WEDNESDAY JUNE 11, 2025 10:00–11:30 AM			
find	**Abstract Number**	**Presenter**	**Title**
Track 1: MPS Development and Results Processing Theme 1.1: Biomaterials and cell sources			
100	12	Helen Holzke	Engineering tumor microenvironments: Bioprinted hydrogels in breast cancer research
102	20	Ronald van Gaal	Silica membranes for a bio-artificial kidney
104	52	Swati Midha	Engineering spatially heterogenous and controllable hydrogel matrices in organ-chip platforms
106	71	Carlos Chocarro Wrona	Bioproduction of mesenchymal stromal cells (MSC) through ink-jet 3D bioprinting: Dissolvable hydrogel-printed microbeads to raise cell amplification yields
108	72	Chau B. Lam	Engineering a salivary gland-on-a-chip supported by a physiomimetic decellularized extracellular matrix hydrogel
110	109	Manon Miran	Development of human glomerulus-on-chip based on human iPSC-derived glomerular cells
112	123	Catrin Bevan	Developing mimetic biophysical environments compatible with organ-chip systems for tenogenic differentiation towards specific tendon sub-populations
114	139	Takuo Ogihara	Novel screening system for the evaluation of biliary excretion of drugs using human cholangiocyte organoid monolayers
116	155	Oskari Kulta	Distinct functional properties of human iPSC-derived sympathetic neurons in vitro
118	202	Maryna Somova	The ORCA: Driving the next generation of microphysiological systems
120	211	My Hedhammar	Functionalized silk as structural proteins mimicking the ECM for the construction of physiologically relevant tissue models
122	214	Erin Spiller	Leveraging intrinsic heat shock stress response to increase early angiogenesis in bioprinted microphysiological systems
124	225	Liisa M. Blowes	Tunable extracellular matrix-based granular hydrogels for organotypic and organ-on-chip models
126	257	Judith Krauß	Investigation on compound leaching of DLP 3D-printed materials to advance microfluidic cell culture
128	266	Aslınur Ulucay	Investigation of monocyte amoeboid movement using alginate-PLL hydrogel in lab-on-a-chip
130	287	Jeremy Newton	Mechanical modelling of pulmonary hypertension using a matrix-derived microphysiological cell stretching platform
132	295	Sevgi Onal	Development of versatile hydrogel-on-chip platforms
134	302	Emily Reitz	Comparing iPSC-derived and peripheral blood-derived monocytes for use as circulating immune cells in microphysiological models of inflammation
136	351	Takuma Kobayashi	Culture of human iPSC-derived renal stromal progenitor cells and their potential application in renal MPS
138	355	Ashfaq Ahmad	Bioprinting multilayered human blood vessels-on-a-chip using photocurable vascular tunic-specific bioinks
140	356	Yoshikazu Kameda	Development of MPS devices using cyclo olefin polymer for epithelial and vascular models
142	361	Joséphine Briand	A breast-on-chip to study how oxidative stress influences adipose tissue aging and its impact on breast cancer risk
144	375	Elena Aprea	A perfusable organ-on-chip model for vascularized brain organoids using a biodegradable wax-based membrane
146	377	Dennis Schutter	Generation of isogenic iPSC lines for HTNB disease modeling in a vessel-on-chip model

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148	433	Carolina Rodríguez-Gallo	Magnetic actuators for functional 3D human engineered models of muscle dystrophies
150	436	Melissa van Velthoven	An integral approach to replace animal-derived products for microphysiological systems
152	440	Mihane Kawada	Development of functional DNA nanofibers towards applications for artificial extracellular matrix
154	441	Jeffrey Bajramovic	The 3Rs Centre Utrecht: Bridging MPS/NAMs and the 3Rs
156	459	Ryusei Kawabe	Development of artificial multicellular molecular robots and nucleic acid sensors for MPS applications
158	463	Elena Seibel	3D printed skin-on-chip model for reproducible chemical compound testing
160	521	Frederic BOTTAUSCI	Automated and standardized production of organoids and tumoroids in microbeads of extracellular matrices
162	548	Anastasiia Mykuliak	Evaluation of novel blue light crosslinked hyaluronan-fibrin hydrogel for in vitro vascularization
164	584	Jasper Van Hoorick	Ensuring reproducibility in GelMA-based bioinks for cartilage regeneration
166	597	Joseph Wu	Derivation of a comprehensive biobank of human iPSC lines for open-access distribution to academic researchers
168	620	Catherine A. Wu	Optimizing hydrogel microparticles to improve 3D bioprinting resolution for tissue engineering applications
170	622	Nidal S. Y. Khatib	Isolating and characterising tenocyte subpopulations for the generation of physiologically relevant microphysiological models of tendon
172	629	Baishali Ghibhela	All layers matter: Full-thickness skin equivalent featuring dermal cell and matrix heterogeneity based on a shrinkage-hindered collagen hydrogel
174	640	Naokata Kutsuzawa	Consideration points in MPS perfusion chips: Verification of the possibility that cell culture conditions may differ between the upstream and downstream in the microchannel
176	650	Kristin Schüler	A novel bio-instructive scaffold for biomimetic collagen deposition aiming at cartilage tissue engineering and in vitro disease modelling of osteoarthritis
178	686	Federico Vozzi	Alternative dynamic in vitro cardiac model: Integration of biomechanical and biological approaches
180	695	Luke Philbrooks	Replicating tendon ageing: Tuneable stiffness hydrogels to study mechanical and cellular changes within the interfascicular matrix
182	743	Alessandro Marchesini	A user-friendly modular microphysiological system with controlled perfusion for in vitro tissue barrier modelling
184	754	Vasiliki Gkouzioti	An in vitro microphysiological model for neuro-osteogenic interactions in bone disease
186	756	Jennifer Rosowski	Charité 3R Primary Tissue Pipeline: Clinical waste into scientific gold to support biomedical research
188	781	Simon Grossemy	Optimising physical cues towards novel microphysiological systems: A tendon case study
190	793	Steffen Winkler	3D printed microfluidic perfusion system for parallel monitoring of hydrogel embedded cell cultures
192	794	Sam Hobson	Organ-specific expression data guides choice of laminin for in vitro studies incorporating organ-on-a-chip platforms
194	816	Malgorzata Dwulat	Development of a dual-gel microfluidic device with spatially configurable co-culture
196	829	Alexis Applequist	Design and validation of non-invasive contractility sensing heart-on-chip device
198	847	Chiara Russo	Resilin-derived electrospun matrices for vascular in vitro vascular models

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200	848	Carolina Lucchesi	Exploring the performance of HepatoXcell™ in two liver-chip technologies
202	855	Gabriela Silva	Reversible hydrogel-based microfluidic device for constructing microvessels from endothelial cells
204	881	Anja Hellwig	Generation of six integration-free iPSC lines from related human donors
206	901	Jiamian Han	Gaussian curvature accelerating osteogenesis by directing orientation distribution of cell clusters
208	910	Kamilė Kasperavičiūtė	Optimization of polycarbonate membrane coating strategies to enhance cell adhesion in two-channel microphysiological systems
210	921	Aisha Amari	Spatial Dynamics of OV6+, AFP+, and Albumin+ Cells in 3D Liver Cancer Spheroids
212	929	Alexis Franco	Hydrogel design for cornea on a chip drug screening model
214	981	Hae-Yoon Kim	A 3D open microfluidic neuron culture platform: aligned PDL/parylene nanofibers-enhanced ECM for axon sprouting guidance
Track 1: MPS Development and Results Processing Theme 1.2: Organ crosstalk in multi-organ MPS			
216	83	Katarina Breitholtz	Coupling kidney organoids with liver and cardiac spheroids-on-chip for multi-organ studies of cardio, renal, and metabolism diseases
218	151	Chih-Yu Lin	Study on the heterogeneity of a liver tumor core and peripheral to the tumor angiogenesis using a micro-dissected patient-derived xenograft and a microphysiological system
220	188	Timothy Hopkins	The need for personalised synovium-cartilage organ-chips to investigate patient-specific inflammatory crosstalk in osteoarthritis
222	234	Lenya de Brouwer	The development of a liver-kidney two-organ-chip model for toxicity testing
224	563	Mandy Petzold	Development of a multi-organ microphysiological system for preclinical characterization of radiopharmaceutical compounds
226	684	Yasuhiro Nakamura	Development of a modular MPS capable of evaluating multi-organ coordination and its evaluation method
228	710	Jose Jimenez	Development of a high-throughput, compartmentalized multi-organoid culture system for drug screening and toxicity testing
230	938	Mitsumasa Taguchi	Development of in vivo mimicking ECM gels and multi-organ connected MPS chips.
232	948	Aiko Mizuno	Development of a gut-liver co-culture system to predict drug absorption and metabolism using the BioStellar™ Plate
234	960	Noo Li Jeon	A novel MNCNT-based organ-on-a-chip designed for neurite alignment and modeling of sensory neuron–MSC Interactions
Track 1: MPS Development and Results Processing Theme 1.3: AI co-pilot for MPS			
236	208	Zhongze Gu	Real-time AI-powered analysis of cardiac spheroid beating dynamics for drug testing
238	270	Nicky Anvari	Drug discovery for idiopathic pulmonary fibrosis: Integrating a generative AI drug repurposing model and a microphysiological high-throughput model
240	423	Michele D'Orazio	Deep learning assisted organ-on-chip platform for the analysis of breast-to-bone metastasis
242	569	Andrew LaCroix	Development of an AI-based target identification model for anticonvulsant drug discovery
244	610	Nadezhda Koriakina	Towards robust bubble detection in diverse microphysiological systems by machine learning

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246	755	Shahar Harel	Non-invasive, cross-organ viability assessment of 3D spheroids using deep learning for toxicity screening
Track 1: MPS Development and Results Processing Theme 1.4: Sensors and real-time monitoring			
248	51	Anna Panteleeva	Enhancing neurodegenerative disease research with brain-on-a-chip and advanced biosensor technologies
250	77	Yoshinobu Utagawa	Porous membrane electrode devices for in situ electrochemical measurement of alkaline phosphatase activity in engineered gut models
252	85	Marie-Helene Steger-Polt	A dual-sensing microfluidic chip for simultaneous impedance and morphological analysis in MPS
254	91	Terrence Roh	Integration of label-free imaging for quantifying biological responses
256	100	Keita Saikawa	Fluorescent nanodiamonds-based thermometry using microfluidics-guided assembly for temperature mapping on a cell culture substrate
258	101	Lilia Bató	Real-time cell viability testing in a microfluidic system by EIS
260	110	Hendrik Erfurth	Real-time oxygen saturation measurement in blood-filled vascular structures
262	145	Noriko Matsumoto	High-resolution 3D imaging of microphysiological systems using advanced confocal microscopy techniques
264	159	Kang-Hsu Liu	Assessment of tumor drug function through interstitial tumor fluid using a vascularized patient-derived xenograft tumor model-on-a-chip
266	229	Shaginth Sivakumar	A bio-impedance measuring platform with a full-spectrum measurement head and an adaptable lid for well plate format to monitor barrier-on-chip
268	245	David Jaworski	StretchView: an organotypic system for quantitative videomicroscopy of dynamic cellular processes under cyclic stretch
270	267	Liubov Bakhchova	Wrinkled electrodes on PDMS pillars for detecting micromovements during 3D cardiac microtissue contraction
272	268	Lydia Baldwin	Fluorescent imaging of tissue and effluent using a novel 3D printed bio-microfluidic device
274	304	Zilin Zhang	Multi-organ MPS system simulating ARDS-related organ injury and development of multi-scale real-time detection methodology
276	317	Martín Ruiz-Gutiérrez	Plasmonic resonance sensing platform for antifibrotic drug testing using a Duchenne muscular dystrophy microphysiological system
278	328	Laura van Smeden	Versatile sensor platform for MPS setup integration and real-time multiplexed monitoring
280	345	Tim Hosman	Non-contact monolayer confluence tracking in microphysiological systems using dielectric spectroscopy
282	369	Álvaro Nicolás	Design of a graphene-based biosensor for the detection of therapeutic molecule passage through the blood-brain barrier
284	383	Devin Veerman	Visible light optical coherence tomography for live-cell and label-free assessment of vascular health in a vessel-on-chip
286	388	Alireza Tajeddin	Towards miniaturized and transparent IPMC actuators for organ-on-chip platforms
288	399	Bjorn de Wagenaar	Real-time in-line monitoring of cellular metabolic activity in an intestinal cells-on-chip model
290	402	Tetsuhiko Teshima	Self-folding 2LDMs-based interfaces for long-term recordings of 3D tissue dynamics
292	403	Benedikt Maurer	An open-source drug testing and temperature control extension for neuronal networks on high-density microelectrode arrays

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294	404	Sophie Materne	On-chip tracking of human mesenchymal stem cell gene expression to explore mechanically driven chondrogenesis
296	429	Pratik Tawade	Microfluidic tissue barrier-on-chip with integrated microelectrodes and ultra-thin microporous membrane
298	432	Katharina Hennig	Integrated organ-on-chip systems for immuno-oncology and infectious disease research
300	438	Maud Vermeulen	Fast and flexible live-cell imaging of 2D and 3D cultures in microfluidic chips
302	475	Frøydis Sved Skottvoll	Towards automated small-sample drug metabolism analysis for microphysiological systems using electromembrane extraction
304	480	Babu L. P. Meenajetan	µEIT Cube: An in-depth 3D imaging platform for organoid models
306	482	Claudia Gärtner	A modular, automated setup for metabolic monitoring of skin-on-chip models with integrated biosensors
308	489	Alessandro Polini	Real-time oxygen monitoring in a 3D-printed organ-on-chip using optical sensors
310	491	Daniel Vera	3D blood-brain barrier on-chip with integrated sensing using silicon microfabrication
312	522	Annina Stuber	Spatially controlled patterning of aptamers in hydrogels for microphysiological systems
314	523	Vincent Haguet	A mini-incubator for live-cell time-lapse imaging using holographic microscopy
316	528	Gregor Horstmeyer	Use of high-speed multi-camera array microscopy and development of a novel pipeline for high-throughput analysis of immune cell activity and immune cell/cancer spheroid interactions
318	549	Ina Carmans	A novel silicon porous MEA for real-time, high-resolution monitoring of vascular dynamics
320	601	Katherine Daniel	A photonic sensor-integrated microphysiological system for simultaneous measurement of apical and basal bioanalyte secretion in a vascular sepsis model
322	608	Victor Krajka	Combined microfluidic and multielectrode array platform for compartmentalized neuronal network studies
324	626	Emmie J.D. Schoutens	Enhancing organ-on-chip platforms with giant magneto-resistive flow sensors
326	632	Maria Tenje	High-throughput oxygen consumption measurements in self-organizing 3D models under tuneable chemical environments
328	649	Killian Montiège	Glucose sensor characterisation in culture medium and under flow for organ-on-chip instrumentation
330	679	Hiroshi Kimura	Development of gut microphysiological system with integrating trans-epithelial electrical resistance measurement function for intestine barrier study
332	687	Sophie Besser	PDMS-free intestine-on-chip with real-time oxygen monitoring for high-throughput studies
334	705	Iga Malicka	Optical biosensors enabling glucose and lactate monitoring in microphysiological systems
336	712	Lisa Muiznieks	Automated cell perfusion for 3D cell culture and tissue engineering
338	722	Ioannis Angelopoulos	A 3D SVZonChip model for in vitro mimicry of the subventricular zone neural stem cell niche
340	738	Helena Castañé	Multi-parametric non-invasive metabolic monitoring of adipose tissue-on-chip
342	760	Alexia Bailleul	A platform for the mechanical and electrical characterization of 3D tissue engineered skeletal muscles
344	764	Shreya Gudi	Shining a light on osteoarthritis: Bioluminescence meets organ-on-chip for rapid treatment screening
346	806	Nader Amanatchi	Temperature controlled acoustofluidic separation and functional characterization of β-cells from an islet-on-a-chip device

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348	906	Yijun Guo	An integrated heart-on-a-chip platform for cardiac contraction, calcium imaging, and electrophysiology
468	604	Jonathan Coppeta	Development of high-throughput, real-time sensing of reactive oxygen species for lung-immune microphysiological systems
Track 1: MPS Development and Results Processing Theme 1.5: Leveraging physiology with vascularization and immune-competence			
350	73	Emma Streutker	A fibrosis-on-chip model to study systemic sclerosis
352	84	Daphne Panocha	A human immunocompetent 3D lymph node model using pre-printed scaffolds
354	128	Elisabetta Avizzano	Biomimetic microtopographical mesh for guided integration of soft hydrogels in miniaturized intestinal tissue models
356	134	Soumya Mitra	Imaging techniques and analysis for 3D complex in vitro models
358	152	Negar Vahdani	Physiologically relevant liver microvasculature in vitro model for the hepatocyte spheroid vascularization
360	171	Daria Wehlage	Combination of electrospinning and a cell-laden collagen hydrogel as a first step towards the generation of fully perfusable microphysiological systems
362	186	Hristina Koceva	Optimization of an alveolus-on-chip model for personalized drug screening against super-infections in viral pneumonia
364	206	Lauren Pruett	A microvascularized endometriosis lesion model for evaluating efficacy of inflammation-targeting therapies
366	209	Tomas van Dorp	Encapsulation of micro-engineered heart tissue in a bioactive hydrogel to create a perfusable heart-on-chip system
368	279	Johannes Fehr	Microvascular engineering for multilayered vessel-on-chip development
370	291	Josep Fumadó Navarro	Brain organoids go vascular: Towards a reproducible protocol to model the cerebrovascular space
372	306	Jose Antonio Reales-Calderon	VasQ Kit: A robust solution to incorporate 3D perfusable microvascular networks in microphysiological systems (MPS)
374	310	Vendija Kozlova	Vascularised gut-on-a-chip model for investigating microbiome modulation and dietary supplement efficacy
376	380	Mathias Busek	The pumpless recirculating organ-on-chip platform: a versatile platform to study tissue-immune interaction
378	394	Emely Rosenow	Modelling human vascular regulation of trauma response in post-traumatic osteoarthritis
380	397	Ralfs Buks	The first-in-class vascularized gut-brain-axis-on-chip platform for accelerating research and drug development
382	405	Elia Pennati	A mechanically active biomimetic bone marrow-on-chip as in vitro model of the bone marrow niches
384	408	Robert Gaibler	Recirculation of leukocytes supports transmigration studies in a vascular MPS model
386	439	Astrid Olivefors	Development of a dual-flow 2-photon 3D-printed hydrogel-based vessel-on-chip model
388	517	Katarzyna Rojek	Magnetically-assembled arrays of microvascular networks-on-chip
390	553	Qianru Jin	Precisely modeling nutrient exchange and immune infiltration at the adipocyte-endothelial interface for obesity research
392	558	Matthew Johnson	Microfluidic platform for vascularized tissue models with integrated micropumps and back-pressure regulators
394	559	Priyatanu Roy	A microfluidic scaffold designed to support the development of perfused vascularized tissue models in hydrogel matrix on the Physiomimix™ platform
396	727	Loïc Comeliau	Integrating microfluidics and agent-based simulations to model lymphatic capillary remodeling

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398	751	Alice Salvadori	High-definition laser patterning of microvasculature for controlled liver-on-chip vascularization
Track 1: MPS Development and Results Processing Theme 1.7: Pathology and CIVM			
400	769	Viviana Ippolito	Development of a 3D human organotypic spine unit model for the study of degenerative disc disease
402	821	Kartik Balachandran	Exploring the role of Piezo1 and YAP in calcific aortic valve disease in a novel 3D dynamic valve-on-chip system
404	966	Lucia Aversa	The impact of physiological cyclic stretching on barrier integrity of airway and pulmonary microvascular endothelial cells in healthy and COPD models: a lung on-a-chip approach
Track 2: MPS for Biomedical Research and Disease Modelling Theme 2.1: Metabolic disorders and endocrine dysfunction			
406	972	Vivien Priebe	Biofabricating vascularized liver models: Advancing long-term primary hepatocyte cultivation
408	23	Jana Hecking	Modular and versatile three-dimensional cardiac chamber platform for volumetric performance measurements
410	49	Matthew Stevenson	Organ-on-a-chip modelling of early atherosclerosis events reveals reduced activity of e-vapour products compared to cigarettes
412	103	Leonie P. I. Klintz	Media-dependent differentiation in novel nasal cell line CI-pNaEC
414	185	Maria Jordan	Heart-on-chip: Advancing 3D myocardial tissue models for fibrotic disease progression and drug discovery
416	199	DeDe Kwun Wai Man	Microfluidic 3D vessel-on-chip to model pulmonary arterial hypertension (PAH)
418	201	Mariel Cano-Jorge	Effect of dynamic preload conditioning on human engineered ventricles
420	230	Kuan-Wei Chen	A biomechanical approach to compensate for the stiffness difference between hard polymers and cardiac tissue for developing an hiPSC cardiac model for drug screening
422	336	Benoit Samson-Couterie	Advancing cardiovascular drug discovery with iPSC-derived 3D cardiac microtissues in high-throughput screening
424	376	Daniel Bramham	An in vitro microfluidic model of the human cardiovascular system for use in pharmaceutical screening applications
426	378	Ozan Karaman	An automated high-throughput 3D engineered heart tissue platform for disease modeling and drug discovery
428	476	Brady Rae	In vitro microfluidic breathomics: Isolated epithelial and whole patient breath in COPD
430	478	Manuel Sambrotta	Cell composition optimization in miniaturized human 3D cardiac strips: a key step towards its use in high-throughput screening
432	488	Nina Hobi	Advanced patient-derived lung-on-chip models for enabling replication of the human pulmonary microenvironment
434	531	Nipun Jain	Engineering 3D bio-printed lung-on-a-dish platform to investigate pulmonary fibrosis
436	580	Bettina Lickiss	Modeling laminopathy-driven cardiac dysfunction under microphysiological conditions: Insights from LMNA L35P mutant hiPSC-derived cardiomyocytes
438	615	Kaisla Walls	3D imaging of engineered heart tissues using inverted selective plane illumination microscopy
440	623	Mattia Ballerini	Development of pathological heart-on-chip models to advance extracellular vesicle-based therapy for cardiac fibrosis and myocardial injury
442	627	Elisa Mohr	Versatile multicellular human cardiac organoids as in vitro platform for modeling cardiovascular diseases

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444	630	Bianca Aterini	An alveolar-capillary barrier-on-chip model for investigating atmospheric pollutant absorption and lung health in a 3D air-liquid interface system
446	690	Philipp Hauger	Patient-specific vessel-on-a-chip model to study endothelial cell-vascular smooth muscle cell crosstalk within the abdominal aortic aneurysm wall
448	708	Teresa Lucifora	Development of a mechanically active in vitro model of idiopathic pulmonary fibrosis in a lung-on-a-chip platform
450	715	Adrienne Vaughan	Development of a physiologically-relevant breathing nasal airway-on-chip to study particulate matter exposure
452	721	Mona Amiratashani	Integration of flexible collagen-elastin membrane for mimicking breathing mechanisms in alveolus-on-chip models to study Staphylococcus aureus infection
454	783	Marco Mondini	Development of a small airways lung-on-chip model with mechanical stimulation to mimic COPD pathophysiology
456	792	Sungjune Jung	Breathable in vitro lung model on a stretchable ultra-thin hydrogel membrane
458	862	Tatsuya Matsubara	A strain-controlled artery-on-a-chip platform for vascular biomechanics research
460	879	Dmitriy Krepkiy	Tissue chips in space: Modeling Human Disease States in Microgravity.
462	889	Giada Cattelan	A cutting-edge human iPSC-derived neurocardiac platform for in vitro modeling of the heart-brain axis.
464	912	Lorraine Couteau-brisset	Towards a Perfusable Artery-On-Chip Model Replicating Human Atherosclerosis Development
Track 2: MPS for Biomedical Research and Disease Modelling Theme 2.4: MPS for cancer precision medicine			
466	473	Silvia Scaglione	Organ-on-chip platforms for evaluating fasting-driven therapeutic responses in dynamic 3D tumor models