

The 36th Umbrella Symposium

Life Science & Engineering: Data Analytics, Neuroscience & Multiscale Biomedical Engineering
May 30 - June 1, 2023, The Technion, Haifa

Scientific Program

Tuesday, May 30

08:30-08:45	Gathering	Polak Visitors Center
08:45-09:00	Welcome Greetings and Introduction to Topics Koby Rubinstein , Executive Vice President for Research - Technion Ute Habel , Vice-Rector for International Affairs - RWTH Aachen University Frauke Melchior , Member of the Board of Directors - Forschungszentrum Juelich	Prince Auditorium 3 rd Floor
09:00-09:15	Umbrella Award Ceremony Awardees: Roger Molto Pallares : Manipulating f-element chemistry for healthcare applications - RWTH Aachen University Stefan Wiefels : Variability-Aware Characterization of Memristors for Neuromorphic Applications - Forschungszentrum Juelich Arielle Fischer : Wearable BioMonitoring: Integrating Motion and Biochemical Sensing - Technion David Mehler (Last Year's Awardee): My experience as a prior awardee - RWTH Aachen University	
09:15-10:30	Presentations by the Awardees	
10:30-10:45	Coffee Break	3 rd Floor Foyer

Session 1

Machine Learning and AI

Chair: Volkmar Schulz - RWTH Aachen University

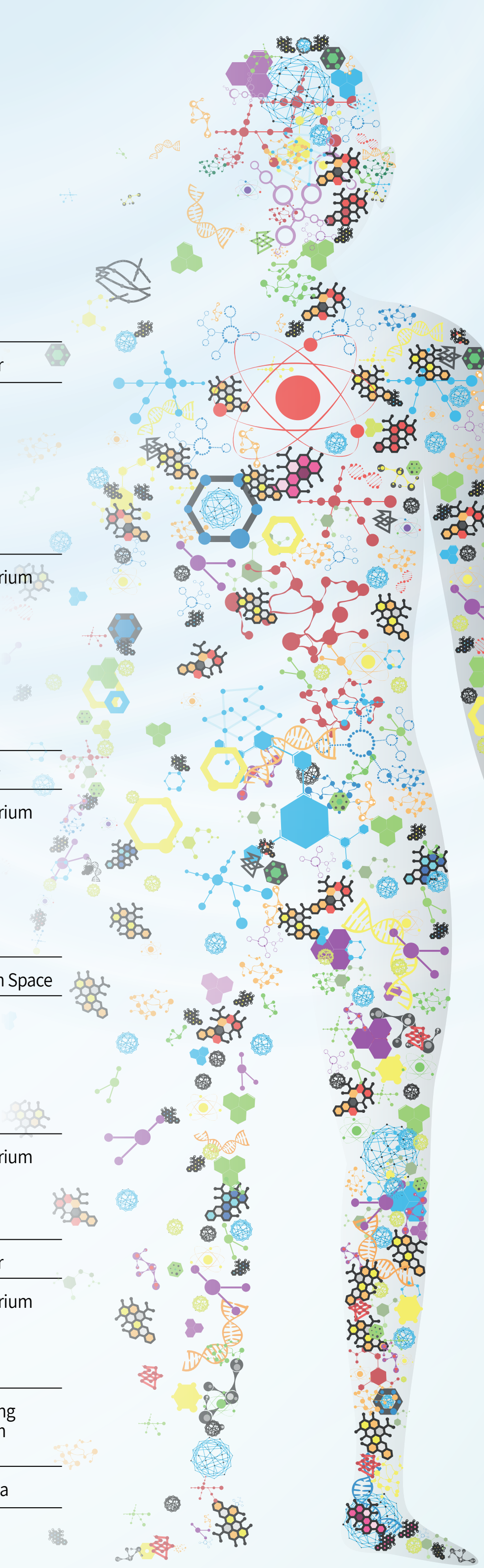
10:45-12:00	Basic Biomedical Research Felix Hoffstaedter : Reproducibility in Big Data Workflows - a neuroimaging perspective - Forschungszentrum Jülich Ivan Gesteira Costa Filho : Computational medical genomics at the single cell sequencing age - RWTH Aachen University Ron Kimmel : Deep learning in Computational Pathology Challenges and Solutions - Technion	Prince Auditorium 3 rd Floor
12:00-12:15	Coffee Break	3 rd floor Foyer
12:15-13:30	Clinical Medicine Simon Musall : Decoding multisensory inputs and cognitive variables from high-density neural recordings - Forschungszentrum Jülich Fabian Kiessling : Radiomics and advanced medical image analysis - RWTH Aachen University Joachim Behar : Deep learning for retinal fundus image analysis - Technion	Prince Auditorium 3 rd Floor
13:30-14:45	Lunch	2 nd Floor Open Space

Session 2

Drug Delivery and Development

Chair: Joachim Behar - Technion

14:45-15:45	Dieter Willbold : The anti-prionic mode of action for the treatment of neurodegenerative diseases - Forschungszentrum Jülich Shady Farah : Long-term therapies via carrier-free drug delivery systems - Technion	Prince Auditorium 3 rd Floor
15:45-16:00	Coffee Break	3 rd Floor Foyer
16:00-17:00	Twan Lammers : Strategies to improve cancer nanomedicine performance and clinical translation - RWTH Aachen University Marcelle Machluf : Nanoghosts - paving the way for a new paradigm in drug and gene delivery - Technion	Prince Auditorium 3 rd Floor
17:10-18:10	Heads of Delegations Meeting	Senate Building Meeting Room 2 nd Floor
20:00	Dinner	Dan Panorama



4 Years of Strategic Partnership

The 36th Umbrella Symposium

Wednesday, May 31

Session 3

Clinical and Translational Neuroscience

Chair: Ute Habel - RWTH Aachen University

09:00-10:15	<p>David Elmenhorst: Neuroimaging of synaptic plasticity in humans – sleep as a model - Forschungszentrum Jülich</p> <p>Natalia Checkko: Demographic, neuroimaging, and digital phenotyping to understand depression and chronic pain: a translational approach - RWTH Aachen University</p> <p>Firas Mawase: Direction-dependent neural control of dexterity in humans - Technion</p>	Prince Auditorium 3 rd Floor
10:15-10:45	Coffee Break	3 rd Floor Foyer

Session 4

Addressing Old Questions with New Tools

Chair: Francesca Santoro - Forschungszentrum Jülich

10:45-12:30	<p>Naama Geva-Zatorsky: Gut microbiome - the premise and promise - Technion</p> <p>Carsten Sachse: High resolution cryo-EM imaging of membrane biological processes - Forschungszentrum Jülich</p> <p>Peter Boor: Value of national autopsy registry for understanding and managing COVID pandemics - RWTH Aachen University (virtual)</p> <p>Alex Bronstein: A twist in the protein folding dogma? - Technion</p>	Prince Auditorium 3 rd Floor
12:30-13:30	Lunch	2 nd Floor Open Space

Session 5

Synthetic Biology and Biohybrids

Chair: Noam Ziv - Technion

13:30-14:45	<p>Francesca Santoro: Biohybrid neuronal networks - Forschungszentrum Jülich</p> <p>Zita Soons: Multiple-omics based metabolic modelling reveals effects of drug-induced liver toxicity - RWTH Aachen University</p> <p>Ramez Daniel: Engineering biology: Fundamentals and applications - Technion</p>	A Prince Auditorium 3 rd Floor
14:45-15:00	Coffee Break	3 rd Floor Foyer

Session 6

Medical Devices

Chair: Fabian Kiessling - RWTH Aachen University

15:00-16:30	<p>Viviana Rincon Montes: From 2D to 3D flexible neural implants: towards a new generation of visual prostheses - Forschungszentrum Jülich</p> <p>Volkmar Schulz: Organ-specific medical imaging devices - RWTH Aachen University</p> <p>Yehonadav Bekenstein: Using collective behavior of materials for faster and more precise medical imaging - Technion</p>	Prince Auditorium 3 rd Floor
20:00	Dinner	

Thursday, June 1

09:00– 09:15	Gathering	Emerson Building for Life Sciences
09:15– 10:15	Visit to labs in the Technion	Emerson Building for Life Sciences
10:30 –10:45	Coffee Break	Emerson Building for Life Sciences
10:45 – 11:15	Closing Remarks	Schulich Faculty of Chemistry Hall 1
11:30	Departure to Ben-Gurion Airport	Emerson Building for Life Science

