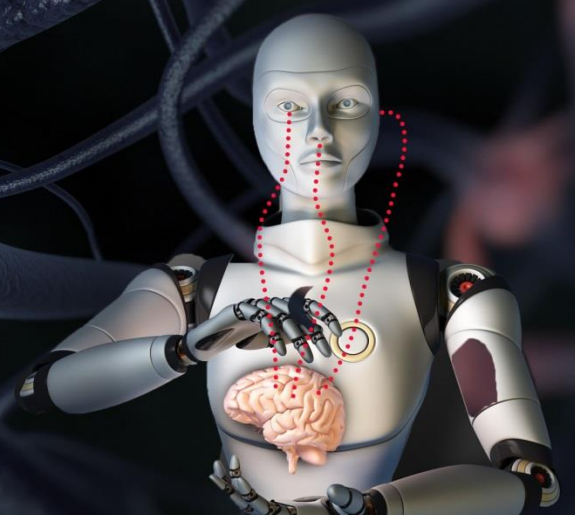


SENSING: FROM MINDS TO MACHINES

A Research Workshop of the
Israel Science Foundation and the
ABC Initiative for Robotics Research at
Ben-Gurion University of the Negev

May 29-June 1, 2016, Be'er Sheva, Israel



Lectures by World-wide Leading Scientists | Two Back-to-back Workshops | Two Poster Sessions

Sensing... A fundamental aspect of all living creatures, is also the driving force behind intelligent machines. We are proud to host this unique and highly interdisciplinary conference where sensing, minds and machines intersect in the broadest way possible. Our goal is to bring together researchers from various scientific disciplines who work on different forms of sensation (hearing, touch, vision,...) and employ different methodologies (neuroscience, behavior, computation) in order to explore new research directions for sensing and sensory processing.

Call for Participation and Poster Presentation

We invite you to join us for this exciting event. In addition to the many talks by world-wide leading scientists, researchers and students are also invited to present their research in one of the two planned poster sessions. *Please refer to the conference web site to reserve your poster board.*

Detailed Program

The Future of Sensing for Robotics workshop, May 29-May 30

May 29th - Workshop Opening

09:00-10:00	Registration and refreshments	
10:00-10:10	Greetings	Ohad Ben-Shahar , Computer Science Department , BGU
10:10-10:20	Greetings	Dan Blumberg , VP and Dean for R&D, BGU

May 29th - Hearing Session, Chair: Boaz Rafaely

10:20-11:05	The role of spatial hearing in speech intelligibility	Steven van de Par , Oldenburg University
11:05-11:50	Perceptually motivated spatial sound processing	Symeon Delikaris-Manias , Aalto University
11:50-12:35	Mechanisms subserving auditory scene analysis in the auditory system	Israel Nelken , Hebrew University
12:35-13:20	Listening strategies: Bayesian and active approaches to environmental robustness	Dorothea Kolossa , Ruhr-Universität Bochum

13:20-14:30 Lunch break (Senate Gallery)

May 29th - Touch Session, Chair: David Golomb

14:30-15:15	Self-healable and unpixelated electronic skin for multifunctional sensing applications	Hossam Haick , Technion
15:15-16:00	The integration of sensing, attention and memory in mammals and robots	Tony Prescott, The University of Sheffield
16:00-16:15 Coffee break, (Senate Gallery)		
16:15-17:00	Active sensing in closed loops	Ehud Ahissar, Weizmann institute
17:00-17:45	Whisker based tactile sensing for robotics	Martin Pearson, University of West England

May 30th, Vision Session, Chair: Tammy Riklin Raviv

09:00-09:30	Registration and refreshments	
09:30-10:15	Optical compressing sensing: Opportunities and challenges	Adrian Stern, Ben-Gurion University of the Negev
10:15-11:00	Vision-based robot homing and localization	Ilan Shimshoni, Haifa University
11:00-11:45	Geometry and radiometry invariant matched manifold detection and tracking	Joseph Francos, Ben-Gurion University of the Negev
11:45-12:30	Sensing for human-robot interaction	Brian Scassellati, Yale University
12:30-14:00 Lunch break and Poster Session (Senate Gallery)		

May 30th, 6th Sense (BCI) Session, Chair: Ilana Nisky

14:00-14:45	Brain-machine interface systems - Overview, design challenges and recent research developments	Vinod Prasad, Nanyang Technological University
14:45-15:30	Volitional control of neuronal activity by brain machine interface	Eilon Vaadia, Hebrew University
15:30-16:15	Machine learning of motor skills for robots: From simple skills to table tennis and manipulation	Jan Peters, TU Darmstadt

Vision: from Minds to Machines workshop, May 31-June 01

May 31st, Workshop opening

09:00-10:00	Registration and refreshments	
10:00-10:05	Greetings	Ohad Ben-Shahar, Computer Science Department , BGU
10:05-10:15	Greetings	Andrey Broisman, Ministry of Science and Technology

May 31st, Early Vision Session, Chair: Galia Avidan

10:15-11:00	Encoding local stimulus attributes and higher visual functions in the visual cortex of behaving monkeys	Hamutal Slovin, Bar Ilan University
11:00-11:45	Using neuroscience technology to improves visual functions by enhancing brain performance	Uri Polat, Tel-Aviv University
11:45-12:30	Neuronal mechanism for compensation of longitudinal chromatic aberration-derived algorithm	Hedva Spitzer, Tel-Aviv University
12:30-13:15	To understand vision, we must study real behavior, evolution, and the brain	Shimon Edelman, Cornell University

13:15-14:30 Lunch break and Poster Session (Senate Gallery)

May 31st, Mid-Level Vision Session, Chair: Tzvi Ganel

14:30-15:15	Decision making and working memory in early visual cortex	Pieter Roelfsema , Netherlands Institute for Neuroscience
15:15-16:00	The reciprocal relations between attention and perceptual organization	Yafa Yeshurun, Haifa University
16:00-16:15 Coffee break, (Senate Gallery)		
16:15-17:00	The role of symmetry in 3D vision: Psychophysics and computational modeling	Zygmunt Pizlo, Purdue university
17:00-17:45	Vision is necessarily a dynamically tunable process	John Tsotsos, York University

June 1st, High-Level Vision Session, Chair: Ohad Ben-Shahar

08:30-09:00	Registration and refreshments	
09:00-09:45	Neuronal dynamics underlying human visual perception	Rafi Malach, Weizmann Institute
09:45-10:30	The necessity of visual attention to object and scene categorization: the role of category-type, contextual environment and task-relevance	Nurit Gronau, Open University
10:30-11:15	Are faces important for face recognition?	Galit Yovel, Tel-Aviv University
11:15-12:00	Atoms of Recognition	Shimon Ullman, Weizmann Institute
12:00-12:10	Closing	Yael Edan, ABC Robotic initiative, BGU
12:10-14:00 Lunch (Senate Gallery)		
14:00-TBD Campus and labs tour		



Online Registration and Poster Submission (click or scan)



For free registration & additional information please visit us at <http://SensingConf.cs.bgu.ac.il/>

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