THURSDAY MAY 28, 2026 4:00–5:30 PM			
Poster Board Number	**Abstract Number**	**Presenter**	**Title**
Track 3: MPS in Product Development Theme 3.2 ADME, PK/PD, and Translational Pharmacology			
101	784	Minjung Park	Assessment of drug permeability and prediction of intestinal absorption using an intestinal microphysiological system
103	785	Meredith Schervish	Mathematical modeling of pharmacokinetic processes using feto-maternal organ-on-chips
Track 3: MPS in Product Development Theme 3.3 Acute, Chronic, and Organ-Specific Toxicity Testing			
105	41	Chuanyu Wang	High-throughput glomerulus microphysiological system for drug safety assessment using 3D high-content imaging and real-time monitoring technologies
107	50	Tomoyo Ikeda	Assessing drug-induced diarrhea risk using human intestinal organoids and image analysis
109	52	Kirsten Eckstrum	Development of a tiered-approach using multi-well plates and a microphysiological system for the assessment of potential hepatotoxicity
111	70	Lucy Roberts	Utilising a lung transwell model for the *in vitro* assessment of inhaled defence- and national security-relevant compounds, using ricin as an example
113	73	Magali De Araujo	Investigating the potential of a human cell-derived proximal tubule microphysiological system for the assessment of chemical-induced toxicity via biomarker analysis
115	89	Yining Wang	High-throughput functional neurotoxicity assay using brain region-specific neural spheroid models
117	165	Robel Medhane	Development of an *in vitro* liver model for prediction of drug-induced liver injury
119	182	Rashmi Pandey	Engineering chronic disorders with long-term flow-driven human vessel chips
121	184	Yuji Shirai	Evaluation of interspecies differences in DS-2087b-induced gastrointestinal toxicity using mouse and monkey intestinal organoids
123	205	Hoda Zarkoob	Leveraging automation to advance 3D human skin models for drug safety evaluation
125	225	Anna Borgström	Leveraging low-input RNA-sequencing in human and animal liver microtissues to characterize mechanisms of drug-induced liver injury
127	247	Rahul Cherukuri	Reducing small molecule adsorption in a PDMS-based microphysiological system of the female reproductive tract via Parylene-C coating
129	260	Luisa M Pfeifer	Development of iPSC-Derived Human Liver Organoids for preclinical drug testing and toxicology studies
131	327	Shelby Roe	The evaluation of brain organoids as a model for chronic pesticide exposure
133	340	Victoria L. Rabsiun Aramburu	A human 3D beating heart-on-chip platform for cardiotoxicity screening: Analysis of drug-induced cardiac contractility alterations
135	400	Jessica Klein	The differentiation state of small intestinal organoid models influences prediction of drug-induced toxicity
137	411	Hao-Han Yu	A 3D nephron-on-a-chip platform for dynamic evaluation of chemotherapy-induced kidney injury

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139	485	Ryan Spencer	Matrix-free pluripotent stem cell-derived human intestinal organoid platform for preclinical toxicity assessments
141	519	Olivier Uwishema	A multi-organ microphysiological system to improve prediction of drug-induced liver and kidney toxicity
143	543	Kanghoon Choi	Automated multiwell cornea chip platform for reproducible *in vitro* ocular drug testing
145	556	Guillermo Garcia-Cardena	Development of a long-term human vascular microphysiological system to distinguish acute and chronic toxicity from cyclic chemotherapy exposure
147	605	Olivier Frey	Multiparametric assays in 3D human liver microtissues: Towards multiplexed *in vitro* NAMs for drug-induced liver injury (DILI) assessment
149	623	Frauke Greve	Evaluation of drug-induced liver injury of trovafloxacin and chlorpromazine in human InSightTM 3D MASLD spheroid model
151	629	Koh Meng Aw Yong	Development of a long-term 3D spheroid mouse hepatocyte culture model for use in drug-induced liver injury (DILI) applications
153	633	Manisha Nautiyal	Preliminary evaluation of donor variability in albumin secretion for fit-for-purpose applications of primary human hepatocytes
155	643	Satoshi Chiba	A modular EHT platform with low drug adsorption and removable pillars enables multi-organ coupling and improved cardiotoxicity assessment
157	713	Arturs Abols	Primary cell gut-on-a-chip model for evaluating the effect of orally administered medication on intestinal epithelium
159	772	Toshikatsu Matsui	Mechanism-informed assessment of acute neurobehavioral liability of intrathecal oligonucleotides toward advanced *in vitro* models
161	778	Andrew Keebaugh	Neurotoxicity and hepatotoxicity testing in organotypic models as part of a tiered screening assessment for Force Health Protection
163	805	Gabriella Worwa	Investigating the potential neuroplastogen (S)-tianeptine in human three-dimensional brain microtissues
Track 3: MPS in Product Development Theme 3.4 MPS for Biologics, Cell and Gene Therapy Evaluation			
165	136	Peter Loskill	Lymphoid-tissue-on-chip to recapitulate human adaptive immune responses and to predict drug-immune-cell interactions *in vitro*
167	176	Pauline Zamprogno	Evaluating immunotherapy-induced lung toxicity with the AXBarrier-on-chip system
169	201	Eunkyung "Clare" Ko	Measuring the impact of protein charge on tissue disposition via a 3D microphysiological model
171	325	Dahong Kim	Holotomography for drug-specific morphological toxicity assessment in advanced *in vitro* cellular models
173	338	Lily Liu	Development of a 3D hepatic microphysiological system for lead optimization of liver-targeted multispecific biologics
175	457	Yaling Liu	Perfusion microfluidic device for rapid in situ drug testing using clinical biopsy samples
177	469	Rosanna Stolberg	Evaluating motility and cytotoxicity of IgA-targeting TCR T-cells in a B-Cell related disease context
179	512	Louise Brackenbury	Building a 3D immune organoid system to support high-throughput *in vitro* immune cell screening for biologics immunogenicity
181	547	Sandra Smieszek	N-of-1 personalized therapy for CMT2S: From patient-specific preclinical models to first-in-human dosing
183	570	Nelsa Estrella	Screening candidate gene therapy capsid transduction efficiency using 3D engineered muscle tissues

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185	575	Yoshikazu Kameda	fFrom fundamental understanding of cell body expansion–controlled on-chip vascular network formation to development of Boncyte™ chip as an SBS-standard plastic platform
187	651	Gabriele Corda	T cell: Organoid co-culture systems to evaluate potency and specificity of TCR x CD3 bispecifics
189	730	Saulo Soares Da Silva	Fabrication of a functional microfluidic micropump by 3D printing for microphysiological systems
Track 3: MPS in Product Development Theme 3.5 Chemical, Cosmetic and Consumer Product Risk Assessment			
191	230	Lindsay Marshall	Animal testing without the animals? Assessing the role of animal-derived MPS in regulatory science
193	314	Ferdinand Ativon	Precision inhalation dynamics: A lung-on-chip odyssey investigating molecular responses to cigarette smoke and heated tobacco products
195	336	Mary Mcelroy	Characterisation of aerosol application of chemicals to respiratory tract cell culture nam models for physiologically relevant dosimetry
Track 3: MPS in Product Development Theme 3.6 MPS for Food and Nutrition Safety Assessment			
197	233	Greg Sower	Can pharma-based organ-on-chip technologies be adapted to premarket hazard screening of herbal products and new chemicals?
199	467	Sophia Meyer	A moving model of the human gut: Spontaneous peristalsis in intestinal organoids
Track 3: MPS in Product Development Theme 3.7 MPS for Regenerative Medicine Applications			
201	213	Hwang Soo Kim	Establishing a Standardized Validation Framework for 3D Bioprinted Heart and Skin-on-a-Chip Models to Support Regulatory Acceptance
203	638	Kunio Mochizuki	Perfusion culture of hepatocyte spheroids in a microphysiological system (MPS)
Track 4: Standards, Regulatory Pathways, and Global Adoption Theme 4.1 MPS Qualification, Standardization, and Benchmarking			
205	76	Eric Safai	Compact, modular platform enabling controlled hypoxia for parallel organ-on-chip devices
207	112	Shashwat Agarwal	Cost-effective, sustained and plug-and-play perfusion device for microphysiological systems
209	153	Yigunag Zhu	Advancing regulatory acceptance of NAMs: A two-phase validation framework informed by cardiac MPS case studies
211	168	Mark E. Schurdak	Qualification of the liver acinus microphysiological system (LAMPS) for determining drug candidate dosing in clinical trials of liver disease
213	186	Shoka Takebayashi	Assessment of cellular health in microphysiological systems by regulating culture conditions and monitoring metabolism
215	240	Anna K Kopec	Educating the next generation: IQ MPS affiliate bridging pharma perspectives for early-career CIVM/MPS scientists
217	276	Kaoru Sato	Optimization of the permeability assay protocol of blood brain barrier (BBB)-microphysiological system (MPS) installing human induced pluripotent stem cell (hiPSC)-derived BBB cells
219	310	Benoît Maisonneuve	Multimodal assessment of pesticide-induced neurotoxicity using a human ipsc-based organ-on-chip model
221	349	Daryn Erickson	Challenges of the integration of microphysiological systems in high consequence pathogen research
223	352	Courtney Sakolish	TEX-VAL Consortium: Context-of-use–based testing of microphysiological systems through an academia–industry–government partnership

Poster Board Number	Abstract Number	Presenter	Title
225	357	Joris Kaal	Towards a compatibility-driven community of MPS developers
227	384	Chase Miller	Performance gains of automated human-on-a-chip neuromuscular junction functional assessment platform using industrial automation techniques
229	401	Christine Happel	Complement-ARIE: Catalyzing the development and adoption of new approach methodologies
231	404	Risa Ishihara	Study on activation/deactivation of hepatic stellate cells by three-dimensional culture using gelatin fiber scaffolds
233	405	Momoka Tokuyama	Effect of oxygen supply on hepatocyte function in a co-culture system using culture inserts
235	407	Seiichi Ishida	Integrating substrate stiffness into MPS design to regulate li90 stellate cell activation
237	422	Srivatsan Kidambi	The NIH Standardized Organoid Modeling (SOM) Initiative: Building a reference framework for reproducible and fit-for-purpose organoid platforms
239	426	Yasunari Kanda	Modernizing cardiac safety pharmacology to adopt hiPSC-CM assay as NAMs toward ICH S7A revision
241	433	Brian Karlberg	Improving translation of large-scale proteomics datasets through novel systematic normalization and validation methods
243	445	Pierre Gaudriault	Engineering and functional benchmarking of a reproducible adipose microphysiological system
245	496	Qiang Shi	Toxicity of fezolinetant and pavinetant in three-dimensional three-cell-type liver spheroids originated from pooled human primary liver cells
247	550	Philipp Kainz	SynBBB™: AI/ML-enhanced standardization and predictive monitoring of a human-relevant blood–brain barrier-on-chip for CNS drug discovery
249	551	Kristin Bircsak	A step toward safer medicines: Evaluation and application of a 2D *in vitro* model and 3D MPS for detection of chemotherapy-induced peripheral neuropathy
251	552	Avanka Gunatilaka	Towards the automation of an air-liquid interface culture system (ALICS)
253	554	Passley Hargrove-Grimes	Translational centers for microphysiological systems program: Ushering microphysiological systems towards regulatory acceptance
255	616	Déborah Lenart	Human liver MPS: A paradigm shift in genotoxicity testing for drug development
~~257~~	~~625~~	~~Jonathan Ward~~	~~Qualification of TrueCardium®, a human cardiac organoid platform, for predictive cardiotoxicity testing and translational disease modeling~~
259	660	Zsuzsanna Gáborik	Evaluation of *in vitro* models for BBB penetration prediction of small molecules and mAbs
261	689	Jon Mccord	Llessons learned for ISTAND NAM qualification programs
263	761	Carlos Serna Iii	A human neural new approach methodology (NAM) using electrophysiology to evaluate opioid-related poly-pharmaceutical interactions
265	770	Tromondae K. Feaster	Advancing regulatory science through microphysiological systems: FDAs DARS CIVM laboratory initiatives

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Track 4: Standards, Regulatory Pathways, and Global Adoption Theme 4.2 Global Industry and Policy Strategies for Adoption			
267	25	Kathrin Herrmann	Integrating microphysiological systems into academic education and research infrastructure: Preparing scientists for a human-relevant future
269	78	Loza Taye	Strengthening regulatory frameworks for microphysiological systems in medical countermeasure development
271	145	Catharine E. Krebs	Addressing animal methods bias: The peer review bias that favors animal use and sets back MPS adoption
273	148	Megan Lafollette	Advancing global adoption of microphysiological systems: Progress and impact of the 3Rs collaborative's MPS initiative
275	164	Crishaun Hardy	Assessing regulatory pathways for organ replacement: Microphysiological systems v. Xenotransplantation
277	179	Janine Mccarthy	ERA21 program expands free training and educational opportunities on microphysiological systems
279	258	Michael Phelan	What do the trends in regulatory qualification of NAMs tell us about MPS adoption?
281	322	Blair Eagleson	Microphysiological system developers as catalysts for humane animal welfare
283	363	Patrick J Devine	Complex *in vitro* reproductive biology models and their possible roles in the pharmaceutical industry
285	390	Emily Anderson	Policy needs and actionable solutions for advancing NAMs adoption in the US
287	393	Akosua Dufie	Promoting science, ethical research, and animal welfare: Why African countries should embrace new approach methodologies (NAMs) and how to implement a NAMs regime
Track 4: Standards, Regulatory Pathways, and Global Adoption Theme 4.3 Case Studies of MPS Integration in Discovery and Development Pipelines			
289	27	John Gleeson	Validation and application of Caco-2-, Ileum-, and Colon-Chip models to support oral drug product development
291	320	Nadine Stokar-Regenscheit	An alternative (NAMs) nonclinical approach to support the first-in-human clinical trial of a T-cell bispecific targeting EGFRvIII
293	483	Arno Gutleb	Complex 3D *in vitro* and microphysiological system (MPS) models for regulatory assessment of respiratory sensitizers
295	584	Zachary Liebowitz	Using high-throughput microphysiological systems to address data gaps in chemical safety assessment
297	671	Lawrence Florin	A Human-on-a-Chip® neuromuscular junction model for the evaluation of botulinum neurotoxin potency
299	675	Rocky Brighton	Evaluating the effects of differential metabolism for efficacy and off-target toxicity for the NK-1 antagonist tradipitant using the Hesperos Human-on-a-Chip® multi-organ system
301	766	Clelia Bourgoint	Discovering early systemic toxicity biomarkers using a human 3D multi-tissue platform
Track 4: Standards, Regulatory Pathways, and Global Adoption Theme 4.4 Collaborative Validation Exercises: Developer–End User Dialogues			
303	677	Ngun Par	Academic innovation to industry adoption: A user-centered approach to translating organ-on-chip technology
305	680	Katharina Schimek	Predictive assessment of drug-induced liver injury using a HUMIMIC Chip2-based human 3D liver-on-chip model: A multiparametric approach for preclinical safety evaluation

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Track 4: Standards, Regulatory Pathways, and Global Adoption Theme 4.5 Regulatory Acceptance Case Studies: Developer–Regulator Dialogues			
307	24	Saed Nuh Ahmed	Tackling the burden of substandard and falsified medicines and health technologies in Somaliland and Somalia
309	283	Mario Beilmann	Advancing nonclinical safety assessment with new approach methodologies: A collaborative industry initiative
311	300	Yukari Shigemoto-Mogami	Search for marker proteins to assess blood-brain barrier (BBB) development-an attempt to make a recipe to determine the BBB developmental stage
313	462	Daria Bednarczyk	Microphysiological systems for advancing personalized medicine in the US: Regulatory pathways and translational perspectives
Track 4: Standards, Regulatory Pathways, and Global Adoption Theme 4.6 Building Models for Precision Medicine			
315	789	Christos Papadimitriou	The RealBrain platform: Rapid drug phenotyping in bespoke human primary and iPSC-derived 3D neural models
Track 4: Standards, Regulatory Pathways, and Global Adoption Theme 4.7 Scalability, Reproducibility, and Manufacturing-Readiness Strategies			
317	90	Ryohei Ueno	Development of low-adsorption, high-permeability culture inserts using cyclo-olefin polymer porous membranes for accurate drug permeability evaluation
319	262	Jeongmin Lee	Development of a ready-to-use fabrication process for substrate-free ECM membranes
321	307	Jonas Goldowsky	Labware & AI at the service of organoid selection and plate transfer in laboratory workflows
323	440	Vanitha Thurairasu	Newborn telomere length-anchored exposure profiles from prenatal heavy-metal mixtures for next-generation safety frameworks
325	537	Singith Abeysiriwardena	Automated human-on-a-chip® neuromuscular junction functional assessment platform using industrial automation techniques and distributed video acquisition
~~327~~	~~565~~	~~Po Yi Lam~~	~~Enhanced operation of female reproductive microphysiological systems for rapid and higher throughput assays~~
329	658	Mantej Singh	Automated software for early detection of phenotypic drift in organoid and spheroid manufacturing
Track 1: Engineering the Next Generation of MPS Theme 1.1 Stem Cell, Synthetic Biology and Biomaterial Innovations for MPS			
331	798	John Lamb	Bioreactor-generated hiPSC-ventricular cardiomyocytes form functionally mature engineered heart tissues in a MPS platform
Track 1: Engineering the Next Generation of MPS Theme 1.5 Real-Time Monitoring Approaches for MPS			
333	191	Yu-Hsiang Hsu	Development of a cardiac drug screening platform using a piezoelectric film sensor
Track 1: Engineering the Next Generation of MPS Theme 1.7 Engineering Complex Multi-Cellular Systems			
335	256	Jae-Sung Ryu	Development of a human pluripotent stem cell–derived lung organoid incorporating macrophages
Track 2: Modeling Human Biology with MPS Theme 2.3 Modeling Human Disease: Cancer			
337	475	Claudia Gärtner	Microfluidic skin-on-chip platform for human malignant melanoma modeling

Poster Board Number	Abstract Number	Presenter	Title
The Late-Late Breaking Poster Submissions across All Tracks and Themes			
339	826	Keith Olson	NeuroHTS™: a structured ipsc-based ooc platform enabling multiparametric morphological and mitochondrial profiling in human neurons
~~341~~	~~830~~	~~Mina Khoshnoodi~~	~~Spinpods for cell-based hepatotoxicity screening~~
343	831	Sunbeen Choi	A 3D-printed, pumpless bone marrow-on-a-chip enabling long-term multilineage hematopoiesis and continuous non-destructive cell harvest
345	833	Oladimeji Aladelokun	Asparagine enhances intestinal stem cell activity and estrogen signaling in mouse colon
347	834	Vishaka Santosh	Evaluation of respiratory tract tissues following exposure to sulfur mustard vapor
349	839	Elise Mignon	Microfluidic detection of bacteria and rapid MIC determination using droplet-based optical scattering
351	840	Jeong-Won Choi	Identifying bottlenecks in immune cell transmigration to guide cell-based delivery in microphysiological systems
353	841	Mark Aurousseau	Compartmentalized NMJ-on-a-Chip™ platform for advanced disease modeling and target screening
355	842	Chandani Sen	Bioengineered vascularized lung organoids to study the relapse mechanism of small cell lung cancer
357	843	Sankarganesh Krishnamoorthy	Mapping the molecular interactions of ketamine in neuronal systems
359	845	Solbin Kim	Quantitative and functional evaluation of Antibody-Drug Conjugates using a vascularized tumor-on-a-chip platform
361	836	Gareth Guenigault	Recapitulating immune-driven hepatotoxicity using a liver microphysiological platform
363	850	Rishabh Singh	Fabrication of microvessels in high swelling synthetic hydrogels
365	679	Silvia Scaglione	A triple-cell human intestine model constructed on electrospun polyurethane scaffold inserts in the MIVO millifluidic device: Effect of static vs. dynamic flow culture conditions
367	851	Ishan Goswami	Deep learning–enabled phenotypic screening of human cardiac microtissues identifies chronotropic compounds
369	239	Alexander Sotra	Collaborative validation of a scalable, vascularized human colon MPS for inflammatory bowel disease: a developer–end user perspective