

Program

Engineering and Life

Wed, 19 Oct 2016	
8:00 a.m.	Registration and Coffee
9:15 a.m.	WELCOME REMARKS Volkswagen Foundation Dr. Wilhelm Krull
9:30 a.m.	Organizers Dr. Robert Lovrincic & Dr. Gerardo Hernandez-Sosa
9:45 a.m.	1. Session: <i>From Organic- to Bio-Electronics I</i> KEYNOTE <i>Interfacing with the Brain using Organic Electronics (Invited)</i> Prof. Dr. George Malliaras, Ecole des Mines de St. Etienne (France)
10:30 a.m.	Coffee Break
11:00 a.m.	2. Session: <i>Bio-Inspired Materials Science & Synthetic Biology I</i> KEYNOTE <i>Sequential Bottom-up Assembly of Synthetic Cells (Invited)</i> Prof. Dr. Joachim Spatz, MPI for Medical Research, Heidelberg
11:45 a.m.	<i>DNA Nanotechnology – Enabling Technologies for Optoelectronics and Nanomedicine (Contributed)</i> Dr. Thorsten L. Schmidt, Center for Advancing Electronics Dresden (cfaed)
12:05 p.m.	Lunch

	3. Session: <i>Semiconductor-Cell Interfaces</i> KEYNOTE 01:00 p.m. <i>Biodegradable Nanoneedles towards In Vivo Intracellular Manipulation (Invited)</i> Dr. Ciro Chiappini , King's College London 01:45 p.m. <i>Electronic Properties of Silicon Nanowires after Long-Term Immersion under Simulated Physiological Conditions (Contributed)</i> Dr. Annina M. Steinbach , Institute of Electron Devices and Circuits, Ulm University 02:05 p.m. <i>Microelectronics for Biotechnology (Contributed)</i> Dr. Mario Birkholz , IHP, Frankfurt (Oder) 02:25 p.m. <i>Interfacing and Electrical Imaging of Neurons at Subcellular Resolution with Microelectrode Arrays (Contributed)</i> Dr. Günther Zeck , NMI at the University Tübingen 02:40 p.m. <i>Neurons Grown in an Electronic Dish (Invited)</i> Prof. Dr. Andreas Offenhäusser , FZ Jülich
03:30 p.m.	Coffee Break
	4. Session: <i>Bio-Inspired Materials Science & Synthetic Biology II</i> KEYNOTE 04:00 p.m. <i>Protein Engineering of Multi-functional Biomaterials for Regenerative Medicine (Invited)</i> Prof. Dr. Sarah Heilshorn , Stanford University 04:45 p.m. <i>Modular Human Biochip-Based Organoid Models in Biomedical Research (Contributed)</i> Marko Gröger , Institute of Biochemistry II, Jena University Hospital 05:05 p.m. <i>Geometry of transport networks in the liver (Contributed)</i> Dr. Jens Karschau , TU Dresden 05:25 p.m. <i>Block Copolymer Vesicles as Minimal Cells:NAD Regeneration and Uptake of Nanoparticles (Invited)</i> Prof. Dr. Katharina Landfester , MPI for Polymer Research
06:10 p.m.	Dinner
07:30 p.m.	<i>Poster Session</i>

Thu, 20 Oct 2016	
09:00 a.m.	Begin
09:00 a.m. 09:45 a.m.	<p>5. Session: <i>From Organic- to Bio-Electronics II</i></p> <p>KEYNOTE</p> <p><i>The Latest Optoelectronic Gadgets for Cells – New Biophotonics Tools for Cell Biology and Beyond (Invited)</i></p> <p>Prof. Dr. Malte Gather, University of St Andrews</p> <p><i>Nature as Microelectronics Fab. (Invited)</i></p> <p>Dr. Mihai Irimia-Vladu, Joanneum Research Forschungsgesellschaft mbH</p>
10:30 a.m.	Coffee Break
11:00 a.m. 11:45 a.m.	<p>6. Session: <i>From Organic- to Bio-Electronics III</i></p> <p>KEYNOTE</p> <p><i>Bioelectronics (Invited)</i></p> <p>Prof. Dr. Magnus Berggren, Linköping University</p> <p><i>Fully π-conjugated Biodegradable Polymer Colloids for Biomedical Imaging Applications (Contributed)</i></p> <p>Dr. Alexander J.C. Kühne, DWI – Leibniz Institute for Interactive Materials, Aachen</p>
12:05 p.m.	Lunch
01:00 p.m. 01:45 p.m. 02:05 p.m. 02:25 p.m. 02:45 p.m.	<p>7. Session: <i>Innovative Biosensing</i></p> <p>KEYNOTE</p> <p><i>New Frontiers in Bioelectronic Detection (Invited)</i></p> <p>Prof. Dr. Luisa Torsi, University of Bari</p> <p><i>Glycan Biosensors – Novel Polymer-Materials and Novel Biosensor-Systems for Science and Healthcare (Contributed)</i></p> <p>Ruben R. Rosencrantz, Fraunhofer Institute for Applied Polymer Research, Potsdam</p> <p><i>New Nano-Electrochemistry: From Single Nanoparticle to Individual Cell Detection (Contributed)</i></p> <p>Lior Sepunaru, Oxford University</p> <p><i>Vertically Aligned Carbon Nanotube Arrays as Active Materials for Electrical Cell Contacting, as Artificial Hair Cell Sensors and Biomimetic Surfaces (Contributed)</i></p> <p>Prof. Dr. Jörg J. Schneider, Technische Universität Darmstadt</p> <p><i>Science and Bio-Applications of Nanopores in New 2D Membranes (Invited)</i></p> <p>Prof. Dr. Marija Drndić, University of Pennsylvania</p>

03:30 p.m.	Coffee Break
04:00 p.m. 04:45 p.m.	8. Session: <i>From Organic- to Bio-Electronics IV</i> KEYNOTE <i>Peptides and Proteins for Bio-Molecular Electronics (Invited)</i> Prof. Dr. David Cahen , Weizmann Institute of Science Subsequent Discussion
06:00 p.m.	Dinner

Fri, 21 Oct 2016	
09:00 a.m.	Begin
09:00 a.m. 09:45 a.m.	9. Session: <i>Bio-Inspired Materials Science & Synthetic Biology III</i> KEYNOTE <i>Programmable On-Chip DNA Compartments as ‘Artificial Cells’ (Invited)</i> Prof. Dr. Roy Bar-Ziv , Weizmann Institute of Science <i>Bio-Inspired Synthesis of Organic/Inorganic Hybrid Materials (Invited)</i> Prof. Dr. Joachim Bill , University of Stuttgart
10:30 a.m.	Coffee Break
11:00 a.m.	9. Session: <i>Bio-Inspired Materials Science & Synthetic Biology IV</i> KEYNOTE <i>Molecular Tectons: Multifunctional Biomolecules as Functional Bridge Between Synthetic Biology and Nanotechnology (Invited)</i> Dr. Stefan Schiller , Albert-Ludwigs-Universität Freiburg
11:45 a.m.	Wrap-up and conclusions
12:00 p.m.	Lunch and End of conference