

# Israeli Human Neuroimaging 2019

## Final posters list

### 1. Cortical Layer Parcellation in the General Population Using Inversion- Recovery MRI

*Zvi Baratz<sup>1</sup>, Omri Tomer<sup>1</sup>, Ittai Shamir<sup>1</sup>, Dor Kaptzon<sup>1</sup>, Daniel Barazany<sup>1</sup>, Assaf Horowitz<sup>1</sup>, Maya Faraggi<sup>1</sup>, Yaniv Assaf<sup>1</sup>*

*<sup>1</sup>Tel Aviv University, Israel.*

### 2. Sub-voxel Estimation of Fat Infiltration in Degenerative Muscle Disorders using Multi-T2 Analysis

*Jannette Nassar<sup>1</sup>, Dvir Radunsky<sup>1</sup>, Noam Omer<sup>1</sup>, Yann Le Fur<sup>2</sup>, David Bendahan<sup>2</sup>, and Noam Ben-Eliezer<sup>1,3,4</sup>*

*<sup>1</sup>Department of Biomedical Engineering and Sagol School of Neuroscience, Tel Aviv University, Tel Aviv, Israel; <sup>2</sup>Aix Marseille University, CNRS, CRMBM, Marseille, France; <sup>3</sup>Center for Advanced Imaging Innovation and Research, New York University, New York, NY, USA; <sup>4</sup>University, New York, NY, USA. <sup>4</sup>Sagol School of Neuroscience, Tel Aviv University, Tel Aviv, Israel.*

### 3. A probabilistic method for modelling cortical layer composition in sub-voxel resolution

*Omri Tomer<sup>1</sup>, Zvi Baratz<sup>1</sup>, Ittai Shamir<sup>2</sup>, Dor Kaptzon<sup>2</sup>, Assaf Horowitz<sup>1</sup>, Maya Faraggi<sup>2</sup>, Daniel Barazany<sup>2</sup> and Yaniv Assaf<sup>1,2</sup>*

*<sup>1</sup>Sagol School of Neuroscience, <sup>2</sup>Department of Neurobiology, Faculty of Life Sciences, Tel Aviv University;*

### 4. Subdividing the superior longitudinal fasciculus to its subcomponents using quantitative T1 mapping

*Roey Schurr<sup>1</sup>, Ady Zelman<sup>1</sup>, Aviv A. Mezer<sup>1</sup>*

*<sup>1</sup>Edmond & Lily Safra Center for Brain Sciences, The Hebrew University of Jerusalem, Israel.*

### 5. Modeling conduction delays in the corpus callosum using MRI-measured g-ratio

*Shai Berman<sup>1</sup>, Shir Filo<sup>1</sup>, Aviv A. Mezer<sup>1</sup>*

*<sup>1</sup>Edmond and Lily Safra center for Brain Sciences, at the Hebrew University of Jerusalem, Jerusalem, Israel.*

## **7. White Matter Patterns Related to Math vs. Reading Challenges in Children with Developmental Dyslexia**

*Noam Glukhovksy<sup>1</sup>, Rola Farah<sup>1</sup>, Tzipi Horowitz-Kraus<sup>1</sup>*

*<sup>1</sup>Faculty of Bio medical Engineering and Faculty of Education in Science and Technology, Technion, Israel Institute of Technology*

## **8. qMRI grey matter microstructural changes predict healthy aging and identify Multiple Sclerosis**

*Asier Erramuzpe<sup>1</sup>, Roey Schurr<sup>1</sup>, Aviv Mezer<sup>1</sup>*

*<sup>1</sup>Hebrew University, Jerusalem, Israel*

## **9. The Effects of Traumatic Brain injury Factors on Brain Activation During an Executive Task**

*Sarel Shlomo<sup>1</sup>, Maayan Sapir<sup>1</sup>, Leeron Rabinov<sup>1</sup>, Niv Tik<sup>1</sup>, Reut Raizman<sup>1</sup>, Liat Ben Ami<sup>1</sup>, Galia Tsarfaty<sup>1,2</sup>, Elena Tchvaloon<sup>3</sup>, Assia Klots<sup>3</sup>, Ofer Keren<sup>2,3</sup>, Zion Zibly<sup>2,4</sup>, Abigail Livny<sup>1,5</sup>*

*<sup>1</sup>Division of Diagnostic Imaging, Sheba Medical Center, Tel Hashomer, Israel; <sup>2</sup>Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel; <sup>3</sup>Head Trauma Rehabilitation Department, <sup>4</sup>Department of Neurosurgery, <sup>5</sup>J. Sagol Neuroscience Center, Sheba Medical Center, Tel Hashomer, Israel;*

## **10. Neural correlates of future weight loss, a possible role for brain-gastric connectivity**

*Gidon Levakov<sup>1,2</sup>, Alon Kaplan<sup>3</sup>, Anat Yaskolka Meir<sup>3</sup>, Ehud Rinott<sup>3</sup>, Gal Tsaba<sup>3</sup>, Hila Zelicha<sup>3</sup>, Nachshon Meiran<sup>2,4</sup>, Ilan Shelef<sup>2,5</sup>, Iris Shai<sup>3</sup> & Galia Avidan<sup>1,2,4</sup>*

*<sup>1</sup>Department of Brain and Cognitive Sciences, <sup>2</sup>Zlotowski Center for Neuroscience, <sup>3</sup>Department of Epidemiology, <sup>4</sup>Department of Psychology, <sup>5</sup>Department of Imaging, Ben-Gurion University of the Negev, Beer-Sheva, Israel.*

## **11. The Neural Correlates of Social Synchrony in ASD**

*Inbar Zvia Marton-Alper<sup>1</sup>, Nevat Michael<sup>1</sup>, Karklinsky Matan<sup>2</sup>, Gvirtz Hila<sup>3</sup>, Shamay-Tsoory Simone .G<sup>1</sup>*

*<sup>1</sup>University of Haifa, Israel; <sup>2</sup>Weizmann Institute of Science, Israel; <sup>3</sup>Ariel University, Israel.*

## **12. Neuroanatomy of Face Recognition Memory**

*Shir Ben-Zvi Feldman<sup>1</sup>, Nachum Soroker<sup>1,2</sup>, Daniel A. Levy<sup>3</sup>*

*<sup>1</sup>Sackler Faculty of Medicine, Tel-Aviv University, Israel; <sup>2</sup>Lowenstein Rehabilitation Hospital, Raanana, Israel; <sup>3</sup>Baruch Ivcher School of Psychology, Interdisciplinary Center Herzliya, Israel;*

#### 14. Network Representation of Persistent Visual Categories

*Gal Vishne<sup>1</sup>, Edden M. Gerber<sup>1</sup>, Robert T. Knight<sup>2</sup>, Leon Y. Deouell<sup>1</sup>*

*<sup>1</sup>The Hebrew University of Jerusalem, Israel; <sup>2</sup>University of California, Berkeley, USA.*

#### 15. Behavioral and neural mechanisms underlying visual expertise

*Nilly Weiss<sup>1</sup> & Galia Avidan<sup>1,2</sup>*

*<sup>1</sup>Department of Psychology and <sup>2</sup>Department of Cognitive and Brain Science, Ben-Gurion university, Israel.*

#### 16. Properties of language recruitment in the congenitally deprived visual network

*Benedetta Heimler<sup>#1,2</sup>, Galit Buchs<sup>#1,3</sup>, Lior Reich<sup>1,2</sup>, Amir Amedi<sup>1,2,3</sup>*

*<sup>1</sup>Department of Medical Neurobiology, Institute for Medical Research Israel-Canada, Faculty of Medicine, Hebrew University of Jerusalem, Hadassah Ein-Kerem, Jerusalem, Israel; <sup>2</sup>The Edmond and Lily Safra Center for Brain Research, the Hebrew University of Jerusalem, Hadassah Ein-Kerem, Jerusalem, Israel; <sup>3</sup>Department of Cognitive Science, Faculty of Humanities, Hebrew University of Jerusalem, Israel;*

#### 17. Population Receptive Fields' Size and Complex Visual Dysfunction: a Posterior Cortical Atrophy Model

*Pieter de Best<sup>1</sup>, Noa Raz<sup>1</sup>, Nitzan Guy<sup>2</sup>, Tamir Ben-Hur<sup>3</sup>, Serge Dumoulin<sup>4,5,6</sup>, Yoni Pertzov<sup>7</sup>, Netta Levin<sup>1</sup>*

*<sup>1</sup>Department of Neurology, the Hadassah Hebrew University Medical Center, Jerusalem, Israel; <sup>2</sup>Department of Cognitive Sciences, the Hebrew University of Jerusalem, Israel; <sup>3</sup>Department of Neurology, the Hadassah Hebrew University Medical Center, Jerusalem, Israel; <sup>4</sup>Spinoza Center for Neuroimaging, Amsterdam, Netherlands; <sup>5</sup>Department of Experimental and Applied Psychology, VU University, Amsterdam, Netherlands; <sup>6</sup>Department of Experimental Psychology, Helmholtz Institute, Utrecht University, Utrecht, Netherlands; <sup>7</sup>Department of Psychology, the Hebrew University of Jerusalem, Israel.*

#### 18. Single Neurons in the Human STN and GPi Represent Motor and Visual Parameters

*Yael Lustig<sup>#1</sup>, Ido Strauss<sup>#1,3</sup>, William D. Hutchison<sup>4,5</sup>, Itzhak Fried<sup>1,3,6</sup>, Andres M. Lozano<sup>4</sup>, Ariel Tankus<sup>1,2,3</sup>*

*<sup>1</sup>Department of Neurology and Neurosurgery, Sackler Faculty of Medicine, <sup>2</sup>Sagol School of Neuroscience, Tel Aviv University, Tel Aviv, Israel; <sup>3</sup>Functional Neurosurgery Unit, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; <sup>4</sup>Division of Neurosurgery, Department of Surgery, <sup>5</sup>Department of Physiology, Faculty of Medicine, University of Toronto, Toronto Western Hospital, Ontario, Canada; <sup>6</sup>Department of Neurosurgery, David Geffen School of Medicine and Semel Institute for Neuroscience, University of California at Los Angeles (UCLA), Los Angeles, CA, USA.*

#### 19. The "creatures" of the human cortical somatosensory system

Noam Saadon-Grosman<sup>1,2</sup>, Yonatan Loewenstein<sup>3,4</sup>, Shahar Arzy<sup>1,2</sup>

<sup>1</sup>Neuropsychiatry Lab, Department of Neurology, Hadassah Hebrew University Medical Center, Jerusalem, Israel; <sup>2</sup>Department of Medical Neurobiology, Faculty of Medicine, Hadassah Hebrew University Medical School, Jerusalem, Israel; <sup>3</sup>The Edmond and Lily Safra Center for Brain Sciences and the Alexander Silberman Institute of Life Sciences, <sup>4</sup>Dept. of Cognitive Sciences and The Federmann Center for the Study of Rationality, The Hebrew University, Jerusalem, Israel.

#### 20. Alpha suppression in the somatosensory cortex is finger specific

Nir Ofir<sup>1</sup>, Noam Schwar<sup>1</sup>, Kyoussuke Kamada<sup>2</sup>, Robert Prückl<sup>3</sup>, Christoph Guger<sup>3</sup>, & Ayelet N. Landau<sup>1</sup>

<sup>1</sup>Hebrew University of Jerusalem, Israel; <sup>2</sup>Asahikawa University, Japan; <sup>3</sup>g.tec medical engineering GmbH, Austria.

#### 24. A Role for Amygdala-Pallidum Pathway in Human Maternal Bonding

Yoni Amir, Bradford C. Dickerson, Ciprian Catana, Lisa Feldman Barrett, & Shir Atzil

<sup>1</sup>Department of Psychology, the Hebrew University of Jerusalem, Jerusalem Israel.

<sup>2</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital and Harvard Medical School, Charlestown. <sup>3</sup>Department of Psychology, Northeastern University, Boston; <sup>4</sup>Yale Child Study Center, New Haven; <sup>5</sup>Gonda Brain Research, <sup>5</sup>Bar Ilan University, Ramat Gan, Israel. <sup>6</sup>Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston.

#### 25. Striatal signature in preference-modification training without external reinforcements

Salomon, T.<sup>1</sup>, Botvinik-Nezer, R.<sup>1,2</sup>, Oren, S.<sup>1,2</sup>, and Schonberg, T.<sup>1,2</sup>

<sup>1</sup>Department of Neurobiology, Tel Aviv University; <sup>2</sup>Sagol School of Neuroscience, Tel Aviv University

#### 26. Neural correlates of effort-based valuation with prospective choices

Nadav Aridan<sup>1</sup>, Nicholas J. Malece<sup>2</sup>, Russell A. Poldrack<sup>2,3</sup>, Tom Schonberg<sup>1,2,4</sup>

<sup>1</sup>Department of Neurobiology, Faculty of Life Sciences, Tel Aviv University, Tel Aviv, Israel; <sup>2</sup>Imaging Research Center, The University of Texas at Austin, Austin, TX;

<sup>3</sup>Department of Psychology, Stanford University, Stanford, CA; <sup>4</sup>Sagol School of Neuroscience, Tel Aviv University, Tel Aviv, Israel.

#### 27. Neural Markers of Spatial Attention to Speech

Dan Agmon<sup>1</sup>, Paz Har-Shai<sup>1</sup>, Elana Zion-Golombic<sup>1</sup>

<sup>1</sup>Gonda Multidisciplinary Brain Research Center, Bar Ilan University, Israel.

#### 28. Neural Decoding of Concurrent Speech: Effects of Selective and Distributed Attention

Kaufman Maya<sup>1</sup> and Zion Golombic Elana<sup>1</sup>

*<sup>1</sup>Gonda Multidisciplinary Brain Research Center, Bar Ilan University, Israel.*

**29. The involvement of extra-linguistic high cognitive functions in pragmatic inferences**

*Tal Tehan<sup>1</sup> & Einat Shetreet<sup>2</sup>*

*<sup>1</sup>Sagol school of neuroscience, <sup>2</sup>Department of Linguistics, Tel Aviv University.*

**30. Ventral-stream white matter pathways associated with performance on a morpheme-based production task**

*Maya Yablonski<sup>1</sup>, Benjamin Menashe<sup>1,2</sup>, Michal Ben-Shachar<sup>1,2</sup>*

*<sup>1</sup>The Gonda Multidisciplinary Brain Research Center, <sup>2</sup>Department of English Literature and Linguistics, Bar-Ilan University.*

**31. Can Morphology Compensate for Phonological Deficits in Hebrew Adults with Dyslexia? an fMRI Study**

*Tammar Truzman<sup>1,2</sup>, Yael Weiss<sup>3</sup>, Tami Katzir<sup>4</sup>, & Tali Bitan<sup>1,5</sup>*

*<sup>1</sup>Language & Brain plasticity lab, the Institute of Information Processing and Decision Making (IIPDM); <sup>2</sup>Dept. of Communication Sciences and Disorders, University of Haifa, Israel; <sup>3</sup>Psychology Dept. University of Texas, Austin; <sup>4</sup>Dept. of Learning Disabilities, The E.J. Safra Brain Research center for the study of Learning Disabilities, <sup>5</sup>Dept. of Psychology, University of Haifa, Israel;*

**32. Functional connectivity of EF and visual regions during verb generation related to improved reading**

*Emma Twait<sup>1</sup> & Tzipi Horowitz-Kraus<sup>1,2</sup>*

*<sup>1</sup>Educational Neuroimaging Centre, Faculty of Biomedical Engineering, Faculty of Education in Science and Technology, Technion, Haifa, Israel; <sup>2</sup>Reading and Literacy Discovery Centre, Cincinnati Children's Hospital Medical Centre, Cincinnati, Ohio, USA.*

**33. The role of Executive functions in reading comprehension in children with dyslexia: an fMRI study**

*Raya Meri<sup>1</sup> and Dr. Tzipi Horowitz-Kraus<sup>1</sup>*

*<sup>1</sup>Faculty of Bio medical Engineering and Faculty of Education in Science and Technology, Technion.*

**34. Many ways to read your vowels: The development of a Hebrew reading brain**

*Upasana Nathaniel<sup>1</sup>, Bechor Barouch<sup>1</sup>, Yael Weiss<sup>2</sup>, Tami Katzir<sup>3</sup> and Tali Bitan<sup>1</sup>*

*<sup>1</sup>Psychology Dept., IIPDM, University of Haifa, Israel; <sup>2</sup>Psychology Dept. University of Texas at Austin, Austin, TX, US; <sup>3</sup>Dept. of Learning Disabilities and The Edmond J. Safra Brain Research Center for the Study of Learning Disabilities, University of Haifa, Israel.*

**35. Do roots compensate for missing vowels in children reading Hebrew words? Evidence from fMRI**

*Bechor Barouch<sup>1</sup>, Yael Weiss<sup>2</sup>, Tami Katzir<sup>3</sup>, Tali Bitan<sup>1</sup>*

*<sup>1</sup>Psychology Dept., IIPDM, University of Haifa, Israel; <sup>2</sup>Psychology Dept. University of Texas at Austin, Austin, TX, US; <sup>3</sup>Dept. of Learning Disabilities and The Edmond J. Safra Brain Research Center for the Study of Learning Disabilities, University of Haifa, Israel.*

**36. Maternal reading ability and diffusion properties of white matter tracts in pre-school age children**

*Rola Farah<sup>1</sup>, Tzipi Horowitz-Kraus<sup>1</sup>*

*<sup>1</sup>Faculty of Bio medical Engineering and Faculty of Education in Science and Technology, Technion.*

**37. The relations between screen-exposure and altered attentional brain activation in preschool children**

*Michal Zivan<sup>1</sup>, Sapir Bar<sup>1</sup>, Xiang Jing<sup>2</sup>, and Tzipi Horowitz-Kraus<sup>1,3,4</sup>*

*<sup>1</sup>Educational Neuroimaging Center, Faculty of Education in Science and Technology and <sup>2</sup>Faculty of Biomedical Engineering, Technion, Haifa Israel; <sup>3</sup>Department of Neurology, <sup>4</sup>Reading and Literacy Discovery Center, Cincinnati Children's Hospital Medical Center, Ohio, USA.*

**38. Mindfulness Training is related to Improved Executive Functions in Preschool Children: An EEG Study**

*Ilana Shlomov<sup>1</sup>, Nava Levitt-Binnun<sup>2</sup>, Tzipi Horowitz-Kraus<sup>1,3</sup>*

*<sup>1</sup>Educational Neuroimaging Center, Faculty of Education in Science and Technology, Faculty of Biomedical Engineering, Technion, Israel; <sup>2</sup>MUDA Segol center for brain and mind, School of Psychology, Inter Disciplinary Center (IDC), Hertzelia; <sup>3</sup>Reading and Literacy Discovery Center, General and Community Pediatrics, Cincinnati Children's Hospital; Medical Center, Cincinnati, Ohio, USA.*

‡ = Equal contribution