

The 6th Israeli conference on Robotics, 2019				
Airforce Center, Herzliya				
Tuesday, 9 July, 2019 AM				
Registration				
8:30				
9:00	Opening Session			
9:00	Greetings			
9:30	Keynote: Robotic and Autonomous Systems at IAI , Maj. Gen. (res.) Nimrod Sheffer, CEO, IAI			
9:50	Highlights of Israeli innovations in smart robotics (temi, Intuition Robotics, Foldimate, Newsight Imaging, Arbe Robotics, Caja, Robomow, Mazor)			
10:30	Break			
	Auditorium	Pilot's Club	Classroom 1	Classroom 2
10:50	Session A1	Session B1	Session C1	Session D1
	AI and Robotics	Assistive Robotics	Swarms	Marine Technologies (sponsored by Ministry of Science)
	Chair: Dor Skuler	Chair: Dr. Raziel Riemer	Chair: Dr. Sharon Rabinovich	Chair: Dr. Andrey Broisman
10:50	Robots are Social, Oren Zukerman, IDC	Exoskeletons-- State of the Art, R. Riemer, Ben-Gurion University	NEMALIM – A framework for rapid development and testing multi-agents robotic systems, D. Dovrat, A. M. Bruckstein, Technion	Underwater in-situ imaging of plankton size population, A. Levis, Technion
11:00				Our Eyes Beneath The Sea – a Holistic AUV Based Framework for Visual Seafloor Surveys, T. Treibitz, Haifa University
11:10	Metric-Based Imitation Learning between Two Anthropomorphic Robotic Manipulators, M. Ebner von Eschenbach, B. Manela, J. Peters, A. Biess, Ben Gurion University	Design and Evaluation of Passive Exoskeleton for Vertical Jumping, B. Ostrach, C. Ben David, R. Riemer, Ben-Gurion University	Real world scenarios challenging current SLAM methods, Y. Elmali, A. Yakir, Cogniteam	A robust launch and recovery system for a small size AUV in a seaway applying a deployable docking station concept, M. Groper, Haifa University
11:20	Cognitive AI, Shay Zwiag, Intuition Robotics	A bio-inspired coupled human- robotic walking system, Y. Wegrzyn, A. Shapiro, A. Ayali, Tel-Aviv University	Robotic Swarm for Interception Mission using PNF, S. Hacohen, S. Shoval, N. Shvalb, Ariel University	Waves and currents in deep water and the nearshore region. Theory, modelling and measurements, Y. Toledo, Tel Aviv University
11:30	Deep Reinforcement Learning for Time Optimal Velocity Control using Prior Knowledge, G. Hartmann, Z. Shiller, A. Azaria, Ariel University	Robotic System for Physical Training of Older Adults, O. Avioz-Sarig, S. Olatunji, Y. Edan, V. Sarne-Fleischmann, Ben-Gurion University	Applying Distributed Optimization Algorithms to a Hamster Robot Team, A. Pertzovski, Ben-Gurion University	
11:40	Classification, Segmentation and Normal Estimation of 3D point clouds using deep learning, Y. Ben-Shabat, M. Lindenbaum, A. Fischer, Technion	Evaluating Fluency in Robot- Assisted Table Setting for Older Adults, D. Gutman, N. Markfeld, S. Olatunji, V. Sarne-Fleischmann, T. Oron-Gilad, Y. Edan, Ben-Gurion University	Robotic Swarm for A SLAM Mission, A. David, N. Shvalb, O. Medina, S. Hacohen, Ariel University	Automated Intelligent Early Warning System off Israel's coast, R. Goldman, IOLR
11:50	Introduction to Camera Pose Estimation with Deep Learning, Y. Shavit, R. Ferens, Huawei Tel Aviv Research Center	A Double Wave Robot for Search and Rescue Application, D. Shachaf, D. Zarrouk, Ben-Gurion University	Towards dynamic monitoring and suppressing uncertainty in wildfire by multiple unmanned air vehicle system, Sharon Rabinovich, Rafael	
12:00	Session A2	Session B2	Session C2	Session D2
	Autonomous Vehicles	Medical Robotics (sponsored by Ministry of Science)	Industry 4.0	Simulations and Mobile Robots
	Chair: Dr. Ran Gazit	Chair: Prof. Leo Jaskowicz	Chair: Omer Einav	Chair: Prof. Simon D. Levy
12:00	Driving Rules and Policies for Automated Vehicle Behavior, A. Degani, General Motors	Surgical Robotics 5.0, H. Gadot, Xact	Application of robotics in the fields of manufacturing, assembly and quality in the plastics industry, E. Mandelbaum, Keter	Innovative Drone Research: Bridging the gap between hardware and simulation, S. D. Levy, Y. Geva, A. Shapiro, Washington and Lee University
12:10		Design of a Motion Preserving Compliant Artificial Disc, O. David, M. Shoham, Technion	The Automation that brings Intel's factories to life, S. Monzon, Intel	
12:20	Collision Mitigation of Autonomous Vehicles in Urban Environments, A. Stern, Z. Shiller, Ariel University	Robotic Surgical Skill Evaluation and Acquisition, Y. Sharon, Y. Refaely, I. Nisky, Ben-Gurion University	Accelerating innovation in the traditional manufacturing industry, A. Porat, Ham-Let Group	NVIDIA's Isaac for accelerating AI-powered robots, L. Friend, NVIDIA
12:30	Human-like policies in collision avoidance tasks of self-driving cars, R. Emuna, A. Borowsky, A. Biess, Ben-Gurion University	Flexible needle and patient tracking using fractional scanning in interventional CT procedures, G. Medan, L. Jaskowicz, The Hebrew University	Implementation of Cobotics in Rafael - The Way to the Smart Factory, M. Klinger, Rafael	Curiosity and laziness in the control of mobile robot acting in stochastic environment, E. Kagan, A. Rybalov, B. Leon, I. Ben-Gal, Ariel University
12:40	Indoor testing of an MPC/BA autonomous driving system, B. Pinkovich, H. Rotstein, Rafael	Analysis and Experiments of Robotic Wave Locomotion in Flexible Environments, L.-H. Drory, D. Zarrouk, Ben-Gurion University	Industry 4.0 – Impact on robotics, Omer Einav, Polygon	Collaboration Between Parent and Child STAR Robots, D. Yacoby, D. Zarrouk, Ben-Gurion University
12:50	Autonomous Driving 2.0, Z. Shiller, Ariel University	A 2-DoF Skin-Stretch Haptic Device for Studying the Representation of the Direction of Tactile Cues in Sensorimotor Control, G. Bitton, I. Nisky, D. Zarrouk, Ben-Gurion University		Integrating Smart city and Autonomous Driving Aspects in Traditional Robotics School Settings, N. Voloch Bloch, N. Voloch, Y. Zadok, Dan School of High-Tech
13:00	Lunch			

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	Auditorium	Pilot's Club	Classroom 1	Classroom 2
14:00	Session A3	Session B3	Session C3	Session D3
	Robotics Innovation Challenge	HRI	Localization and Navigation	Robot Control
	Chair: Prof. Amir Shapiro	Chair: Prof. Tal Oron-Gilad	Chair: Dr. Vadim Indelman	Chair: Prof. David Zarrouk
14:00	Presentations by finalists of the Robotics Innovation Challenge	Social Exploration Dynamics in an HRI Scenario, M. Epstein, M. Eshed, G. Gordon, Tel-Aviv University	Semantic Data Association Aware Classification and Localization with a Viewpoint Dependent Classifier Model, V. Tchuev , Y. Feldman, V. Indelman, Technion	Geometric vs. variational optimal control of gaits for 3-link swimmers, O. Wiezel, Y. Or, Technion
14:10			Unorthodox Inertial Navigation System Configurations for Robot Navigation, I. Klein, Technion	Nonholonomic dynamics of the Twistcar vehicle: Asymptotic analysis and hybrid dynamics of frictional skidding, O. Halvani, Y. Or, Technion
14:20		Looking at the relationship between human control modalities and robot feedback modalities, T. Markovich, S. Honing, T. Oron-Gilad, Ben-Gurion University	A NeuroRobotics Architecture for Spatial Cognition and Navigation Inspired in Biological Studies, A. Weitzenfeld, University of South Florida	Modeling and Analyzing Multi-Contact Soft-Robotic Passive Frictional Crawling, B. Gamus, Y. Or, Technion
14:30		Dual arm Tele-operated robotic system for hazardous tasks, G. Zaidner, K. Hadad, O. Fitousi, A. Cohen, S. Levy, Nuclear Research Center	Probabilistic Qualitative Localization and Mapping, R. Mor, V. Indelman, Technion	Comparing crawling to driving of the Rising STAR robot, L. Yehezkel, D. Zarrouk, Ben-Gurion University
14:40		Design and Development of Natural Human-Drone Interaction, J. Cauchard, Ben-Gurion University	Top View Aided Navigation in Orchards, O. Shalev, A. Degani, Technion	Robust Dynamic Climbing with Swing Leg Retraction, O. Nir, A. Gaathon, A. Degani, Technion
14:50		Applying mobile robotics and human robot interaction research to the startup world, G. Doisy, WYCA Robotics	A Novel Simple Two-Robot Precise Self-Localization Method, D. Erez , S. Arogeti, D. Zarrouk , Ben-Gurion University	Bias-reduced experience replay with vitrual goal prioritization, B. Manela, A. Biess, Ben-Gurion University
15:00		Technology teachers' worldview about Humanoid Biped Robot as a Tool for Education, E. Kolberg, Eli Kolberg, I Kipnis, Bar-Ilan University	Indoor localization with a monocular camera and a floorplan, Hector Rotstein, Rafael	Motion-Control, ELMOMC
15:10	Session A4	Session B4	Session C4	Session D4
	Funding opportunities	Motion Planning and Grasping	Israel Robotics Meetup	Robot Design
	Chair: Dov Moran	Chair: Prof. Dan Halperin	Chair: Amit Moran	Chair: Prof. Amir Degani
15:10	You provide the engine; who will supply the fuel?, Dov Moran, Grove Ventures	Evasive On-Line Navigation of an Autonomous Robot in Planar Unknown Environments, Y. Veksler, E. Rimon, Technion	Applied Depth Sensing with Intel® RealSense™ , Sergey Drodnicov, Intel RealSense	Consumer robotics development – a high risk pregnancy, Ran Zaslavsky, Robomow
15:20		Recognition and motion planning for a Mejdool-date thinning robot, O. Bar-Shira, T. Shoshan, Y. Cohen, A. Sadowky, Y. Cohen, A. Bechar, S. Berman, Ben-Gurion University		
15:30	Funding opportunities at Innovation Authority, Moshe Avrahami, Innovation Authority	Robotic Grasping of Objects in Partially Accessible Environments, Y. Zohar, A. Shapiro, Ben-Gurion University	Sense, avoid, Act – “Principles of sensing techniques, using mmWAVE and Imaging Radar, Vladimir Vulfin, Yaron Kagan, Texas Instruments & Electromagnetics Infinity	Realizing autonomous systems, BG (res.) Yoni Gedj, IAI
15:40		Caging Polygonal Objects Between a Two-Finger Robot Hand and a Wall, H. Bunis, E. Rimon, Technion		Development of an optimal leg shape by using minimalistic control methods to reach an absolute destination, A. Gaathon, A. Degani, Ben-Gurion University
15:50	Robotics in the Information Communication Technology (ICT) Work Programme 2020, Talia Passiar, ISERD, Innovation Authority	Autonomous task planning, Moshe Boutel, IAI	Nvidia AI Platform from data center to edge, Ofir Zamir, NVIDIA	Flying and Crawling with Hybrid Quadcopter Robot, N. Meiri, D. Zarrouk, Ben-Gurion University
16:00	Entrepreneurship meets funding reality in robotics, Gal Frenkel, RoboDeck	Reconfigurable Continuous Reach Robot, T. Kislesli, D. Zarrouk, Ben-Gurion University		Hyper redundant articulated robot for NDT of close complex structures, S Edelman, Y Nevo, A Shapiro, Ben Gurion University
16:10	Keynote: Bereshit--Innovation and Creativity on the way to the Moon, Ido Anteby, Spacell			
16:40	Awards Ceremony			
17:00	Closing deserts			
18:30	VIP Gala evening (by Invitation or with Full registration)			
	Keynote: Robots building Robots, Yanki Margalit			
	Keynote: National Initiative for Intelligent Systems , Prof. Isaac Ben Israel, Tel Aviv Unviersity			
20:30	Closing			