

## THURSDAY, JUNE 13

10:00 AM - 11:30 AM

Poster Board Number	Abstract ID	Presenter	Title
<b>TRACK 4: MPS in toxicology and drug development</b>			
<b>SESSION: 4.1 MPS for cell and gene therapy development</b>			
277	15	Yung-Te Hou	Effects of tannic acid on liver function in a small hepatocyte-based detachable microfluidic platform
278	121	Thierry Poumeyrol	Human Brain Organoid-on-Chip platform to improve organoid reproducibility and scalability for pharmaceutical studies
279	162	Passley Hargrove-Grimes	Integrating microphysiological systems and extracellular vesicle-based technologies to advance regenerative medicine
280	253	Hajime Miyashita	Medium Condition Maintainable Microphysiological System (MCM-MPS) for Continuous Drug Concentration Simulation in Pharmacological Studies
281	308	Scott Heyward	Optimization of siRNA Delivery in a Long-Term Hepatic Micropatterned Co-Culture (HEPATOPAC)
282	526	Marisa Meloni	VitroScreen ORA® cartilage system: homeostatic and inflammatory responses
283	563	Yeju Jeong	The neuroprotective effect of Neural stem cells-derived exosomal miRNA in Parkinson's disease
284	631	Bokyong Kim	Efficacy of human umbilical cord blood-mesenchymal stem cells on LPS-induced acute lung injury model using a commercial lung-on-a-chip
<b>SESSION: 4.3 MPS for drug discovery, from target identification to candidate selection</b>			
285	19	Takeshi Hori	Human placental barrier MPS generated with human placental stem cells.
286	30	Emmanuel Guedj	Recapitulating Human-Relevant Pharmacotoxicologic Mechanisms of Troglitazone and Rosiglitazone in a Single Experiment using Bulk RNA Sequencing of Human 3D Liver Microtissues
287	34	Daiju Yamazaki	Examination of medium for co-culturing human hepatocytes and engineered heart tissue on MPS
288	39	Aaron Schatz	Optimizing drug testing using a patient-derived colorectal cancer-on-a-chip model
289	64	Clara Ramón-Lozano	Exploration of hepatotoxic mechanisms in human-like liver microtissues
290	65	Nicholas COUNGERIS	Identification of a potential therapeutic compound for Rett syndrome using a highly homogenous human iPSC-derived cortical organoid screening platform
291	74	Kotaro Aoi	Basic study for the development of in vitro tests for the development of therapeutic agents for non-alcoholic steatohepatitis
292	98	Ananth Kumar Kammala	Development of a 3D-printed device for electrophysiological measurement of uterine muscle contractions
293	101	Julien Roth	Developing and Qualifying Human in Vitro Models of Neurotoxicity
294	105	Yoshiyuki Arata	Evaluating On-Target/Off-Tumor Toxicity of T-cell Engagers Using Co-cultured Organoids and Immune Cells
295	106	Chia-Hsien Hsu	A microfluidic platform for high-throughput generation of vascularized tumor models
296	126	Evita van de Steeg	Advanced applications of the Intestinal Explant Barrier Chip (IEBC): Ex vivo gut-on-a-chip research for preclinical pharmacokinetic drug development and host-microbe interactions
297	128	Katja Graf	A human in vitro two-organ on chip approach (lung-liver) for toxicological investigations: A case study using Paraquat
298	131	Paul Vulto	Patient derived HCC on-Chip models recapitulate Sorafenib and Lenvatinib induced vascular responses
299	132	Marize Valadares	Potential use of dental stromal tissues for developing neurospheres used in MPS for drug discovery
300	145	Kevin Pollard	Human Microphysiological Model of Afferent Nociceptive Signaling
301	156	Oksana Sirenko	Transforming complexities of 3D biology into translatable science: Automation of 3D organoid culture and organoid analysis.
302	161	Timothy Leach	Airway Organ Tissue Equivalent Platform for Modeling Chlorine Gas Toxicology and Medical Countermeasure Efficacy
303	165	Terry Riss	Choosing and validating assay systems to interrogate 3D cell culture models
304	195	Salvi Kamburova	AC/DC Stimulation of hiPSC Neuron Co-Cultures Using an Amped-Up 3D Printed Platform
305	205	Kazuhiro Tetsuka	Modeling gastrointestinal inflammation in qualified human gut organoids from induced pluripotent stem cells
306	216	Freyja Woods	Deciphering toxicological dynamics in the bone marrow microphysiological system (BM-MPS) through inference of differentiation trajectories
307	221	Shweta Bendre	Liver-on-Chip Model: Advancing toxicology studies for enhanced liver toxicity investigations
308	223	Lea Lara de Maddalena	AXILD model: Efficacy testing for new clinical drug candidates to treat pulmonary fibrosis
309	227	Xiaobo Han	Predicting Peripheral Neurotoxicity on Soma or Axon through Morphological Deep Learning and Electrical Measurements Using an In Vitro Microphysiological System
310	232	Colin Brown	A Sensitive Podocyte-Specific Nephrotoxicity Assay for Drug Development Applications in a Primary Model of the Glomerular Filtration Barrier
311	266	Michelle Ballabio	Unveiling Drug Responses in Liver Spheroids: Multiplexing 3D Cell-Based Assays and Imaging in a Microwell Platform
312	274	Maria Clapés Cabrer	Advanced 3D Cell Models for Next Generation Therapeutics: Standardized Organoid Co-Cultures and Assays in Microwell Plates
313	290	Nadeem Wajih	Bromelain as a Potential Adjuvant Therapy for Appendiceal Cancer: Cytotoxic and Mucolytic Effects in Patient-Derived Tumor Organoids
314	302	Bill Murphy	A Model of Human Neuroinflammation utilizing Induced Pluripotent Stem Cell-Derived Neural Organoids Incorporating Microglia
315	303	Martha Iveth Garcia	Evaluation of drug-induced QT prolongation using cardiac organ-on-a-chip
316	310	Anicc Harriot	Microphysiological model of Duchenne muscular dystrophy for validating microtubules as a therapeutic target
317	317	Fong Cheng Pan	Generation of mature and functional hepato-biliary organoids from pluripotent stem cells
318	328	Gwen Fewell	Blood-Brain-Barrier-on-Chip models for more predictive in vitro modeling of Receptor Mediated Transcytosis

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<b>SESSION: 4.3 MPS for drug discovery, from target identification to candidate selection</b>			
319	331	Ashley Helsler	Microphysiological model of the osteochondral unit for studying OA inflammation
320	336	Elizabeth Boazak	RepliGut 2D Crypt Platform Enables Long-term Drug Treatment and Washout Studies on Proliferative and Differentiated Human Transverse Colon
321	341	Kim Haupt	Bioluminescent Tools for Functional Characterization of Liver Models
322	360	Aakash Patel	Development of a human multi-organ microphysiological comorbidities model to investigate geriatric diseases
323	414	Anish Mahadeo	Modeling renal clearance of ochratoxin-A in a kidney microphysiological system
324	432	Paul Vulto	Modelling Chemotherapy-Induced Peripheral Neuropathy on-a-chip
325	447	Rui Sun	Comparative transcriptomic analysis and potential applications of a proximal tubule kidney-chip model
326	452	Yuzuru Ito	Microphysiological Systems to Facilitate Assessment of Drug Absorption Kinetics in Gut
327	454	Charlie Childs	Physiologically Relevant Human Intestinal Organoids for 3D Drug Screening
328	474	Aiping Bai	Establishing a hepatocyte on-Chip 3D culture system to predict drug toxicity
329	478	Sangho Lee	Optimization of in vitro hepatocytes and macrophage culture system for screening of immune-mediated drug-induced liver injury
330	491	Massimiliano Berardi	Large scale, multiparametric physical in situ characterization of cancerspheroids by nanoindentation
331	501	Gauri Kulkarni	Comparing Different Culture Formats of Primary Human Hepatocytes in A Scalable Liver MPS Platform
332	506	Subhra Nag	Automated Transepithelial Electrical Resistance (TEER) Measurements Allow for Rapid Screening of the Gastrointestinal Toxicity Profile of Therapeutics
333	524	M Miedel	Effects of Rheumatoid Arthritis and Cancer Biologics on Liver Toxicity in a Human Biomimetic Liver Microphysiology Model
334	533	Queeny Dasgupta	Human vascularized organ-on-chip system recapitulates off-target toxicity of antibody-drug conjugate gemtuzumab ozogamicin
335	545	Christine Fisher	Using the microphysiological system PREDICT96-ALI to gain deep insights into human tissue responses to physiological or xenobiotic stresses
336	576	Victor Zhang	Altering type III collagen in the myofibroblast microenvironment for studying peritendinous scarring and fibrosis in a human Tendon-on-a-Chip (hToC)
337	580	Ludovico Buti	Evaluation of 3D human intestinal organoids as a platform for EV-A71 antiviral drug discovery
338	583	Marcin Krzykawski	The prolonged 3D cell culture mimics the gene expression profile and proteomics of pancreatic tumors in vivo, and provides the reliable tool for an evaluation of anti-cancer drug testing
339	593	Agnes Badu-Mensah	Towards Developing a Human Physiology-Relevant Intestinal Model for Mechanistic Assessment of Oral Bioavailability
340	644	Dennis McDuffie	Mitigating hepatic insulin resistance on a commercially-available MPS
341	646	Cécile Thion	Innovative workflow for drug response studies on single 3D models combining spheroONETM and Incucyte®.
342	648	Charles Havnar	Organoid Tissue Microarrays: An Improved FFPE Processing Approach for In Vitro Model Readouts
343	656	Aisha Amari	Facilitating combination therapy studies on-a-chip with patient-derived 3D tumour models
344	657	Raibatak Das	Fitty.jl: A fast and modern nonlinear least squares regression package in Julia for data fitting to biological models, with Bayesian bootstrap to estimate parameter posterior distributions and credible intervals
345	658	Evan F Cromwell	High throughput drug response profiling of primary colorectal tumor models using a novel automation workflow and AI-assisted image analysis
346	660	Anne Yau	Development of Injectable Janus base Nanomatrix (JBNm) for Cartilage Tissue Chip in maintaining Long-term homeostasis

## THURSDAY, JUNE 13

4:30 PM - 6:00 PM

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<b>TRACK 4: MPS in toxicology and drug development</b>			
<b>SESSION: 4.4 MPS for drug safety testing</b>			
347	609	Leah Saylor	3D-printed humanized feto-maternal interface tests exosomal delivery of anti-inflammatory Interleukin-10 (IL-10) to reduce infection-associated inflammation
348	621	Qiang Shi	Effects of 6PPD-Quinone, the Transformation Product of a Ubiquitous Vehicle Tire Rubber Additive, in Primary Human Liver Spheroids
349	622	Carolina Lucchesi	Advanced 2D and 3D Cardiomyocyte-based Models for Use in Drug Discovery
350	642	May Freag	Employing a gut-on-a-chip model for safety evaluation of T cell-based therapies
351	649	Madhu Nag	On the relevance of human liver microtissues for the detection of hepatotoxic drugs early in the drug development process
352	659	Seyoum Ayehunie	A novel vascularized metastatic colorectal cancer tissue model for drug testing
353	663	Anjli Venkateswaran	Microphysiological System for Predictive Genotoxicity and Mutagenicity of Drugs
<b>SESSION: 4.5 In vitro clinical trials and precision medicine: real, digital and MPS twins</b>			
354	114	Aruni Premaratne	A liver organ-chip model to evaluate hepatotoxicity of drugs
355	136	Camilla Ceroni	High-throughput single organoid swelling assay for personalized evaluation of CFTR modulators in patient-derived rectal organoids
356	140	Ramkumar Menon	New Approach Method (NAM) to Determine the Pharmacological Parameters of Exosomal IL-10 using Fetomaternal Interface Multiorgan MPS
357	155	Ana Mesic	Modelling the Space of Disse on a Microfluidic Chip for Drugs Hepatotoxicity Screening
358	182	El Li Tham	PEAR-TNBC: A multi-centre observational clinical trial to predict patient treatment response by assessing drug efficacy on 3D immune-microtumour cultures derived from core needle biopsies of triple negative breast cancer patients undergoing neoadjuvant therapy.
359	244	Mariana Costa	Modeling the next-generation of fusion-negative rhabdomyosarcoma 3D-organoids to predict effective drug combinations: a proof-of-concept on cell death inducers
360	248	Katharina Schimek	A predictive multi-organ-chip platform for cancer precision medicine using automated high-content substance testing
361	262	Hendrik Erfurth	How Synthetic data, automation and continuous data acquisition enable progress towards a digital twin in preclinical trials
362	437	Yuki Kobayashi	Development of a simultaneous evaluation system for anticancer drug sensitivity and side effects using microphysiological systems and 3D organoid culture method
363	445	Honoka Hashizume	Establishment of an anti-cancer drug sensitivity assessment system using microphysiological systems and feline breast cancer organoids
<b>SESSION: 4.6 MPS to define physiologically-relevant doses</b>			
364	7	Kasper Renggli	Human-Relevant Aerosol Generation and Exposure In Vitro – Respiratory Toxicity and Systemic Effects tested by the HUMIMIC–InHALES Platform
365	127	Chrisna Gouws	Small cell lung cancer mini-tumor models as a tool for drug development and screening
366	264	Kenta Shinha	Liver microphysiological system based on kinetic-pump integrated microfluidic plate (KIM-Plate) for hepatotoxicity test
367	275	Janny Pineiro-Llanes	Intestinal organotypic model to study the impact of trisomy 21 on drug-metabolizing enzymes
368	276	Alicia Henn	Safety without a net: Culturing cells for MPS in controlled conditions without antibiotics for better prediction
369	284	Evita Mulder	From intestinal organoids-on-chip to multi-organ-on-chip: validation of drug absorption and metabolism
370	313	Ben Swenor	Evaluating the Hepatotoxicity of Cannabidiol, Cannabinol, Cannabichromene and Cannabigerol Using a Human Quad-Culture Liver-Chip
371	325	Nicolas Butelet	Development of iPSC-derived Microphysiological Systems Platforms for Drug Discovery, Neurotoxicity Assessment, and Drug Mechanism of Action
372	327	Saskia Schmidt	Development of a “plug & play” microphysiological system to mimic liver fibrosis in vitro
373	359	Erin Gallagher	Metabolic and Proteomic Profiling of Organophosphate Chemical Warfare Agent exposure on CNBio Human Liver-on-a-Chip without DMSO
374	410	Ke Hu	Hepatotoxicity evaluation in repeated doses using on-chip perfusion MPS (KIM plate) with membrane-based direct oxygenation
375	502	Mridu Malik	Toxicity and efficacy testing of a novel stress reliever in a multi-organ microphysiological system
376	579	Mary McElroy	Aerosol Exposure at the Air-Liquid Interface of Human Lung Organotypic Cultures using VITROCELL™ Continuous Flow Inhalation System
377	589	Gabriel Kaatz	Differential Metabolism in Microphysiological Systems for Evaluation of Efficacy and Off-target Toxicity for the NK-1 Antagonist Tradipitant
<b>SESSION: 4.7 Food, cosmetics and consumer products' industry experience in MPS implementation</b>			
378	142	Julia Kühnlenz	Evaluation of a 3D blood-brain barrier transport assay for an exposure-related neurotoxicity assessment
379	189	Kazunori Shimizu	Functional evaluation of food ingredients using human skeletal muscle MPS
380	224	Katharina Nitsche	A liver- on- chip to evaluate bile acid secretion for the use in a Next- Generation Risk Assessment
381	632	Xiaoqing Li	Evaluation of in vitro human placental barrier models for assessing drug toxicity on placenta immunity (maternal IgG transfer)

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<b>SESSION: 4.8 MPS to model neurodegeneration</b>			
<b>382</b>	602	Vincent Truong	Completing The Circuit: Building a Same Donor Human iPSC-Based Neuromuscular Junction Model from Schwann Cells, Motor Neurons, and Skeletal Muscle
<b>383</b>	654	Akhmetzada Kargazhanov	Evaluating the neuromuscular pathology in Alzheimer's disease from familial mutations by utilizing a human iPSC-derived in vitro functional NMJ model
<b>384</b>	3	Mathieu Vinken	Evaluation of functional candidate biomarkers of non-genotoxic hepatocarcinogenicity in human liver spheroid co-cultures
<b>385</b>	9	Alastair Stewart	Influence of tumour microenvironment on the activity of breast cancer therapeutic agents
<b>386</b>	20	Jong Seob Choi	Imprinted large-area ion-permeable Nafion patterns integrated with an electric cell-substrate impedance sensing system for high-throughput in vitro cancer cell apoptosis study
<b>387</b>	203	Hiroshi Kimura	Standalone cell culture microfluidic device (SCCMD) for proximal tubule microphysiological system for improving usability and throughput
<b>388</b>	277	Sohyun Park	A lung microphysiological system platform for methylisothiazolinone-caused inhalation toxicologic model
<b>389</b>	280	Will Allen	An automated and multiplexed liver fibrosis screening assay on a microfluidic liver model that replicates the cellular composition and organization of the hepatic lobule
<b>390</b>	329	Kristina Bartmann	Human-based New Approach Methodologies for Developmental and Adult Neurotoxicity Testing in vitro
<b>391</b>	354	Tingjie Zhan	An ex vivo female reproductive system simulates the ovarian control of endometrial decidualization
<b>392</b>	380	Moo-Yeal Lee	Dynamic culture of cerebral organoids using a pillar/perfusion plate for the assessment of developmental neurotoxicity
<b>393</b>	490	Hiroaki Kii	Towards A Standard :AI and Automation in Live-imaging Applications for Microphysiological Systems.
<b>394</b>	534	Kevin Healy	A Novel High Throughput Cardiac Microtissue Model for Drug Screening and Compound Discovery
<b>395</b>	553	Nayere Taebnia	3D Printed Microperfused and Mesoscale Human Liver Model with Physiological Oxygen Gradient and Hepatic Zonation
<b>396</b>	556	Jinchul Ahn	Microchip-based assay to assess vascular and neuronal regeneration triggered by photo-crosslinkable peptides
<b>397</b>	569	Seung-cheol Shin	Manufacturing quantifiable endometrium organoids by co-culturing fibroblast in high-throughput analysis-optimized platform
<b>398</b>	581	Breanne Kincaid	Heavy metal mixture elicits less than additive neuronal impairment in human cortical microphysiological system
<b>399</b>	588	Kai Huang	A transformer-based multimodal molecular foundation model for organoid drug efficacy evaluation
<b>400</b>	610	David Kukla	Comparison of metabolic intrinsic clearances in complex in vitro hepatocyte models: Are single donors adequate to address interindividual variability in response?
<b>401</b>	647	Sierra Boyd	A New Approach Methodology (NAM) using 3D human iPSC-derived neural organoids to screen for developmental neurotoxicity hazard