THURSDAY MAY 28, 2026 10:00–11:30 AM			
Poster Board Number	**Abstract Number**	**Presenter**	**Title**
Track 2: Modeling Human Biology with MPS Theme 2.3 Modeling Human Disease: Cancer			
100	444	Claudia Gärtner	3D BioChip model of the AML bone marrow niche for physiologically relevant drug testing
102	455	Ana Clara Bastos	A dynamic BBB-on-a-chip with angular microvasculature to model circulating tumor cell extravasation in breast cancer brain metastasis
104	479	Jiwen Fan	A scalable microarray chip-based microphysiological system for functional evaluation and screening of tumor-immune interactions in patient-derived lung cancer organoids
106	492	Alison Grafton	3D microfluidic vascular Ewing sarcoma platform for evaluating tumor-endothelial interface
108	495	Kathy M. De La Torre	Luteal secretions promote interferon signaling, invasion, and proliferation in high-grade serous ovarian cancer precursor model
110	500	Gulin Baran	A human iPSC-derived glioblastoma-blood-brain barrier microphysiological system for studying tumor-barrier interactions
112	510	Leandro Gallo	Chronic opioid exposure drives proliferative and inflammatory programs in human leukemic monocytes
114	525	Elena Cambria	Mechanically actuated lung-specific microvasculature-on-chip to study metastasis
116	544	Daniela Gaebler	Establishment and validation of a 3D vascularized micro-tumor model of cervical cancer
118	549	Vinay Abhyankar	Collagen fiber alignment and internal architecture cooperatively regulate breast cancer cell migration in a subtype-specific manner
120	588	Andrew Mccormack	Reproducible patient-derived 3D bioprinted tumor models as predictive microphysiological systems for targeted cancer therapy
122	600	Zsolt Sebestyen	Stromal phenotypes shape immune therapy outcomes in a 3D bone marrow MPS
124	608	Madhu Nag	Scalable and reproducible 3D tumor spheroid platform for assessing therapeutic antibody penetration and efficacy
126	640	Kimia Abedi	Scaling glioblastoma precision medicine with automated 3D bioprinting
128	646	Andrea Pavesi	Vascularized lymphoid organoids recreate tertiary lymphoid structures for quantitative tumour-immune studies
130	653	Giulia Adriani	Bioengineered vascularized human colorectal cancer microphysiological systems reveal stromal-immune-endothelial interactions driving therapeutic response
132	663	Malgorzata Dwulat	Development of a dual-gel co-culture microfluidic cell culture model
134	674	Rashmi Rajendra	Next-generation flow-integrated pdac tumoroid microarrays for enhanced combinatorial drug screening insights
136	681	Ruby Ellie Thamert	Patient-derived organoids (PDOs): characterization and functional applications
138	684	Fernanda Venture	Modeling tumor–immune interactions using patient-derived lung organoids on chip
140	686	Abhay Andar	Modeling triple-negative breast cancer using patient-derived organoids
142	691	Jingyi Zhang	Modeling immune effector cell-associated neurotoxicity syndrome (ICANS) using human iPSC derived neural organoids

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144	692	Nadeem Wajih	A novel class of in silico-designed multitargeted small molecules overcomes chemotherapy resistance in patient-derived non-small cell lung cancer (NSCLC) organoids
146	734	Yung-Hao Lin	3D patient-derived models enable functional assessment of chemotherapy response and immune-mediated cytotoxicity
148	760	Ali Dabaja	Tracking subclonal dynamics of breast cancer metastasis in a microphysiological brain barrier niche
150	804	Adrian Gutierrez	Targeting CD70 for CAR NK cell-based immunotherapy in osteosarcoma
152	808	Ying-Chih Chang	R3CE® as a reliable platform to generate patient-derived organoids
154	812	Tim Mason	Vascularized tumor-on-a-chip GO-Chip OncoFlex for oncology drug development
156	816	Djawed Bennouna	High-throughput metabolic profiling for biomarker discovery and translational research
Track 2: Modeling Human Biology with MPS Theme 2.4 Modeling Human Disease: Metabolic Disorders			
158	58	Pimonrat Ketsawatsomkron	Particulate matter (PM) 2.5 induces endothelial dysfunction in 3D human endothelium-on-a-chip
160	66	Julie Harney	Application of a human relevant NAM pancreatic beta cell model to assess mechanistic impact of target modulation
162	68	Ayu Inoue	A novel 3D *in vitro* model for MASH drug screening
164	91	Ryoma Takeda	Assessment of the *in vitro* model of atherosclerosis using MPS
166	96	Janet Kwon	P38 regulates inflammatory, mechanotransduction, and endmt pathways in atherosclerosis
168	121	Ulziituya Batjargal	Development of a tunable adipose-on-a-chip model to study adipocyte metabolism and drug responses
170	123	Elizabeth Boazak	A primary human intestinal model for scalable profiling of enteroendocrine function relevant to metabolic disorders
172	166	Vinny Negi	Liver MPS as a drug development tool to predict DILI for MASLD patients
174	198	Nick Saites	A ready-to-use human distal kidney-on-a-chip model for physiologically relevant research and drug development
176	231	Maurizio Aiello	Enhanced prediction of drug-induced gastrointestinal toxicity in a human gut-on-chip
178	264	Hanyuan Wang	Modeling palmitic acid-induced early lipotoxicity using a HepaSH-based liver micro physiological system
180	312	Runxi Shen	Leveraging multimodal omics and advanced liver models to address false negatives in next generation risk assessment
182	354	Angelo Massaro	Development of a vascularized thyroid-on-chip model
184	372	Lily Sabol	3d endothelium-on-a-chip reveals cx43-dependent mechanometabolic regulation in diabetic kidney disease
186	509	Brady Rae	*In vitro* microfluidic breathomics: Isolated airway epithelial cells represent whole patient breath in COPD
188	561	Elizabeth Kahle	A functionally and metabolically mature and tunable bioengineered 3D human muscle platform for metabolic drug discovery and development
190	682	Ash Lee Manley	Modeling MASLD in a dynamic human liver microphysiological system
192	702	John Yim	Advancing human adipocyte models: Increasing maturity to better recapitulate disease biology
194	718	Caroline Küstermann	Development a human vascularized gut-on-chip model using patient-derived induced pluripotent stem cells (iPSC)

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~~196~~	~~723~~	~~Sofia Flores~~	~~Evaluating the therapeutic utility of a micro-vascularized liver disease model~~
198	731	Dennis Mcduffie	Advancing RNAi therapeutics: siRNA evaluation in a human-relevant liver MPS
200	775	Antonio Varone	Development of nonclinical species–derived *in vitro* models to support investigation of drug-induced skeletal muscle toxicity
202	782	Christian Smith	Therapeutic reversal of established steatosis using GalNAc PNPLA3 siRNA in the HEPATOPAC long-term hepatic co-culture system
Track 2: Modeling Human Biology with MPS Theme 2.5 Modeling Human Disease: Rare Diseases			
204	106	Yi Wei Lim	Immunocompetent 3D full thickness skin equivalent to model fibrosis for therapeutic discovery
206	122	Chiao Yun Chen	Development of an *in vitro* Sjögren's disease tissue chip for mechanistic studies and drug screening
208	124	Jin Chang	Standardized cardiomyocyte manufacturing platform for rare disease microphysiological systems using genetically diverse iPSC lines
210	180	Greg Luerman	Modeling MYBPC3-driven hypertrophic cardiomyopathy using human 3D engineered heart tissues
212	504	Nur Mustafaoglu	A human prion blood–brain barrier microphysiological system reveals disease-associated barrier dysfunction
214	545	Todd Herron	Human iPSC and 3D organoid models as next-generation *in vitro* platforms for disease modeling, clinical trial in a dish, and toxicological assessment
216	567	Alicia Cutler	Engineered complex muscular artery *in vitro* model
218	578	Eva-Maria Dehne	A human kidney MPS to assess antigen specificity and inflammatory risk of IgA-targeting T cells
220	641	Patrick Walsh	ALS modeling using a tripartite neuromuscular junction composed of hiPSC-derived motor neurons, Schwann cells, and skeletal myoblasts
222	738	Michelle Duan	Examining serine biosynthesis and DNA repair competition in MacTel2 pathogenesis using a 3D inner retinal vascular platform
Track 2: Modeling Human Biology with MPS Theme 2.6 Modeling Host Pathogen and Microbiome Interactions			
224	40	Huub Weener	Human Gut Tissue Microbiome Interaction (HuGTMI) Colon-on-Chip model with an aerobic-anaerobic interface demonstrates *ex vivo* human adult microbiota and colon tissue explant interactions
226	44	Christine Fisher	Developing a human vascular microfluidic-based microphysiological system (MPS) model for studying filoviral pathogenesis in maximum-containment
228	60	Sachin Yadav	Goblet cells advance 3D gut model for disease modeling and drug screening
230	64	Claire H Caygill	Dynamic culture improves the predictive power of bronchial and alveolar airway models of SARS-CoV-2 infection
232	150	Sreelakshmy Suresh	Determinants of cytokine induced endothelial damage in Covid-19 and the protective effects of hemodynamic flow
234	227	Justin O'Neal	Characterization of early host response biomarkers against Nipah virus infection across five distinct human respiratory air-liquid interface tissue models
236	272	Joao Ferreira	OroTekScreener: A drug screening platform for emulating chemotherapy- and radiotherapy-induced oral mucositis in fit-for-purpose microfluidic systems

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238	274	Tamihide Matsunaga	Human iPS cell-derived intestinal cells useful for microphysiological system
240	279	Yuri Ikeda	Development of an intestinal-liver axis model device
242	292	Anne Rindchen	Mimicking chronic lung infections by 3D-bioprinting in situ grown bacterial biofilms on lung cells
244	319	Adrian Weghofer	Autologous immune-responsive cervix-on-chip for investigating host-pathogen interactions in HSV-2 infection
246	376	Hediye Cinar	Organ-on-a-chip approach to cultivate foodborne parasites
248	381	Erin Lawrence	Modeling nanoparticle-based vaccine drainage to *ex vivo* lymph node slices in a multi-organ-on-chip device
250	383	Surasri Sahu	Pilot study on the use of human intestinal organoids to investigate Cryptosporidium parvum infection
252	501	Daniel Penarete-Acosta	A modular hypoxic intestine chip platform for studying human host-microbiome interactions
254	532	Jaxon Kramer	Colonization of 3D-organotypic human skin by the Lyme disease pathogen, Borrelia burgdorferi
256	557	Erin Gallagher	Dermal and buccal microbiome modeling using a two organ microphysiological system
258	558	Grady Mukubwa	A microfluidic model of Piezo1–Ca^{2+}-dependent mechanotransduction in migrating monocytes
260	672	Samantha Cotsmire	Persistent SARS-CoV-2 infection in primary human small intestinal tissues as an *in vitro* model for characterizing Long COVID
262	688	Rachel Hopton	Engineering thermal resilience through the gut–microbiome axis using a human gut microphysiological system
264	698	Marco Balboa	A human vascularized gut–brain-on-a-chip for studying microbiome-driven BBB dysfunction in TBI
266	747	Shefali Srivastava	Engineering a vascularized human 3D-organotypic skin model to study Borrelia burgdorferi endothelial intravasation and dissemination
268	765	Jaclyn Kaiser	Strategies to model primary immunity in immune microphysiological systems
270	779	Thomas Gaborski	Bacterial extracellular vesicles indirectly destabilize a human stem cell–derived blood–brain barrier on-chip through pro-inflammatory stimulation of immune cells
272	780	Gregory Lum	Single-cell dissection of human lung responses to streptococcus pneumoniae in a lung microphysiological analysis and profiling system
274	788	Yantenew Gete	3D bioprinted vascular and liver tissues for modeling viral diseases
276	797	Sangeeta Khare	Tri-combination antiretroviral therapy exposure drives sex-specific gut barrier functions: insights from integrated *in vivo, in vitro* , and NAM models
278	810	Aurelie Trignol	Optimization of immune microphysical system using mesenchymal stromal cells
Track 2: Modeling Human Biology with MPS Theme 2.7 Modeling Aging			
280	580	Jongwoo Ahn	Modeling a sebaceous gland-integrated skin-on-a-chip platform for physiologically relevant skin functions
282	632	Francisco Conceição	Engineering osteoclast resorption units via sacrificial microgels in a bone on-chip platform

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Track 3: MPS in Product Development Theme 3.1 Early-Stage Screening and Target Validation in Drug Development			
284	36	Iqra Munir	Stimuli-responsive nanocarriers for targeted drug delivery in microphysiological systems: Leveraging 3D spheroids and organ-on-chip models to enhance cancer therapeutics
286	69	Jacquelyn Brown	Beyond the blood–brain barrier: A human blood–CSF barrier on a chip for studying CNS transport and safety
288	94	Min Jae Song	Multimodal platform of assays for drug screening with engineered vascularized outer blood-retinal barrier models
290	101	Daiju Yamazaki	Assay condition for evaluating cardiac inotropic drugs in human iPS cell-derived cardiomyocyte culture using a 3D-culture device
292	120	Thi Kim Ngan Ngo	GelAtlas: An open–close gel microwell microfluidic platform for stable perfusion culture, imaging, intact retrieval, and drug testing of tumor cuboids
294	138	Madeline Eiken	Disease modeling of intestinal fibrosis for preclinical therapeutic evaluation in a complex iPSC-derived organoid
296	170	Chih-Kuan Su	Reconstructing the decision context of human respiratory function for inhalation development
298	210	Jinho Kwon	A microfluidic lung–vascular co-culture platform enabling antiviral drug evaluation with oxygen-level control
300	235	Dhruv Singh	CNC machined/laser-welded, microplate-integrated microfluidic platforms for scalable MPS applications
302	248	Makoto Yamanaka	A novel MPS-combined MEA platform to mimic synapse network formation and extracellular signal propagation
304	270	Seungwan Seo	Fabrication and characterization of core–shell structure microfiber membrane for microphysiological systems
306	288	Noriaki Takeuchi	The effect of shear stress on human iPS cell-derived brain microvascular endothelial cells within closed two-channel microfluidic device
308	301	Guy Barbin	Fingerprint of the most prevalent respiratory viral strains on *in vitro* primary human nasal epithelium
310	302	Cindia Ferreira Lopes	Development of a novel *in vitro* platform for the detection of profibrotic compounds based on primary human alveolar epithelium
312	342	Munzareen Khan	A human synovial organoid model with multi-modal assay readouts to characterize fibroblast heterogeneity and function in rheumatoid arthritis
314	346	Yu-Jeong Lee	UVB-responsive human skin-on-a-chip for comparative evaluation of conventional UV protectants and iPSC-derived MSC nanovesicles
316	371	Alan Liu	Mechanical cues as functional markers in 3D *in vitro* models
318	377	Taraka Sai Pavan Grandhi	Automated 384-well plate-based tonsil organoids system for quantifying antigen and T-cell-dependent B-cell responses
320	420	Bumpei Noda	Evaluating electrophysiological signal conduction between different types of neuronal cells using a novel MPS-combined CMOS-MEA
322	494	Dylan Gordon	A microfluidic cornea-on-a-chip model for evaluating ocular drug penetration
324	505	Aishwarya Pantula	Functional and molecular characterization of drug responses in multi-region human brain organoids
326	585	John Kwon	Human primary corneal 2D/3D *in vitro* models for assessing ADC-induced ocular toxicity
328	613	Hannah Hanson	An iPSC-based Human-on-a-Chip® neuromuscular junction platform for evaluation of efficacy and toxicity

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330	657	Jake Chaff	Improving drug-induced liver injury detection utilizing a 3D liver-chip and novel toxicity ranking system
332	665	Yuan Tian	Tissue-engineered colorectal cancer spheroidal models for high-throughput screening
334	670	Mattia Ballerini	A human cardiac fibrosis-on-chip platform for the evaluation of extracellular vesicle-based antifibrotic therapies
336	683	Andrew Lacroix	CNS-3D functional organoids predict clinical neurotoxicity outcomes for small molecules and anti-sense oligonucleotides
338	724	Hosein Mirazi	Microfluidic osteoarthritis-on-a-chip for evaluating joint-cell responses to tanezumab, a humanized anti-ngf monoclonal antibody
~~340~~	~~726~~	~~Abhijit Majumder~~	~~A DIY high-throughput and multifunctional spheroid generation device~~
342	767	Rick Cohen	Volumetric time-course analysis of chemotherapeutic dose-response in 3D hydrogel embedded cancer spheroids using VitroPrime™ 3D Culture and Imaging Plates together with CYTOQUBE Light-Sheet Microplate Cytometer
344	792	Mike Beshiri	Utilizing human small intestinal organoids for quantitative prediction of oncology therapy-induced diarrhea
346	794	Steve Swioklo	Advancing microphysiological systems through hydrogel-enabled, cryo-free preservation and distribution
348	802	Rodrigo Cristofoletti	A human lung microphysiological system reveals region-specific epithelial barrier dysfunction and eNAMPT-associated inflammatory signaling during influenza A infection
350	803	Brennan Mcfarland	Advancing human-relevant drug discovery through automated imaging and analysis of microphysiological systems
352	814	Victor Ocasio	End-to-end automation of 3D spheroid culture and ATP-based cytotoxicity analysis
Track 3: MPS in Product Development Theme 3.2 ADME, PK/PD, and Translational Pharmacology			
354	37	Reiko Onuki-Nagasaki	Multisite study of Fluid3D-X® TEER gut system to assess consistency and reproducibility
356	141	Rohit Jindal	High fidelity electroporation of primary human hepatocytes: Implications for creating gene-edited model of liver tissue
358	183	Eric W. Hsu	Development of an optimized, 3D culture method for primary human proximal tubular epithelial cells
360	221	Kazuhiro Tetsuka	Implementation of lab automation in microphysiological system operations for incorporation of their data sets into regulatory submissions
362	282	Hiroko Toyoda	Study on liquid volume and compound flow rate in open-type devices
364	387	Kevin Thomas	A primary human intestinal model enables physiologically relevant permeability assessment of CES-sensitive prodrugs
366	395	Seiya Ohki	*In vivo* extrapolation potential of multicellular spheroidal blood-brain barrier models for the development of brain-penetrant drug-delivery carriers
368	409	Rou-Ya Zhao	Development of a modular multi-organ-on-chip platform for drug screening applications
370	416	Raghda Shahin	A novel and affordable platform for converting suspension-type human primary hepatocytes into plateable within a liver microphysiological system for *in vitro* pharmacokinetic evaluation of induction and efflux transporter activities
372	477	Xumei Gao	Microplate-compatible multiplexed MPS culture and dosing system

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374	480	Kenta Shinha	BioStellar® Plate-based gut-liver microphysiological system (MPS) for bioavailability prediction plate-based gut-liver microphysiological system (MPS) for bioavailability prediction
376	502	Maria Proestaki	A new *in vitro* model of human skin vasculature for the subcutaneous space
378	603	Kirk Twaroski	Interrogating human gut biology with iPSC-derived intestinal epithelial cells
~~380~~	~~609~~	~~Stephanie Ruez~~	~~Influence of 3D architecture and coculture on *in vitro* CYP enzyme metabolism and induction: Benchmarking human hepatic spheroids for studies in drug development~~
382	707	Sungpil Han	Computational modeling of multi-organ microphysiological systems for human pharmacokinetic prediction
384	729	Qianying Yuan	Comparative evaluation of static and fluidic human intestinal organoid–derived monolayers for predicting oral drug absorption
386	773	David Kukla	Fabrication of rat and dog liver co-culture models for *in vivo* clearance prediction of metabolically stable compounds
388	783	Eunseo Jung	Development of an liver organoid-based IVIVE model to assess pharmacokinetics profiles under pathological conditions