife*. 2021;10:e70514. DOI: 10.7554/eLife.70514.
- [Farhy-Tselnicker I](#)** and Allen NJ. Astrocytes, neurons, synapses: a tripartite view on cortical circuit development. *Neural Dev*. 2018 May 1;13(1):7. Review. PMID: 29712572
- [Farhy-Tselnicker I](#)**, van Casteren ACM, Lee A, Chang VT, Aricescu AR, Allen NJ. Astrocyte-Secreted Glypican 4 Regulates Release of Neuronal Pentraxin 1 from Axons to Induce Functional Synapse Formation. *Neuron*. 2017 Oct 11;96(2):428-445.e13. PMID: 29024665.
  - Highlighted article of the Neuron issue 96(2).
  - Highlighted in: Hines PJ. Astrocytes Regulate Synaptogenesis. *Science*. 2017 Nov 10; 358(6364): 759-760.
  - Overviewed in: Condomitti G, de Wit J. Astrocytes Supply Presynaptic Terminals with a Sweet Incentive to Make Connections. *Dev Cell*. 2017 Nov 6; 43(3):261-263. PMID: 29112849.

4. Yakubovich D, Berlin S, Kahanovitch U, Rubinstein M, **Farhy-Tselnicker I**, Styr B, Keren-Raifman T, Dessauer CW, Dascal N. A Quantitative Model of the GIRK1/2 Channel Reveals That Its Basal and Evoked Activities Are Controlled by Unequal Stoichiometry of G $\alpha$  and G $\beta\gamma$ . *PLoS Comput Biol*. 2015 Nov 6;11(11). PMID: 26544551.
5. **Farhy-Tselnicker I**, Boisvert MM, Allen NJ. The role of neuronal versus astrocyte-derived heparan sulfate proteoglycans in brain development and injury. *Biochem Soc Trans*. 2014 Oct 1;42(5):1263-9. Review. PMID: 25233401.
6. **Farhy-Tselnicker I**, Tsemakhovich V, Rishal I, Kahanovitch U, Dessauer CW, Dascal N. Dual regulation of G proteins and the G-protein-activated K<sup>+</sup> channels by lithium. *Proc Natl Acad Sci USA*. 2014 Apr 1;111(13):5018-23. PMID: 24639496.
7. **Tselnicker I** and Dascal N. Further characterization of regulation of Ca<sub>v</sub>2.2 by stargazin. *Channels (Austin)*. 2010 Sep-Oct; 4(5):351-4. Addendum. PMID: 21139418.
8. **Tselnicker I**, Tsemakhovich VA, Dessauer CW, Dascal N. Stargazin modulates neuronal voltage-dependent Ca<sup>2+</sup> channel Ca<sub>v</sub>2.2 by a G $\beta\gamma$ -dependent mechanism. *J Biol Chem*. 2010 Apr 30; 285:20462-20471. PMID: 20435886.
9. **Tselnicker I**, Keren O, Hefetz A, Pick CG, Sarne Y. A single low dose of tetrahydrocannabinol induces long-term cognitive deficits. *Neurosci Lett*. 2007 Jan 10; 411(2):108-11. PMID: 17092651.

## **RESEARCH SUPPORT**

2020-2021                    T3, Texas A&M Triads for Transformation, Texas A&M University seed grant, total amount: 30,000\$ direct cost, title: "3D Glioblastoma Model to Investigate Pathophysiology of Glioma Stem Cells", Lead PI: Dr. Irtisha Singh; no salary support.  
 2018 – 2020                Salk Women & Science Special Award  
 2015 – 2016                Catharina Foundation Postdoctoral Fellowship Award

## **SELECTED TALKS**

### **2021**

1. Invited to present a seminar at the Department of Biology at University of Mary Hardin-Baylor (UMHB), Belton, TX (virtual).
2. Invited to present a seminar for the TAMU American Medical Student Association, College Station, TX (virtual).

### **2020**

1. Selected for a talk and to serve on program organizing committee for the Kavli Institutes in Neuroscience Forum at Yale University (postponed, virtual).
2. Cold spring harbor glia in health and disease meeting. Virtual. Title: "Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity".

3. Selected as Platform co-chair and speaker at the Biophysical Society annual meeting, San Diego, USA. Title: "Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity".

## 2017

1. 8<sup>th</sup> ILANIT/FISEB Conference, Eilat, Israel. Title: "The role of astrocyte secreted Glypican 4 in functional synapse formation".

2. Department of Physiology and Pharmacology seminar series, Tel Aviv University, Israel. Title: "The role of astrocyte secreted Glypican 4 in functional synapse formation".

## 2016

1. Society for Neuroscience annual meeting in San Diego, USA. Title: "The role of astrocyte secreted Glypican 4 in functional synapse formation".

## SELECTED POSTERS

### 2021

1. **Farhy-Tselnicker I**, Boisvert MM, Liu H, Dowling C, Erikson GA, Blanco-Suarez E, Farhy C, Shokhirev M, Ecker JR, Allen NJ. The European Meeting on Glial Cells in Health and Disease. Title: "Activity-Dependent Modulation of Synapse-Regulating Genes in Astrocytes".

### 2020

1. **Farhy-Tselnicker I**, Dowling C, Allen NJ. CZI Neurodegeneration Challenge Network 2020 Annual Meeting. Virtual. Title: "Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity". (Won 3<sup>rd</sup> place poster competition award)

### 2019

1. **Farhy-Tselnicker I**, Dowling C, Allen NJ. Society for Neuroscience annual meeting, Chicago, USA. Title: "Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity"

2. **Farhy-Tselnicker I**, Dowling C, Allen NJ. Gordon Research Conference - Neurotrophic Mechanisms in Health and Disease, Salve Regina University, USA. Title: "Astrocyte expression of synapse promoting genes is developmentally regulated by neuronal and astrocyte activity"

### 2018

1. **Farhy-Tselnicker I**, Dowling C, Allen NJ. Society for Neuroscience annual meeting, San Diego, USA. Title: "Developmental analysis of astrocytes and astrocyte-derived synapse promoting genes in the mouse visual cortex in vivo".

2. **Farhy-Tselnicker I**, Dowling C, Allen NJ. 2018 Conference on Glial Biology in Medicine, Roanoke, USA. Title: "Developmental analysis of astrocytes and astrocyte-derived synapse promoting genes in the mouse visual cortex in vivo".

3. **Farhy-Tselnicker I**, Dowling C, Allen NJ. Cold spring harbor glia in health and disease meeting, Cold spring harbor, USA. Title: “Developmental analysis of astrocytes and astrocyte-derived synapse promoting genes in the mouse visual cortex in vivo”.

## 2012

1. **Farhy-Tselnicker I** and Dascal N. 8<sup>th</sup> FENS Forum of Neuroscience in Barcelona, Spain. Title: “The role of stargazin and calcium channel  $\beta_3$  subunit ( $Ca_v\beta_3$ ) in  $Ca_v2.2$  channel modulation by  $G\beta\gamma$ ”.

2. **Farhy-Tselnicker I**, Tsemakhovich VA, Dessauer CW, Dascal N. Israeli Society of Physiology and Pharmacology ISPP annual meeting in Ma’ale Hahamisha, Israel. Title: “Lithium regulates the G protein-activated  $K^+$  channels: possible link to the molecular mechanism of bipolar disorder”.

## PROFESSIONAL MEMBERSHIPS

2019	Biophysical Society
2010 – Present	Society for Neuroscience
2012 – Present	Associate Faculty Member F1000
2006 – 2012	Israel Society for Neuroscience