



## הכנס השנתי המשותף של ISMBE & ISHR Biomedical Engineering 2015 The gateway to a better life



Chair: Mr. Amir Lichter		
Session	Speaker and affiliation	Affiliation
Session 1 Industry	Dr. Naor Wainer Sr. Director Subsystems, CT R&D	Philips Israel
	Amir Lichter, VP Global R&D	Lumenis
	Dr. Andrei Yosef, VP System	QCORE Medical Ltd.
	Dr. Judith Zilberstein, CEO	Alon MedTech Ventures
	Tal Kaufman, CEO	Simtal Ltd.

Chair: Prof. Daphne Weihs		
Session	Speaker and affiliation	Title
Session 2 Cancer detection and treatment	Prof. Yoram Kluger Director, Department of General Surgery, Rambam Medical Center	Pancreatic Cancer- Detect, Diagnose and Defeat
	Prof Ilan Tsarfaty Tel-Aviv University	Molecular Imaging as a Tool for Precision Breast Cancer Treatment
	Dr. Yael Glickman Micromedic Technologies Ltd	An innovative technological platform for cancer diagnosis
	Dr. Natan Shaked Tel Aviv University	Optical interferometry for measuring mechanical signatures of cancer cells
	Prof. Gad Shani Ben Gurion University	Development of Thulium-170 Brachytherapy Sources and Application in Rats Treatment
	Khoury R. Luai Ben Gurion University	Searching for Low Molecular Weight Biomarkers in Blood Using Gold Nanoparticles



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Chair: Prof. Simon Benita		
Session	Speaker and affiliation	Title
<b>Session 3 Biomaterials and Drug Delivery</b>	Prof. Itzhak Binderman Tel-Aviv University and COREBONE	Bioactive bone graft produced from corals grown in aquariums under controlled environmental conditions
	Prof. Havazelet Bianco-Peled Technion	Studies of musoadhesive drug delivery vehicles
	Prof. Hanna Rappaport Ben-Gurion University	Designed peptides as platforms for medical and diagnostic devices
	Maytal Foox Tel-Aviv University	Antibiotic-Eluting Novel Tissue Adhesives
	Assaf Zinger Technion	Enzymatic bio-surgery

Chair: Prof. Amir Landesberg & Prof. Jonathan Leor		
Session	Speaker and affiliation	Title
<b>Session 4 ISHR - I Cardiovascular</b>	Prof. Mickey Scheinowitz Tel-Aviv University	Heart rate recovery; myth or fact
	Prof. Ofer Binah Technion	Functional abnormalities and adrenergically-triggered arrhythmias in iPSC-derived cardiomyocytes generated from CPVT1 and CPVT2 patients carrying ryanodine or calsequestrin mutations
	Prof. Yael Yaniv Technion	Synchronization and Desynchronization of intrinsic clock-like mechanisms in pacemaker cells
	Dr. Yoram Etzion Ben-Gurion University	Dock10, a newly identified gene required for normal cardiac function under neurohormonal stress
	Prof. Ami Aronheim Technion	ATF3-dependent cross-talk between cardiomyocytes and macrophages promotes cardiac maladaptive remodeling



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Chair: Prof. Dan Adam		
Session	Speaker and affiliation	Title
<b>Session 5 Ultrasound – Diagnosis and Therapy</b>	Dr. Zvi Friedman GE Healthcare Inc., and Technion	New generation of ultrasound software-based systems – challenges and opportunities
	Amit Livneh Technion	Extracorporeal acute cardiac pacing by High Intensity Focused Ultrasound
	Michael Kardosh Afix Medical , Ltd.	Bipolar Ultrasound – The ultimate tool for treating cardiac arrhythmia
	Ariel Svardelik CEO, ArchiMedUS LTD	High Intensity Ultrasonic Catheter, for Renal Denervation, for the Treatment of Hypertension
	Avinoam Bar Zion Technion	Functional Imaging of Tumors Using Contrast Enhanced Ultrasound and Photoacoustic Imaging
	Alon Eilam Technion	A Wireless Ultrasound Imaging System Utilizing Xampling and Frequency Domain Beamforming

Chair: Prof. Haim Azhari		
Session	Speaker and affiliation	Title
<b>Session 6 Medical Imaging</b>	Prof. Lucio Frydman Weizmann Institute	Ultrafast Magnetic Resonance Imaging: Principles and Applications
	Dr. Gil Kovalski General Electric Healthcare	Advanced technology and applications in SPECT imaging
	Prof. Yizhak Ben Shabat Technion & Rambam Medical center	Adaptive Volumetric Modeling and Imaging of Bone Micro-structures
	Dr. Hedva Spitzer Tel Aviv University	Multi-Scale Texture-Based Level-Set Segmentation of Breast ultrasound B-mode and Elastography Images
	Prof. Moshe Porat Technion	On computer-vision in ultrasound imaging
	Rembrand Raphael SensPD Ltd.	Sensory perception objective marker for autism diagnosis – an imaging device



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Chair: Prof. Ofer Binah & Prof. Michael Arad		
Session	Speaker and affiliation	Title
<b>Session 7</b> <b>ISHR - II</b> <b>Cardiovascular</b>	Prof. Gad Keren Director, The Division of Cardiology at the Tel Aviv Sourasky Medical Center	Left atrial decompression with an interatrial shunt to prevent lung congestion in heart failure
	Prof. Beeri Ronen Director, Cardiovascular Research Center Heart Institute. Hadassah - Hebrew University Medical Center	Myocardial remodeling in mitral regurgitation- a moving target
	Prof. Zaid Abassi Technion	Cardio-renal syndrome: New mechanistic insights and Management
	Prof. Netanel Korin Technion	Shear-Responsive Platelet Mimetics for Targeted Drug Delivery
	Prof. Izhak Kehat	Genome organization in cardiac hypertrophy

Chair: Prof. Meital Zilberman		
Session	Speaker and affiliation	Title
<b>Session 8</b> <b>Tissue</b> <b>Engineering</b>	Prof. Dror Seliktar Technion	Cell-Compatible Hydrogels for Tissue Engineering and Biomedical Applications
	Prof. Shulamit Levenberg Technion	Cell Organization into 3D Tissue Structures
	Prof. Daphne Weihs Technion	Cell mechanics and force generation during adipogenesis
	Dr. Tal Dvir Tel-Aviv University	Tissue engineering on the nanoscale
	Prof. Ramez Daniel Technion	Analog Computation in living cells
	Yael Efraim Technion	Injectable cardiac extracellular matrix-based gels for myocardial infarction treatment





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Chair: Prof. Yael Yaniv & Prof. Edith Hochhauser		
Session	Speaker and affiliation	Title
Session 9 ISHR - III Cardiovascular	Efrat Kurtzwald-Josefson Rabin Medical Center	Human cardiac fibroblasts as a potential source for enhanced cardiomyocytes differentiation
	Nili Naftali-Shani Sheba Medical Center & Rabin medical center	Left ventricular dysfunction switches cardiac mesenchymal stem/stromal cells toward a pro-inflammatory phenotype
	Eliya Shaviv Autonomous Systems Program, Technion	Analysis of the Integrated Work of a Synchronized Cardiac Assist Device and the Failing Heart
	Halevi Rotem Tel-Aviv university, Stony Brook U. US, EchoCardio. & Cardio-thoracic Surgery, Sheba Medical Center	Fluid-Structure Interaction Model of Progressive Calcific Aortic Valve Disease
	Lavon Karin Tel-Aviv university, Stony Brook U. US, EchoCardio. & Cardio-thoracic Surgery, Sheba Medical Center	A New Parametric Biomechanical Model for Bicuspid Aortic Valves
	Sapir Yehu Ben-Gurion University	Noninvasive Potassium Determination Using ECG signal processing: Proof of Concept for a "Bloodless Blood Test"

Chair: Dr. Zehava Blechman, Prof. Josue Sznitman		
Session	Speaker and affiliation	Title
Session 10 Biomechanics flow	Dr. Amnon Gildor Nicast Ltd.	AVflo™ – innovative technology to solve the saga of access for dialysis patients
	Dar Weiss Tel-Aviv University	Ex-vivo MRI for quantitative evaluation of catheter related thrombophlebitis in a rabbit model
	Dr. Ofir Dror Israel Naval Medical Institute, IDF Medical Corps	The Effect of Aging on the Ventilatory Response to Wearing an Escape Hood at Rest and During Mild Exercise
	Ishay Attar Respinova Ltd	Acoustic pressure waves to treat small airways collapse of COPD
	Jimmy Pesin Technion	Diagnosing partial obstructions in a clinical setting: Implications for Sleep disorders and SIDS



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Chair: Dr. Benjamin Gavish		
Session	Speaker and affiliation	Title
<b>Session 11 Mobile Health</b>	Eugene Jorov Seraphim Sense Ltd.	Open wearables in the age of digital health
	Itay Remer Ben-Gurion University	Camera-phone-based optical diagnosis
	Katia Raichlin Levi and Aviv Sotzianu Afeka College of Engineering	An Innovative Application for Speech Therapy
	Steli Loznen Israel Testing Laboratories Ltd.	Privacy Regulations for mHealth
	Dr. Benjamin Gavish Yazmonit Ltd.	Sleeping better using smartphones, do we need information or intervention?

Chair: Dr. Alberto Bilenca		
Session	Speaker and affiliation	Title
<b>Session 12 Medical optics</b>	Prof. Yuval Garini Bar-Ilan University	The genome in the nucleus: snaky, soft and well organized
	Dr. Nathan Shaked Tel-Aviv University	Clinical label-free quantitative imaging of biological cells by wide-field interferometry
	Dr. Amos Danielli Bar-Ilan University	Diagnosing Heart Attack: Technical Problems with Serious Health Ramifications
	Adel Zeidan Technion	Miniature, forward- viewing probe for spectrally encoded endoscopy



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Chair: Prof. Michal Horowitz & Prof. Mickey Scheinowitz		
Session	Speaker and affiliation	Title
<b>ISHR Cardiovascular IV</b>  <b>Rena Yarom Competition</b>	Prof. Yossi Mandel Bar-Ilan University	Electrical interface with blood vessels: a novel method for hemorrhage control
	<b>Rena Yarom Competition</b>	
	Tal Golan Lagziel, Izhak Kehat Technion	Genome organization in cardiac hypertrophy - a window into cardiac adaptation and disease progression
	Menahem Y. Rotenberg, Smadar Cohen, Yoram Etzion Ben Gurion University	Feasibility of leadless cardiac pacing in a rat model using injectable magnetic microparticles
	Anna Faingersh-Klebanov, Amir Landesberg Technion	The cardiopulmonary vascular system and the ventilatory reflex
	Gal Elhalel Tel-Aviv University & Bar-Ilan University	The influence of alternating magnetic field at the Schumann Resonance frequency on rat cardiac cell cultures

Chair: Prof. Moshe Gur		
Session	Speaker and affiliation	Title
<b>Session 13 Neuroscience in the real world</b>	Dr. Eran Stark NYU Neuroscience Institute	Transmission of information in spiking networks of the intact brain
	Prof. Moshe Gur Technion	Object recognition shows that computer programs cannot replicate human behavior
	Prof. Uri Polat GlassesOff Inc.	New neuroscience technology improves visual functions by enhancing brain performance
	Prof. Shy Shoham Technion	Interfacing with large-scale natural and bioengineered neuronal networks: technology and 'exciting' biophysics