

# Schedule-at-a-Glance

Monday 15 May	Tuesday 16 May	Wednesday 17 May
<b>Registration</b>	<b>MxW User Exclusive Session</b>	<b>Brain Organoids Advances &amp; Applications</b>
<p><b>Cutting-Edge Neurotechnologies</b></p> <p><b>Prof. Dr. Kenta Shimba</b> Mathematical Biology and Bioengineering Lab, University of Tokyo, Japan</p> <p><b>Prof. Dr. Michela Chiappalone</b> DIBRIS, University of Genova / Rehab Technologies Lab, Istituto Italiano Di Tecnologia, Italy</p> <p><b>Dr. Dai Akita</b> Hirokazu Takahashi Lab, RCAST, The University of Tokyo, Japan</p> <p><b>Prof. Dr. Andreas Hierlemann</b> Bio Engineering Laboratory, ETH Zurich, Switzerland</p> <p><b>Roundtable</b> All Speakers</p> <p><b>Keynote   Prof. Dr. Hiroki Ueda</b> Laboratory for Synthetic Biology, RIKEN, Japan</p>	<p><b>Interactive HD-MEA Workshop</b></p> <p><b>Advanced Electrophysiology Methods</b></p> <p><b>Prof. Dr. Edward O. Mann</b> Mann Group, University of Oxford, United Kingdom</p> <p><b>Prof. Dr. James Ellis</b> Ellis Lab, The Hospital for Sick Children, Canada</p> <p><b>Dr. Julian Bartram</b> Bio Engineering Laboratory, ETH Zurich, Switzerland</p> <p><b>Roundtable</b> All Speakers</p>	<p><b>Dr. Melanie Einsiedler</b> Schaeren-Wiemers Lab &amp; Women's Brain Project, University of Basel, Switzerland</p> <p><b>Prof. Dr. Tarja Malm</b> Malm Lab, University of Eastern Finland, Finland</p> <p><b>Prof. Dr. Yoshiho Ikeuchi</b> Institute of Industrial Science, The University of Tokyo, Japan</p>
		<b>Non-Scientific Talk</b>
		<b>Poster Session 2</b>
		<p><b>Prof. Dr. Mircea Teodorescu &amp; Kateryna Voitiuk</b> Teodorescu Lab, UC Santa Cruz, USA</p> <p><b>Roundtable</b> All Speakers</p>
<b>Lunch</b>	<b>Lunch</b>	<b>End of Summit</b>
<b>Non-Scientific Talk</b>	<b>Poster Session 1</b>	<b>MxW HQ Tour</b>
<p><b>Brain Development &amp; Controlled Neural Networks</b></p> <p><b>Prof. Dr. Nael Nadif Kasri</b> Nadif-Kasri Lab, Radboud University Medical Centre, Netherlands</p> <p><b>Dr. Rouhollah Habibey</b> Busskamp Lab, University of Bonn, Germany</p> <p><b>Dr. Robert E Petroski</b> Neuroservice Alliances, USA</p> <p><b>Prof. Dr. Paolo Massobrio</b> DIBRIS, University of Genova, Italy</p> <p><b>Prof. Dr. Janos Vörös &amp; Jens Duru</b> Laboratory of Biosensors and Bioelectronics, ETH Zurich, Switzerland</p> <p><b>Roundtable</b> All Speakers</p>	<p><b>Disease Modeling &amp; Drug Discovery</b></p> <p><b>Dr. Melisa Ho</b> GSK, USA</p> <p><b>Nina Dirckx</b> Peter De Jonghe Lab, VIB Center for Molecular Neurology Antwerp, Belgium</p> <p><b>Dr. Ouissame Mnie Filali</b> FUJIFILM Cellular Dynamics Inc., Netherlands</p> <p><b>Dr. Michele Bertacchi</b> Studer Lab, Institut de Biologie Valrose (iBV), France</p> <p><b>Prof. Dr. Monica Frega</b> Frega Lab, University of Twente, Netherlands</p> <p><b>Dr. Rowan Taylor</b> Human Centric Drug Discovery, United Kingdom</p> <p><b>Dr. Matt Kelley</b> Pfizer USA</p> <p><b>Roundtable</b> All Speakers</p>	
<b>Transportation</b>	<b>Transportation</b>	
<b>Social Activities</b>	<b>Conference Dinner</b>	

# Conference Program

## Monday May 15 | Morning Session

8:00 - 8:30	Registration and Welcome Coffee	
8:30 - 8:40	Welcome Address	<a href="#">Dr. Urs Frey</a>   MaxWell Biosystems, Switzerland
<b>Cutting-Edge Neurotechnologies</b>		
8:40 - 8:45	Scientific Session Opening Remarks	<a href="#">Dr. Marie Obien</a>   MaxWell Biosystems, Switzerland
8:45 - 9:15	Scientific Talk	<b>Understanding Cell Diversity in Neuronal Networks with HD-MEA</b> <a href="#">Prof. Dr. Kenta Shimba</a>   Mathematical Biology and Bioengineering Lab, University of Tokyo, Japan ( <i>online</i> )
9:15 - 9:45	Scientific Talk	<b>Progress in Neuroengineering for brain repair: from <i>in vitro</i> to <i>in vivo</i> studies and beyond</b> <a href="#">Prof. Dr. Michela Chiappalone</a>   DIBRIS, University of Genova / Rehab Technologies Lab, Institute Italiano Di Tecnologia, Italy
9:45 - 10:00	Short Talk Selected from Abstracts	<b>Self-organized criticality of cultured neurons on HD-MEA</b> <a href="#">Dr. Dai Akita</a>   Hirokazu Takahashi Lab, Research Center for Advanced Technology and Science, The University of Tokyo, Japan
10:00 - 10:30	Coffee Break	
10:30 - 11:00	Scientific Talk	<b>Development of HD-MEAS and combination with other tools</b> <a href="#">Prof. Dr. Andreas Hierlemann</a>   Bio Engineering Laboratory, ETH Zurich, Switzerland
11:00 - 11:30	Roundtable	<b>Host</b>   <a href="#">Dr. Marie Obien</a> <b>Panelists</b>   <a href="#">Prof. Dr. Kenta Shimba</a> , <a href="#">Prof. Dr. Michela Chiappalone</a> , <a href="#">Dr. Dai Akita</a> , and <a href="#">Prof. Dr. Andreas Hierlemann</a>
11:30 - 11:35	Intro to Keynote	<a href="#">Dr. Marie Obien</a>   MaxWell Biosystems, Switzerland
11:35 - 12:15	Keynote	<b>Towards Systems Biology of Human Sleep/Wake Cycles: Phosphorylation Hypothesis of Sleep</b> <a href="#">Prof. Dr. Hiroki Ueda</a>   Laboratory for Synthetic Biology, RIKEN, Japan
12:15 - 12:20	Scientific Session Closing Remarks	<a href="#">Dr. Marie Obien</a>   MaxWell Biosystems, Switzerland
12:20 - 12:30	Group photo	
12:30 - 13:30	Lunch	

## Monday May 15 | Afternoon Session

13:30 - 13:50	Non-Scientific Talk	<b>Maximize research impact: working with traditional and social media</b> <b>Dr. Giorgia Guglielmi</b>   Science writer and communicator, Switzerland
<b>Brain Development &amp; Controlled Neural Networks</b>		
13:50 - 13:55	Scientific Session Opening Remarks	<b>Host</b>   MaxWell Biosystems, Switzerland
13:55 - 14:25	Scientific Talk	<b>Leveraging spontaneous activity in human stem cell derived neurons to model neurodevelopmental disorders</b> <b>Prof. Dr. Nael Nadif Kasri</b>   Nadif-Kasri Lab, Radboud University Medical Centre, Netherlands
14:25 - 14:55	Scientific Talk	<b>Long-term morphological and functional dynamics of human stem cell-derived neuronal networks</b> <b>Dr. Rouhollah Habibey</b>   Busskamp Lab, University of Bonn, Germany
14:55 - 15:10	Sponsored Talk	<b>High density MEA recording of primary rat neuron cultures and human iPSC-derived neuron cultures growing at low density on astrocyte feeder layers</b> <b>Dr. Robert E Petroski</b>   Neuroservices Alliances, USA
15:10 - 15:40	Coffee Break	
15:40 - 16:10	Scientific Talk	<b>On the road to achieving brain-on-a-chip using MEA technology: role of connectivity and heterogeneity in the emerging patterns of electrophysiological activity</b> <b>Prof. Dr. Paolo Massobrio</b>   DIBRIS, University of Genova, Italy and & National Institute for Nuclear Physics (INFN), Genova, Italy
16:10 - 16:40	Scientific Talk	<b>“Go with the flow” – inducing and tracking action potentials with CMOS MEAs</b> <b>Prof. Dr. Janos Vörös (online) and Jens Duru</b>   Laboratory of Biosensors and Bioelectronics, ETH Zurich, Switzerland
16:40 - 17:10	Roundtable	<b>Host</b>   Host <b>Panelists</b>   Prof. Dr. Nael Nadif Kasri , Dr. Rouhollah Habibey , Dr. Robert E Petroski , Prof. Dr. Paolo Massobrio, and Jens Duru
17:10 - 17:15	Scientific Session Closing Remarks	<b>Host</b>   MaxWell Biosystems, Switzerland
17:15 - 18:00	Transportation to Social Activities Locations	
18:00 – 19:30	Social Activities	
From 19:30	Free Evening	

## Tuesday May 16 | Morning Session

8:00 - 10:00	Exclusive to MxW Users	<a href="#">MxW Users Exclusive Session</a>
8:30 - 10:00	Open to all	<a href="#">MxW HD-MEA Interactive Workshop</a>
10:00 - 10:30	Coffee Break	
<b>Advanced Electrophysiology Methods</b>		
10:30 - 10:35	Scientific Session Opening Remarks	<a href="#">Host</a>   MaxWell Biosystems, Switzerland
10:35 - 11:05	Scientific Talk	<a href="#">Effects of mGluR1 gain-of-function mutation on cerebellar and hippocampal circuits</a> <a href="#">Prof. Dr. Edward O. Mann</a>   Mann Group, University of Oxford, United Kingdom
11:05 - 11:20	Short Talk	<a href="#">NDD-Ephys-dB: A human neurodevelopmental disorder electrophysiology database</a> <a href="#">Prof. Dr. James Ellis</a>   Ellis Lab, The Hospital for Sick Children, Canada
11:20 - 11:35	Short Talk	<a href="#">Probing the synaptic basis of spiking using parallel HD-MEA and patch-clamp recordings</a> <a href="#">Dr. Julian Bartram</a>   Bio Engineering Laboratory, ETH Zurich, Switzerland
11:35 - 11:55	Roundtable	<b>Host</b>   Host <b>Panelists</b>   Prof. Dr. Edward O. Mann, Prof. Dr. James Ellis, and Dr. Julian Bartram
11:55 - 12:00	Scientific Session Closing Remarks	<a href="#">Host</a>   MaxWell Biosystems, Switzerland
12:00 - 13:00	Lunch	

## Tuesday May 16 | Afternoon Session

13:00 - 14:00	Poster Session	
<b>Disease Modeling &amp; Drug Discovery</b>		
14:00 - 14:05	Scientific Session Opening Remarks	<b>Host</b>   MaxWell Biosystems, Switzerland
14:05 - 14:35	Scientific Talk	<b>Development of an iPSC derived 2D triculture MEA functional model for drug discovery in Neurodegeneration</b> <b>Dr. Melisa Ho</b>   GSK, USA
14:35 - 14:50	Short Talk Selected from Abstracts	<b>Validation of novel targeted therapy for KCNQ2-related disorders in iPSC-derived neuronal model using high-density MEA</b> <b>Nina Dirx</b>   Peter De Jonghe Lab, VIB Center for Molecular Neurology Antwerp, Belgium
14:50 - 15:20	Sponsored Talk	<b>Expanding Application of HD-MEA across 2D and 3D-cultured iPSC-derived iCell® Neuronal Cell Types</b> <b>Dr. Ouissame Mnie Filali</b>   FUJIFILM Cellular Dynamics Inc. (FCDI), Netherlands
15:20 - 15:50	Coffee Break	
15:50 - 16:20	Scientific Talk	<b>Modelling NR2F1 deficiency in human brain organoids</b> <b>Dr. Michele Bertacchi</b>   Studer Lab, Institut de Biologie Valrose (iBV), France
16:20 - 16:50	Scientific Talk	<b>A human in vitro model of the ischemic penumbra</b> <b>Prof. Dr. Monica Frega</b>   Frega Lab, University of Twente, Netherlands
16:50 - 17:05	Short Talk Selected from Abstracts	<b>An <i>in-vitro</i> patient-specific sensory neuron model of pain for drug discovery</b> <b>Dr. Rowan Taylor</b>   Human Centric Drug Discovery, United Kingdom
17:05 - 17:20	Short Talk Selected from Abstracts	<b>Modeling Dravet syndrome using human neurons plated on high-density multielectrode arrays</b> <b>Dr. Matt Kelley</b>   Pfizer, USA
17:20 - 18:00	Roundtable	<b>Host</b>   Host <b>Panelists</b>   Dr. Melisa Ho, Nina Dirx, Dr. Ouissame Mnie Filali, Dr. Michele Bertacchi, Prof. Dr. Monica Frega, Dr. Antigoni Katsikoudi, and Dr. Matt Kelley
18:00 - 18:05	Scientific Session Closing Remarks	<b>Host</b>   MaxWell Biosystems, Switzerland
18:05 - 19:00	Break / Transportation	
19:00 - 22:00	Conference Dinner	

## Wednesday May 17 | Morning Session

Brain Organoids Advances & Applications		
8:30 - 8:35	Scientific Session Opening Remarks	<b>Host</b>   MaxWell Biosystems, Switzerland
8:35 - 9:05	Scientific Talk	<b>Are there sex differences in <i>in vitro</i> models for brain disorders? – A perspective from the Women’s Brain Project</b>  <b>Dr. Melanie Einsiedler</b>   Schaaeren-Wiemers Lab & Women’s Brain Project, University of Basel, Switzerland
9:05 - 9:35	Scientific Talk	<b>Modeling brain functions using microglia-containing organoids</b>  <b>Prof. Dr. Tarja Malm</b>   Malm Lab, University of Eastern Finland, Finland
9:35 - 10:05	Scientific Talk	<b>Modeling interregional circuits by connecting neural organoids with a bundle of axons</b>  <b>Prof. Dr. Yoshiho Ikeuchi</b>   Institute of Industrial Science, The University of Tokyo, Japan
10:05 - 10:20	Non-Scientific Talk	<b>Women in Industry</b>  <b>Dr. Melisa Ho</b>   GSK, USA
10:20 - 10:45	Coffee Break	
10:45 – 11:45	Poster Session	
11:45 - 12:15	Scientific Talk	<b>Open Source Hardware &amp; Software Modules for Multimodal Electrophysiology Experiments</b>  <b>Prof. Dr. Mircea Teodorescu &amp; Kateryna Voitiuk</b>   Teodorescu Lab, UC Santa Cruz, USA
12:15 - 12:45	Roundtable	<b>Host</b>   Host  <b>Panelists</b>   Dr. Melanie Einsiedler, Prof. Dr. Tarja Malm, Prof. Dr. Yoshiho Ikeuchi, Prof. Dr. Mircea Teodorescu, and Kateryna Voitiuk
12:45 - 12:50	Scientific Session Closing Remarks	<b>Host</b>   MaxWell Biosystems, Switzerland
12:50 - 13:00	MxW Summit 2023 Closing Remarks	<b>Dr. Marie Obien</b>   MaxWell Biosystems, Switzerland
13:00	End of MxW Summit 2023	
14:00 – 16:30	MxW HQ Tours	