

List of ELSC members' publications – January-June 2019

Merav Ahissar:

[Perceptual bias reveals slow-updating in autism and fast-forgetting in dyslexia.](#)

Lieder I, Adam V, Frenkel O, Jaffe-Dax S, Sahani M, **Ahissar M.**

Nat Neurosci. 2019 Feb;22(2):256-264. doi: 10.1038/s41593-018-0308-9. Epub 2019 Jan 14.

[Auditory frequency discrimination is correlated with linguistic skills, but its training does not improve them or other pitch discrimination tasks.](#)

Jakoby H, Raviv O, Jaffe-Dax S, Lieder I, **Ahissar M.**

J Exp Psychol Gen. 2019 Mar 7. doi: 10.1037/xge0000573. [Epub ahead of print]

[Benefits from morphological regularities in dyslexia are task dependent.](#)

Kimel E, **Ahissar M.**

J Exp Psychol Learn Mem Cogn. 2019 May 13. doi: 10.1037/xlm0000717. [Epub ahead of print]

Hagai Bergman:

[Parkinsonism-related  \$\beta\$  oscillations in the primate basal ganglia networks - Recent advances and clinical implications.](#)

Deffains M, **Bergman H.**

Parkinsonism Relat Disord. 2019 Feb;59:2-8. doi: 10.1016/j.parkreldis.2018.12.015. Epub 2018 Dec 14.

Alex Binshtok:

[Location and Plasticity of the Sodium Spike Initiation Zone in Nociceptive Terminals In Vivo.](#)

Goldstein RH, Barkai O, Íñigo-Portugués A, Katz B, Lev S, **Binshtok AM.**

Neuron. 2019 May 22;102(4):801-812.e5. doi: 10.1016/j.neuron.2019.03.005. Epub 2019 Mar 26.

[Platelet-derived growth factor activates nociceptive neurons by inhibiting M-current and contributes to inflammatory pain.](#)

Barkai O, Puig S, Lev S, Title B, Katz B, Eli-Berchoer L, Gutstein HB, **Binshtok AM**.  
Pain. 2019 Jun;160(6):1281-1296. doi: 10.1097/j.pain.0000000000001523.

Yoram Burak:

[Limits on spectral resolution measurements by quantum probes.](#)

Rotem A, Gefen T, Oviedo-Casado S, Prior J, Schmitt S, **Burak Y**, McGuinness L, Jelezko F, Retzker A.

Physical Review Letters 122, 060503.

Ami Citri:

[The role of the genome in experience-dependent plasticity: Extending the analogy of the genomic action potential.](#)

Clayton DF, Anreiter I, Aristizabal M, Frankland PW, Binder EB, **Citri A**.

Proc Natl Acad Sci U S A. 2019 May 24. pii: 201820837. doi:  
10.1073/pnas.1820837116. [Epub ahead of print]

Leon Deouell:

[Preserved left and upper visual field advantages in older adults' orienting of attention.](#)

Erel H, Ronen T, Freedman G, **Deouell LY**, Levy DA.

Exp Gerontol. 2019 Jun 10;124:110630. doi: 10.1016/j.exger.2019.110630. [Epub  
ahead of print]

[Evidence for Linear but Not Helical Automatic Representation of Pitch in the Human Auditory System.](#)

Regev TI, Nelken I, **Deouell LY**.

J Cogn Neurosci. 2019 May;31(5):669-685. doi: 10.1162/jocn\_a\_01374. Epub 2019 Jan  
18.

Yossi Grodzinsky:

[Measuring the cognitive cost of downward monotonicity by controlling for negative polarity.](#)

Agmon G, Loewenstein Y, **Grodzinsky Y**.

Glossa: A Journal of General Linguistics, 4(1), 36. March 2019.

Shaul Hochstein

[Relating categorization to set summary statistics perception.](#)

Khayat N, **Hochstein S**.

Atten Percept Psychophys. 2019 Jun 26. doi: 10.3758/s13414-019-01792-7. [Epub ahead of print]

Leo Joskowicz:

[Automatic change detection in sparse repeat CT scanning.](#)

Shamul N, **Joskowicz L**.

IEEE Trans Med Imaging. 2019 May 27. doi: 10.1109/TMI.2019.2919149. [Epub ahead of print]

[Flexible needle and patient tracking using fractional scanning in interventional CT procedures.](#)

Medan G, **Joskowicz L**.

Int J Comput Assist Radiol Surg. 2019 Jun;14(6):1039-1047. doi: 10.1007/s11548-019-01945-x. Epub 2019 Apr 8.

[A Comparison of different scoring terminations rules for visual acuity testing: from a computer simulation to a clinical study.](#)

Mimouni M, Shamir RR, Cohen AD, El-Yaniv R, Cohen MJ, **Joskowicz L**, Blumenthal EZ.

Curr Eye Res. 2019 Jul;44(7):790-795. doi: 10.1080/02713683.2019.1589524. Epub 2019 Apr 8.

[Inter-observer variability of manual contour delineation of structures in CT.](#)

**Joskowicz L**, Cohen D, Caplan N, Sosna J. European Radiology 29(3):1391-1399, 2019 (March 2, 2019)

[The effect of motion correction interpolation on quantitative T1 mapping with MRI.](#)

Nachmani A, Schurr R, **Joskowicz L**, Mezer AA.

Med Image Anal. 2019 Feb;52:119-127. doi: 10.1016/j.media.2018.11.012.

Chaya Kalcheim

[YAP promotes neural crest emigration through interactions with BMP and Wnt activities.](#)

Kumar D, Nitzan E, **Kalcheim C**.

Cell Commun Signal. 2019 Jun 22;17(1):69. doi: 10.1186/s12964-019-0383-x.

[The neural crest: a remarkable model for studying development and disease.](#)

**Kalcheim C**.

Methods Mol Biol. 1976:1-19. doi: 10.1007/978-1-4939-9412-0\_1. Review.

Yonatan Loewenstein:

[Measuring the cognitive cost of downward monotonicity by controlling for negative polarity](#)

Agmon G, **Loewenstein Y**, Grodzinsky Y.

Glossa: A Journal of General Linguistics, 4(1), 36. March 2019.

[Deviation from the matching law reflects an optimal strategy involving learning over multiple timescales.](#)

Iigaya K, Ahmadian Y, Sugrue LP, Corrado GS, **Loewenstein Y**, Newsome WT, Fusi S.

Nat Commun. 2019 Apr 1;10(1):1466. doi: 10.1038/s41467-019-09388-3.

[From choice architecture to choice engineering.](#)

Dan O, **Loewenstein Y**.

Nat Commun. 2019 Jun 26;10(1):2808. doi: 10.1038/s41467-019-10825-6.

Eran Meshorer:

[AUTS2 isoforms control neuronal differentiation.](#)

Monderer-Rothkoff G, Tal N, Risman M, Shani O, Nissim-Rafinia M, Malki-Feldman L, Medvedeva V, Groszer M, **Meshorer E**, Shifman S.

Mol Psychiatry. 2019 Apr 5. doi: 10.1038/s41380-019-0409-1. [Epub ahead of print]

[Spironolactone inhibits the growth of cancer stem cells by impairing DNA damage response.](#)

Gold A, Eini L, Nissim-Rafinia M, Viner R, Ezer S, Erez K, Aqaq N, Hanania R, Milyavsky M, **Meshorer E**, Goldberg M.

Oncogene. 2019 Apr;38(17):3103-3118. doi: 10.1038/s41388-018-0654-9. Epub 2019 Jan 8.

[Open Chromatin, Epigenetic Plasticity, and Nuclear Organization in Pluripotency.](#)

Schlesinger S, **Meshorer E**.

Dev Cell. 2019 Jan 28;48(2):135-150. doi: 10.1016/j.devcel.2019.01.003. Review.

Aviv Mezer:

[Diffusivity and quantitative T1 profile of human visual white matter tracts after retinal ganglion cell damage.](#)

Takemura H, Ogawa S, **Mezer AA**, Horiguchi H, Miyazaki A, Matsumoto K, Shikishima K, Nakano T, Masuda Y.

Neuroimage Clin. 2019 Apr 16;23:101826. doi: 10.1016/j.nicl.2019.101826. [Epub ahead of print]

[Evaluating arcuate fasciculus laterality measurements across dataset and tractography pipelines.](#)

Bain JS, Yeatman JD, Schurr R, Rokem A, **Mezer AA**.

Hum Brain Mapp. 2019 May 20. doi: 10.1002/hbm.24626. [Epub ahead of print]

[Modeling conduction delays in the corpus callosum using MRI-measured g-ratio.](#)

Berman S, Filo S, **Mezer AA**.

Neuroimage. 2019 Jul 15;195:128-139. doi: 10.1016/j.neuroimage.2019.03.025.

Epub 2019 Mar 22.

[More than myelin: Probing white matter differences in prematurity with quantitative T1 and diffusion MRI.](#)

Travis KE, Castro MRH, Berman S, Dodson CK, **Mezer AA**, Ben-Shachar M, Feldman HM.

Neuroimage Clin. 2019;22:101756. doi: 10.1016/j.nicl.2019.101756. Epub 2019 Mar 12.

[The effect of motion correction interpolation on quantitative T1 mapping with MRI.](#)

Nachmani A, Schurr R, Joskowicz L, **Mezer AA**.

Med Image Anal. 2019 Feb;52:119-127. doi: 10.1016/j.media.2018.11.012.

Baruch Minke:

[Comparative docking analysis of cholesterol analogs to ion channels to discriminate between stereospecific binding vs. stereospecific response.](#)

Barbera NA, **Minke B**, Levitan I.

Channels (Austin). 2019 Dec;13(1):136-146. doi: 10.1080/19336950.2019.1606670.

Adi Mizrahi:

[Rapid Changes in Synaptic Strength After Mild Traumatic Brain Injury.](#)

Witkowski ED, Gao Y, Gavsyuk AF, Maor I, DeWalt GJ, Eldred WD, **Mizrahi A**, Davison IG.

Front Cell Neurosci. 2019 Apr 26;13:166. doi: 10.3389/fncel.2019.00166. eCollection 2019.

[The Pre-synaptic Landscape of Mitral/Tufted Cells of the Main Olfactory Bulb.](#)

Vinograd A, Tasaka GI, Kreines L, Weiss Y, **Mizrahi A**.

Front Neuroanat. 2019 Jun 6;13:58. doi: 10.3389/fnana.2019.00058. eCollection 2019.

Israel Nelken:

[Evidence for Linear but Not Helical Automatic Representation of Pitch in the Human Auditory System.](#)

Regev TI, **Nelken I**, Deouell LY.

J Cogn Neurosci. 2019 May;31(5):669-685. doi: 10.1162/jocn\_a\_01374. Epub 2019 Jan 18.

[Filters: When, Why, and How \(Not\) to Use Them.](#)

de Cheveigné A, **Nelken I**.

Neuron. 2019 Apr 17;102(2):280-293. doi: 10.1016/j.neuron.2019.02.039. Review.

[In Vivo Functional Mapping of a Cortical Column at Single-Neuron Resolution.](#)

Tischbirek CH, Noda T, Tohmi M, Birkner A, **Nelken I**, Konnerth A.

Cell Rep. 2019 Apr 30;27(5):1319-1326.e5. doi: 10.1016/j.celrep.2019.04.007.

Yifat Prut:

[Reversible Block of Cerebellar Outflow Reveals Cortical Circuitry for Motor Coordination.](#)

Nashef A, Cohen O, Harel R, Israel Z, **Prut Y**.

Cell Rep. 2019 May 28;27(9):2608-2619.e4. doi: 10.1016/j.celrep.2019.04.100.

Hermona Soreq:

[Current understanding of fear learning and memory in humans and animal models and the value of a linguistic approach for analyzing fear learning and memory in humans.](#)

Raber J, Arzy S, Bertolus JB, Depue B, Haas HE, Kangas M, Kensinger E, Lowry CA, Marusak HA, Minnier J, Mouly AM, Muehlberger A, Norrholm SD, Peltonen K, Pinna G, Rabinak C, Shiban Y, **Soreq H**, van der Kooij MA, Lowe L, Weingast LT, Yamashita P, Boutros SW.

Neurosci Biobehav Rev. 2019 Apr 7. pii: S0149-7634(18)30642-0. doi: 10.1016/j.neubiorev.2019.03.015. [Epub ahead of print] Review.

[NEAT1 is overexpressed in Parkinson's disease \*substantia nigra\* and confers drug-inducible neuroprotection from oxidative stress.](#)

Simchovitz A, Hanan M, Niederhoffer N, Madrer N, Yayon N, Bennett ER, Greenberg DS, Kadener S, **Soreq H**.

FASEB J. 2019 Jul 16:fj201900830R. doi: 10.1096/fj.201900830R. [Epub ahead of print]

Naftali Tishby:

[Information Constrained Control for Visual Detection of Important Areas.](#)

Hecht RM, Telpaz A, Kamhi G, Bar Hillel A, **Tishby N**.

IEEE Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP'19), Brighton, UK, May 2019.

[Communicative need in colour naming.](#)

Zaslavsky N, Kemp C, **Tishby N**, Regier T.

Cogn Neuropsychol. 2019 Apr 26:1-13. doi: 10.1080/02643294.2019.1604502. [Epub ahead of print]

[Semantic categories of artifacts and animals reflect efficient coding.](#)

Zaslavsky N, Regier T, **Tishby N**, Kemp C.

In *Proceedings of the 41st Annual Conference of the Cognitive Science society (CogSci)*, Montreal, Canada, July 2019. (also in arXiv:1905.04562)

[Color Naming Reflects Both Perceptual Structure and Communicative Need.](#)

Zaslavsky N, Kemp C, **Tishby N**, Regier T.

Top Cogn Sci. 2019 Jan;11(1):207-219. doi: 10.1111/tops.12395. Epub 2018 Nov 20. Review.

Yosi Yarom:

[Large Scale Calcium Imaging of the Cerebellar Vermis During Sensory Stimulus Unravels Two Response's Components That Differ in Their Spatiotemporal Properties.](#)

Byk H, Huang GJ, Iwakura Y, **Yarom Y**.

Front Syst Neurosci. 2019 May 8;13:18. doi: 10.3389/fnsys.2019.00018. eCollection 2019.



[Variability and directionality of inferior olive neuron dendrites revealed by detailed 3D characterization of an extensive morphological library.](#)

Vrieler N, Loyola S, Yarden-Rabinowitz Y, Hoogendorp J, Medvedev N, Hoogland TM, De Zeeuw CI, De Schutter E, **Yarom Y**, Negrello M, Torben-Nielsen B, Uusisaari MY.

Brain Struct Funct. 2019 May;224(4):1677-1695. doi: 10.1007/s00429-019-01859-z.  
Epub 2019 Mar 30.

bioRxiv publications:

[Neuronal activity and learning in local cortical networks are modulated by the action-perception state.](#)

Engelhard B, Darshan R, Ozeri-Engelhard N, Israel Z, Werner-Reiss U, Hansel D, **Bergman H, Vaadia E.**

bioRxiv; 537613

[Velocity coupling of grid cell modules: stable embedding of a low dimensional variable in a high dimensional neural attractor](#)

Mosheiff N, **Burak Y.**

bioRxiv 651513

[A cellular and spatial map of the choroid plexus across brain ventricles and ages.](#)

Dani N, Herbst RH, **Habib N**, Head J, Dionne D, Nguyen L, McCabe C, Cui J, Shipley FB, Jang A, Rodman C, Riesenfeld SJ, Zhang F, Rozenblatt-Rosen O, Regev A, Lehtinen MK.

bioRxiv 627539

[Cerebellar climbing fibers encode expected reward size.](#)

Larry N, Yarkoni M, Lixenberg A, **Joshua M.**

bioRxiv 533653

[Using extracellular low frequency signals to improve the spike sorting of cerebellar complex spikes.](#)

Zur G, **Joshua M.**

bioRxiv 556985

[Neural tube development depends on notochord-derived Sonic hedgehog released into the sclerotome.](#)

Kahane N, **Kalcheim C.**

bioRxiv, 639831.

[Astrocytes Contribute to Remote Memory Formation by Modulating Hippocampal-Cortical Communication During Learning.](#)

Kol A, Adamsky A, Groysman M, Kreisel T, **London M, Goshen I.**

bioRxiv, 682344

[Neuron Geometry Underlies a Universal Local Architecture in Neuronal Networks](#)

Gal E, Perin R, Markram H, **London M, Segev I.**

bioRxiv, 656058

[Inference based decisions in a hidden state foraging task: differential contributions of prefrontal cortical areas](#)

Vertechi P\*, **Lottem E\***, Sarra D\*, Godinho B, Treves I, Quendera T, oude Lohuis NM, Mainen ZF.

\*equal contribution

bioRxiv, 679142

[Sex-related perturbations in schizophrenia and bipolar disorder brains reflect microRNA-mediated cholinergic/neurokine interactions.](#)

Lobentanzer S, Hanin G, Klein J, and **Soreq H.**

bioRxiv, 600932

[Perceptron learning and classification in a modeled cortical pyramidal cell](#)

Moldwin T, **Segev I.**

bioRxiv, 464826

[Single Cortical Neurons as Deep Artificial Neural Networks](#)

Beniaguev D, **Segev I, London M.**

bioRxiv, 613141

[Surprise response as a probe for compressed memory states.](#)

Levi-Aharoni H, Shriki O, **Tishby N.**

bioRxiv, 627133

[Population subspaces reflect movement intention for arm and brain-machine interface control.](#)

Lalazar H, Murray JM, Abbott LF, **Vaadia E.**

bioRxiv, 688259

[Phase-specific microstimulation in brain machine interface setting differentially modulates beta oscillations and affects behavior.](#)

Peles O, Werner-Reiss U, Bergman H, Israel Z, **Vaadia E.**

bioRxiv, 622787