

Yoav Adam CURRICULUM VITAE**Personal details:****Name:** Yoav Adam**ID number:** 032755506**Date and Place of Birth:** 13/2/1978, Haifa, ISRAEL.**Marital status:** Married +3**Citizenship:** Israeli, German.**Address:** 55 HeKhalutz St. 55, Jerusalem, ISRAEL.**Work:** +972-2-5494831**Mobile:** +972-54-5216730**Email:** yoav.adam@mail.huji.ac.il**Website:** <https://elsc.huji.ac.il/people-directory/faculty-members/yoav-adam>**Higher Education:**2001-2004 **B.Sc.** The Hebrew University of Jerusalem, Israel. Biology and Psychology (Honorary program).2004-2007 **M.Sc.** Dept. Of Biochemistry, The Hebrew University of Jerusalem, Israel. Advisor: Prof. Shimon Schuldiner. Thesis title: *'Expression and function of a bacterial and a mammalian proton-coupled transporters'.* (Cum Laude).2007-2013 **Ph.D.** Dept. of Neurobiology, The Hebrew University of Jerusalem, Israel. Advisor: Prof. Adi Mizrahi. Thesis title: *'Odor processing by distinct neuronal populations in the mouse olfactory bulb'.*2013 – 2019 **Postdoctoral Fellow**, Department of Chemistry and Chemical Biology, Harvard University and Howard Hughes Medical Institute. Adviser: Prof. Adam Cohen.**Appointments at the Hebrew University:**2019 – **Assistant Professor**, Edmond and Lily Safra Center from Brain Sciences (ELSC), The Hebrew University of Jerusalem.2021 – **Sachs family lecturer in Brain Sciences**, The Hebrew University of Jerusalem**Honors:**

2003 Summer Research Fellowship for B.Sc students.

2005 EMBO travel award

2005 The Hazelkron prize for outstanding M.Sc students.

2009 Rector's fellowship for outstanding Ph.D. students.

2010 Keystone travel grant

2010 – 2012 Ph.D. excellence fellowship from the Golda Meir fellowships fund

2011 Psychobiology Inst. travel grant

2011 ELSC travel grant

2012 Aharon Katzir travel grant

2013 ELSC postdoc fellowship (1-year full fellowship)

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| 2013 | Gruss-Lipper postdoc fellowship (3 years full fellowship, denied) |
| 2014 – 2017 | Human Frontiers Science program long-term fellowship (3 years full fellowship) |
| 2018 | Best poster award at the Optogenetics GRC. |
| 2020 | Alon fellowship for outstanding young faculty |
| 2022 | Kavli fellow of the National Academy for Sciences |

Research Grants:

| <u>Period</u> | <u>Agency, Title</u> | <u>Role</u> | <u>Amount</u> |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|
| 2020-2025 | European Research Council – starting grant All-Optical Dissection of Hippocampal Circuits Using Voltage Imaging | PI | \$1,760,000 |
| 2020-2021 | ELSC collaborative seed grant Voltage imaging in freely moving animals using Fiberscope and patterned illumination With Ori Katz, The Hebrew University of Jerusalem | Co-PI | \$100,000 |
| 2020-2023 | Alon Fellowship for outstanding young faculty | PI | \$330,000 |

Supervision of Graduate Students:M.Sc. Students:

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| 2021 – | Efrat Scheinbach, co-supervisor – Prof. Alexander Binshtok (Expected to transition to Direct Ph.D. on February 2023) |
| 2021 – | Yaniv Melamed |
| 2021 – | Rotem Kipper |
| 2021 – | Mor Margolin |

Direct track Ph.D. students (ELSC Ph.D. program in Computational Neuroscience):

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| 2021 – | Qixin Yang |
| 2022 – | Michal Rubin |

Ph.D. Student:

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| 2022 – | Gur Aminadav, co-supervisors – Prof. Oded Shoseyov, Prof. Yosi Paltiel |
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Research Articles:

1. Soskine M, **Adam Y**, and Schuldiner S. (2004) Direct evidence for substrate-induced proton release in detergent-solubilized EmrE, a multidrug transporter. *J Biol Chem*. 2004 Mar 12;279(11):9951-5.
2. **Adam Y**, Tayer N, Rotem D, Schreiber G, Schuldiner S. (2007) The fast release of sticky protons: Kinetics of substrate binding and proton release in a multidrug transporter. *Proc Natl Acad Sci U S A*. 2007 Nov 13;104(46):17989-94.

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3. Steiner-Mordoch S, Soskine M, Solomon D, Rotem D, Gold A, Yechieli M, **Adam Y** and Schuldiner S. (2008) Parallel topology of genetically fused EmrE homodimers. *EMBO J.* 2008 Jan 9;27(1):17-26.
4. **Adam Y**, Edwards RH, and Schuldiner S. (2008) Expression and function of the rat vesicular monoamine transporter. *Am J Physiol Cell Physiol.* 2008 Apr;294(4):C1004-11.
5. **Adam Y** and Mizrahi A. (2011) Long-term imaging reveals dynamic changes in the neuronal composition of the glomerular layer. *J Neuroscience.* 2011 Jun 1;31(22):7967-73.

**Accompanied by Editorial "This week in Journal"*

6. Livneh Y, **Adam Y**, Mizrahi A. (2014) Odor processing by adult-born neurons. *Neuron.* 2014 Mar 5;81(5):1097-110.
7. **Adam Y**, Livneh Y, Miyamichi K, Groyzman M, Luo L, Mizrahi A. (2014) Functional transformations of odor inputs in the mouse olfactory bulb. *Front Neural Circuits.* 2014 Nov 4;8:129
8. Lou S, **Adam Y**, Weinstein EN, Williams E, Williams K, Parot V, Kavokine N, Liberles S, Madisen LC, Zeng HP, Cohen AE. (2016) Genetically Targeted All-Optical Electrophysiology with a Transgenic Cre-Dependent Optopatch Mouse. *J Neuroscience.* 2016 Oct 26;36(43):11059-11073.

**Cover article*

9. Fan LZ, Nehme R, **Adam Y**, Jung ES, Wu H, Eggan K, Arnold DB, Cohen AE. (2018) All-optical synaptic electrophysiology probes mechanism of ketamine-induced disinhibition. *Nature Methods* 2018 Oct;15(10):823-831.
10. Parot VJ, Sing-Long C, **Adam Y**, Boehm UL, Fan L, Farhi SL, and Cohen AE. Compressed Hadamard Microscopy for high-speed optically sectioned neuronal activity recordings. *J. Phys. D: Appl. Phys.* **52**, 144001, 2019.
11. Farhi SL, Parot V, Grama A, Yamagata M, Abdelfattah AS, **Adam Y**, Lou S, Kim JJ, Campbell RE, Cox DD, and Cohen AE. (2018) Wide-area all-optical neurophysiology in acute brain slices. *J Neurosci.* 2019 Apr 5. pii: 0168-19.
12. **Adam Y**, Kim JJ, Lou S, Zhao Y, Xie ME, Brinks D, Wu H, Mostajo-Radji MA, Kheifets S, Parot V, Chettih S, Williams KJ, Gmeiner B, Farhi SL, Madisen L, Buchanan EK, Kinsella I, Zhou D, Paninski L, Harvey CD, Zeng H, Arlotta P, Campbell RE, Cohen AE. (2019) Voltage imaging and optogenetics reveal behavior-dependent changes in hippocampal dynamics. *Nature.* 2019 May; 569(7756):413-417.

**Previewed in Nature Methods, F1000, and popular media*

13. Xie ME, **Adam Y**, Fan LZ, Bohm UL, Kinsella I, Zhou D, Maron R, Singh A, Svoboda K, Paninski · Cohen AE. (2021) High fidelity estimates of spikes and subthreshold waveforms from 1-photon voltage imaging in vivo. *Cell Reports.* Apr 6;35(1):108954.

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14. Chien MP, Brinks D, Testa-Silva G, Tian H, Phil Brooks F, **Adam Y**, Bloxham W, Gmeiner B, Kheifets S, Cohen AE. (2021) Photoactivated voltage imaging in tissue with an archaerhodopsin-derived reporter. *Science Advances*. 2021 May 5;7(19).
15. Armbruster M, Naskar S, Garcia JP, Sommer M, Kim E, **Adam Y**, Haydon PG, Boyden ES, Cohen AE, Dulla CG. (2022) Neuronal activity drives pathway-specific depolarization of peripheral astrocyte processes. *Nat Neurosci*. 2022 May;25(5):607-616.

Review articles:

16. **Adam Y** and Mizrahi A. (2010) Circuit formation and maintenance – perspectives from the mammalian olfactory bulb. *Current Opinion in Neurobiology*. 2010 Feb;20(1):134-40.
17. Brinks D, **Adam Y**, Kheifets S, Cohen AE. (2016) Painting with Rainbows: Patterning Light in Space, Time, and Wavelength for Multiphoton Optogenetic Sensing and Control. *Acc Chem Res*. 2016 Nov 15;49(11):2518-2526.
18. **Adam Y**. All-optical electrophysiology in behaving animals. (2021). *J Neurosci Methods*. Feb 15;353:109101.

Invited Lectures:

- 2018 Hebrew University, ELSC (Jerusalem, IL)
- 2018 Hebrew University, Hadassah Medical School (Jerusalem, IL)
- 2018 Technion, School of Medicine (Haifa, IL)
- 2019 Bar Ilan University, Gonda Center for Brain Research (Ramat Gan, IL)
- 2019 Tel Aviv University, School of Medicine (Tel Aviv, IL)
- 2019 Haifa University, Dept. of Neurobiology (Haifa, IL)
- 2019 Harvard University Mind Brain and Behavior (Boston, MA)
- 2019 ELSC, Brainy days in Jerusalem meeting (Jerusalem, IL)
- 2020 Champalimaud Centre for the Unknown (Lisbon, *canceled due to Covid19*)
- 2021 Ben Gurion University, Zlotowski Center for Neuroscience (April 2021, Online)
- 2021 France-Israel ImagiNano seminar (Paris, *canceled due to Covid19*)
- 2022 Hebrew University, Hadassah Medical School (Jerusalem, IL)
- 2022 California Institute of Technology, Biology and Biological Engineering (Pasadena, CA)
- 2022 University of California Los Angeles, Dept. of Neurobiology (Los Angeles, CA)

Scientific Conferences:*Conference session chair:*

- 2021 Optical approaches for elucidating neuronal function and behavior. *Annual meeting of the Israel Society for Neuroscience (ISFN)* (Virtual meeting)
- 2022 Voltage imaging and beyond, next-generation molecular and optical tools for high-speed brain imaging. *FENS Forum* (Paris, FR)
- 2022 Optical strategies for studying brain function *Annual meeting of the Israel Society for Neuroscience (ISFN)*. (Eilat, IL)

Yoav Adam CURRICULUM VITAE***Organization of Scientific Meetings:***

- 2013 Co-organizer, Lecture and networking event series of the 'Israel Brain Technology' (IBT) – a non-profit, aimed to advance the neuro-technology industry in Israel.
- 2022 – 2023 Organizer of the Annual retreat of the Edmond and Lily Safra Center for Brain Sciences

Oral presentations:

- 2010 Israel Society for Neuroscience (Eilat, IL)
- 2011 Japan-Israel grant progress seminar (Kyoto, Japan).
- 2012 Israel Society for Neuroscience (Eilat, IL)
- 2015 Israel Society for Neuroscience (Eilat, IL)
- 2018 'State of the Brain' Keystone meeting (Keystone, CO)
- 2018 Harvard University Dept. of Chemistry and Chemical Biology annual retreat (Cambridge, MA)
- 2018 Society for Neuroscience annual meeting (San Diego, CA)
- 2019 Harvard University Center for Brain Sciences (Cambridge, MA)
- 2022 Epilepsy Gordon Research Conference (Barcelona, SP). Invited
- 2022 Israel Society for Neuroscience annual meeting (Eilat, IL). Invited
- 2023 Neurotechnology 2023: Precision Approaches for Studying and Treating the Brain (To be held in April 2023, WIS, Rehovot, IL). Invited

Poster presentations:

1. Soskine M, **Adam Y**, and Schuldiner S. (2005) Direct evidence for substrate-induced proton release in detergent-solubilized EmrE, a multidrug transporter. *The 4th annual meeting of the Federation of Israeli Societies of Experimental Biology (FISEB)*, Eilat, Israel.
2. Soskine M, **Adam Y**, and Schuldiner S. (2005) Direct evidence for substrate-induced proton release in detergent-solubilized EmrE, a multidrug transporter. *International School of Biophysics: Channels and Transporters*. Erice, Italy.
3. **Adam Y** and Mizrahi A. (2009). Imaging the development and turnover of dopaminergic neurons in the mouse olfactory bulb. Proceedings of the 18th annual meeting of the *Israel Society for Neuroscience (ISFN)*, Eilat, Israel.
4. **Adam Y** and Mizrahi A. (2011) Long-term imaging of dopaminergic neurons turnover in the mouse olfactory bulb. *Keystone meeting on adult neurogenesis*. Taos, NM.
5. **Adam Y**, Spors H, and Mizrahi A. (2011) Long-term calcium imaging of distinct neuronal populations in the mouse olfactory bulb. *Society for Neuroscience annual meeting 2011*. Washington DC.
6. **Adam Y** and Mizrahi A. (2012) Functional imaging of local networks in the mouse olfactory bulb. *Society for Neuroscience annual meeting 2012*. New Orleans, LA.
7. **Adam Y**, Zhao Y, Mostajo-Radji MA, Arlotta P, Campbell RE, Cohen AE (2015). Toward voltage imaging in the live mouse brain with enhanced Rhodopsin-based voltage sensors. *Society for Neuroscience annual meeting 2015*. Chicago, IL.

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8. **Adam Y**, Lou S, Farhi SL and Cohen AE. (2016). Optical recording of neuronal activity. *Harvard University Center for Brain Science Annual Retreat*. Cambridge, MA.
9. **Adam Y**, Lou S, Zhao Y, Brinks D, Wu H, Kim JJ, Mostajo Radji MA, Chettih S, Harvey CD, Zeng H, Arlotta P, Campbell RE, and Cohen AE. (2017). All-optical electrophysiology in the live mouse brain with enhanced rhodopsin-based voltage sensors. *HFSP annual meeting*, Lisbon, Portugal
10. **Adam Y**, Lou S, and Cohen AE. (2017). All-optical electrophysiology in behaving mice with enhanced near-infrared voltage sensors. *Annual meeting of the Society for General physiology*. Woods Hole, MA.

**selected for a 'poster blitz' talk*

11. **Adam Y**, and Cohen AE. (2018). All-optical electrophysiology in behaving mice with enhanced near-infrared voltage sensors. *HHMI Science meeting*. Janelia Research Campus, Ashburn, VA.
12. **Adam Y**, Kim JJ, Lou S, Zhao Y, Brinks D, Wu H, Mostajo Radji MA, Parot V, Kheifets S, Chettih S, William K, Farhi SL, Harvey CD, Zeng H, Arlotta P, Campbell RE, and Cohen AE. (2018). All-optical electrophysiology in behaving mice with enhanced near-infrared voltage sensors. *Neuronal Circuits Meeting*. Cold Spring Harbor Laboratory, NY.
13. **Adam Y**, and Cohen AE. (2018). All-optical electrophysiology in behaving mice with enhanced near-infrared voltage sensors. *Harvard University Center for Brain Science Annual Retreat*. Cambridge, MA.
14. **Adam Y** and Cohen AE. (2018). All-optical electrophysiology reveals brain-state-dependent changes in hippocampal subthreshold dynamics and excitability. *Gordon Research Conference; Optogenetic Approaches to Understanding Neural Circuits and Behavior*. Newry, ME.

**Best poster award*

Other conferences:

- 2005 "International School of Biophysics: Channels and Transporters". Erice, Italy.
- 2012 "Merck-Serono Innovation cup". Seeheim-Jugenheim, Germany.