

Poster Program

Poster Session 1

Monday, August 26, 2019 - 13:00–14:30

- [P1.01] 3D imaging and high-content analysis of intact human cerebral organoids**
A. Albanese^{*1}, J. Swaney¹, D.H. Yun¹, N.B. Evans¹, J. Antonucci-Johnson¹, C.H. Sohn¹, V. Pham¹, M. Sur¹, L. Gehrke^{1,2}, K. Chung¹, ¹MIT, USA, ²Harvard Medical School, USA
- [P1.02] An optimized platform to generate uniform cerebral organoids from human pluripotent stem cells**
A. Sivitilli¹, J. Gosio², J. Hernandez², J. Wrana², L. Attisano^{*1}, ¹University of Toronto, Canada, ²Lunenfeld-Tanenbaum Research Institute, Canada
- [P1.03] HIV infection alters intestinal stem cell biology**
K. Roesch¹, G. Aviv^{*1}, T. Nguyen¹, Y. Miao², C. Garcia^{2,3}, M. Somsouk⁴, M. Ott^{1,4}, ¹Gladstone Institute, USA, ²Stanford University, USA, ³Howard Hughes Medical Institute, USA, ⁴University of California, USA
- [P1.04] EpCAM -positive cholangiocyte-derived organoids from a mouse model of chronic cholestatic liver disease are primed for apoptosis**
A. Azad^{*}, S. Bronk, A. Krishnan, T. Katsumi, M-E. Guicciardi, G.J. Gores, Mayo Clinic, USA
- [P1.05] Bioreactor-assisted self-organization of tubular tissue from spheroids of mixed cell lineages**
K. Baba^{*1}, Y. Sankai^{1,2}, A. Mikhailov^{1,2}, ¹University of Tsukuba, Japan, ²Center for Cybernetics Research, Japan
- [P1.06] Adipose stromal/stem cells spheroids as endochondral ossification templates for bottom-up tissue engineering**
L.S. Baptista^{*1,2}, G.S. Kronemberger^{2,3}, J.M. Granjeiro², ¹Federal University of Rio de Janeiro, Brazil, ²National Institute of Metrology, Quality and Technology, Brazil, ³Unigranrio University, Brazil
- [P1.07] A fully synthetic 3D in vitro model for pancreatic cancer organoids**
C. Below^{*1,3}, J. Kelly¹, A. Brown², D. Marshall², L. Stockdale^{1,2}, J. Humphries³, N. Hodson³, L. Griffith², M. Humphries³, C. Jorgensen¹, ¹Cancer Research UK Manchester Institute, UK, ²Massachusetts Institute of Technology, USA, ³University of Manchester, UK
- [P1.08] Establishment of type 2 diabetes mellitus model in Bama Minipigs and detection of TNF- α and IL- β in serum and Gingival tissues**
X. Nong^{*}, D. Teng, B. Wang, W. Li, Hospital and College of Stomatology, Guangxi Medical University, China
- [P1.09] Engineering developmental organoids for robust symmetry breaking**
M. Bockaj^{*1}, H. Kaul¹, J. Ostblom², H. Ma¹, P.W. Zandstra^{1,2}, ¹University of British Columbia, Canada, ²University of Toronto, Canada
- [P1.10] Three dimensional in vitro models for the study of prostate tumour angiogenesis**
A. Jaeschke¹, B. Murekatete¹, C. Werner², G. Risbridger³, D.W. Hutmacher¹, L.J. Bray^{*1}, ¹Queensland University of Technology, Australia, ²Leibniz Institute of Polymer Research Dresden, Germany, ³Monash University, Australia
- [P1.11] The development of three-dimensional mammary ex vivo cultures using a biomimetic hydrogel**
M. Koch¹, L. Haupt¹, C. Werner², D.W. Hutmacher¹, L.J. Bray^{*1}, ¹Queensland University of Technology, Australia, ²Leibniz Institute of Polymer Research Dresden, Germany
- [P1.12] Assessing the neuronal output of specific progenitor populations in cerebral organoids via a dual recombinase lineage tracing system**
L. Bury^{*}, S. Fu, U. Mahajan, J. Eum, A. Edwards, A. Wynshaw-Boris, Case Western Reserve University School of Medicine and University Hospitals Cleveland Medical Center, USA
- [P1.13] Possible molecular mechanism of neurotrophin-3 and vascular endothelial growth factor A in the clinical actions of autologous mesenchymal stem cells evaluated in the hiPCS-derived motor neurons and cerebrospinal fluid of ALS patients**
G. Chadi^{*1}, J.R. Maximino¹, C.J. Alves¹, F.M.H. Jorge¹, P.R.S. Brofman², G. Palmisano¹, A.C. Senegaglia², C.L.K. Rebelatto², ¹Universidade de Sao Paulo, Brazil, ²Pontificia Universidade Catolica do Parana, Brazil
- [P1.14] Lentiviral engineered endothelial cells vascularize intestinal epithelial organoids, expand intestinal stem cells and augment organoid growth**
M.S. Chaudhry^{*1}, M. Ginsberg², J.M. Butler², J.L.M. Ferrara¹, ¹The Icahn School of Medicine at Mount Sinai Hospital, USA, ²Hackensack University Medical Center, USA
- [P1.15] The nuts and bolts of NIH peer review - Center for scientific review**
T. Cohen, Center for Scientific Review, USA

- [P1.16] Engraftment optimization and therapeutic evaluation of HA-iPSC derived endothelial cells for hemophilia A treatment**
K. Conroy^{*1,2}, J. Nolta^{2,1}, A. Wang^{2,1}, P. Zhou^{2,1}, ¹California State University, USA, ²University of California, Davis, USA
- [P1.17] Establishment of new patient-derived tumoroids to model pediatric neuroblastoma**
D. Corallo^{*1}, M. Pantile¹, C. Zanon¹, A. Zin¹, R. Noguera², E. Viscardi³, S. Aveic^{1,4}, ¹Fondazione Istituto di Ricerca Pediatrica Città della Speranza, Italy, ²University of Valencia-INCLIVA/CIBERONC, Spain, ³University Hospital, Italy, ⁴RWTH Aachen University Hospital, Germany
- [P1.18] Development of a 3D-cell based high content screening platform for BRAF-mutant colorectal human tumors**
E. Courtois^{*}, E. Jocoy, M. Cheng, K. Draheim, S. Bessonett, S. Airhart, M. Samuels, P. Robson, The Jackson Laboratory, USA
- [P1.19] In-vitro modeling of human embryonic brain structures through optogenetic induction of polarizing signals**
R. De Santis^{*}, F. Etoc, A.H. Brivanlou, The Rockefeller University, USA
- [P1.20] Comparing 2-D and 3-D models of hepatotoxicity: Liver organoids, HepG2 spheroids, and iPSC-derived hepatocytes using MTT and DNA comet assays**
S. Degese^{*}, S. Tousey, D. Galitz, M. Pundt, X. Yu, M. Anderson, G. Herr, J. Van Etten, C. Munshi, K. Flynn, Bio-Techne, USA
- [P1.21] Using brain organoids to uncover the neurobiology of speech and language-related disorders**
J. den Hoed^{*1}, M.M.K. Wong¹, M. Heide², W.B. Huttner², S.E. Fisher^{1,3}, ¹Max Planck Institute for Psycholinguistics, The Netherlands, ²Max Planck Institute of Molecular Cell Biology and Genetics, Germany, ³Donders Institute for Brain, Cognition and Behaviour, The Netherlands
- [P1.22] A three-dimensional stereolithographic approach enables self-organization of biliary cells into pre-defined luminal structures**
E. Mazari-Arrighi¹, D. Ayollo¹, P. Dupuis-Williams^{*2,3}, A. Fuchs¹, F. Chatelain¹, ¹CEA/DRF, UMR-S1160 Hôpital Saint-Louis, France, ²UMR-S1174 INSERM/Université Paris Saclay, France, ³ESPCI, Paris, France
- [P1.23] Shaping 3D bile ducts from micropatterned surfaces by self-organogenesis**
E. Gontran¹, L. Bouzahir¹, A. Fuchs², P. Dupuis-Williams^{*1,3}, ¹UMR-S1174 INSERM/Université Paris Saclay, France, ²CEA/DRF, UMR-S1160 Hôpital Saint-Louis, France, ³ESPCI, Paris, France
- [P1.24] Efficacy of olaparib treatment in colorectal cancer preclinical models**
E. Durinikova^{*1}, P. Arcella¹, G. Corti¹, L. Lazzari^{1,2}, N. Reilly¹, M. Montone¹, S. Siena^{3,4}, F. Di Nicolantonio^{1,2}, A. Bardelli^{1,2}, S. Arena^{1,2}, ¹Candiolo Cancer Institute, Italy, ²University of Torino, Italy, ³Niguarda Cancer Center, Italy, ⁴Università degli Studi di Milano, Italy
- [P1.25] Kidney organoid reproducibility across multiple human iPSC lines and diminished off target cells after transplantation revealed by single cell transcriptomics**
M. Emani^{*1}, A. Subramanian¹, E. Sidhom^{1,2}, N. Sahakian¹, K. Vernon¹, Y. Zhou¹, J. Marshall¹, O. Rozenblatt-Rosen¹, A. Regev¹, A. Greka^{1,2}, ¹Broad Institute of MIT and Harvard, USA, ²Brigham and Women's Hospital and Harvard Medical School, USA
- [P1.26] Generation of cerebral organoids for the investigation of dynein-dependent brain malformations**
S. Farcy^{*2,1}, A. Di Cicco¹, L. Coquand¹, A. Baffet¹, N. Bahi-Buisson², ¹Institut Curie, France, ²Institut Imagine, France
- [P1.27] 3D Organoids unravel critical pathways into prostate tissue homeostasis and tumorigenesis**
V. Foletto^{*}, F. Cambuli, D. De Felice, M.D. Palumbieri, M. Zaffagni, S. Genovesi, A. Bertossi, M. Lorenzoni, A. Alaimo, E. Bertossio, University of Trento, Italy
- [P1.28] A 3D bioprinted vascularized omentum model for ovarian cancer metastasis**
J. Fu^{*1}, H. Kenny², E. Lengyel², M. Ferrer¹, M.J. Song¹, ¹National Center for Advancing Translational Sciences, NIH, USA, ²The University of Chicago, USA
- [P1.29] WITHDRAWN**
- [P1.30] WITHDRAWN**
- [P1.31] Modeling human hematopoietic stem cell dynamics through bone marrow organoids**
S. Giger^{*1}, S. Hoehnel¹, M. Ehrbar², M. Lutolf¹, ¹École Polytechnique Fédérale de Lausanne (EPFL), Switzerland, ²University Hospital Zurich, Switzerland
- [P1.32] High-throughput 3D gene editing platforms for rapid discovery of novel anticancer drug resistance**
T.S.P. Grandhi^{*}, J. To, S. Horman, Genomic Institute of Novartis Research Foundation, USA
- [P1.33] Biowire™ II engineered human cardiac tissues have adult-like responses to inotropic agents**
M.P. Graziano^{*1}, N. Feric¹, K. Chaudary², I. Pallotta¹, R. Singh¹, D. Bogdanowicz¹, M. Gustilo¹, M. Ushio¹, R. Aschar-Sobbi¹, ¹TARA Biosystems Inc, USA, ²GlaxoSmithKline, USA

- [P1.34] Development of an organoid model for malaria-related brain injury**
A. Harbuzariu*, S. Pitts, J. Cespedes, A. Nti, K. Harp, A. Shaw, M. Liu, J.K. Stiles, *Morehouse School of Medicine, USA*
- [P1.35] Self-organizing human neuruloids show ectodermal lineage diversification and allow modeling of human diseases**
T. Haremakei*, J. Metzger, T. Rito, Z. Ozair, F. Etoc, A. Brivanlou, *Rockefeller University, USA*
- [P1.36] Creating a nephro-vascular unit Ex Vivo from human pluripotent stem cells**
K. Hariharan*, B. Kurtze, S. Oh, N. Beindorff, A. Kurtz, *Charité - Universitätsmedizin Berlin, Germany*
- [P1.37] Development of a 3D coculture model for investigating interactions between endothelial cells and organoid of intrahepatic cholangiocarcinoma in a microfluidic device**
K. Hidaka*, T. Yamashita, T. Muramatsu, Y. Saito, H. Saito, R. Sudo, *Keio University, Japan*
- [P1.38] Bioprinted pluripotent stem cell-derived kidney organoids provide opportunities for high content screening**
W. Higgins*¹, A. Chambon¹, K. Bishard¹, P. Er², K. Lawlor², J. Vanslambrouck², S. Howden², B. Shepherd¹, A. Chen¹, M. Little^{2,3}, ¹Organovo, USA, ²Murdoch Children's Research Institute, Australia, ³University of Melbourne, Australia
- [P1.39] Alveolar organoids derived from human pluripotent stem cells as a model system for studying idiopathic pulmonary disease**
H.R. Heo¹, J.H. Kim¹, J.Y. Kim¹, K.S. Kim², D.R. Lee³, S.H. Hong*¹, ¹Kangwon National University, Republic of Korea, ²Hanyang University, Republic of Korea, ³CHA University, Republic of Korea
- [P1.40] A screenable model for the enhancement of anti-tumor T-cell function**
S. Horman*, J. To, J. Hoerter, *GNF-Novartis, USA*
- [P1.41] Activated PI3K disrupts tissue architecture in human breast organoids by inducing changes in interfacial mechanics**
J. Hu*¹, V. Srivastava², J. Garbe^{4,2}, M. Stampfer⁴, M. Labarge³, Z. Gartner^{2,5}, ¹UC Berkeley-UC San Francisco Bioengineering, USA, ²University of California San Francisco, USA, ³City of Hope Cancer Center, USA, ⁴Lawrence Berkeley National Laboratory, USA, ⁵Chan-Zuckerberg Biohub, USA
- [P1.42] Modeling Wnt/ β -catenin activated tissue repair using lung organoid**
Y. Hu*¹, J-P. Ng-Blichfeldt^{2,3}, W. Ren¹, C. Ciminieri^{1,3}, C. Ota³, P.S. Hiemstra⁴, J. Stolk⁴, R. Gosens², M. Königshoff¹, ¹University of Colorado, USA, ²Ludwig-Maximilians University, University Hospital Grosshadern, Germany, ³Groningen Research Institute for Asthma and COPD (GRIAC), University of Groningen, The Netherlands, ⁴Leiden University Medical Center, The Netherlands
- [P1.43] Shape-shifting tissue scaffolds for synthetic mimicry of kidney organogenesis**
A. Hughes, *University of Pennsylvania, USA*
- [P1.44] Relaxation of extracellular matrix forces directs crypt architecture in intestinal organoids**
E. Hushka*^{1,2}, F. Yavitt^{1,2}, K. Anseth^{1,2}, ¹University of Colorado Boulder, USA, ²Biofrontiers Institute, USA
- [P1.45] Plexin-B2 mediates biochemical-mechanical integration during multicellular organization and is associated with accelerated dopaminergic neuronal differentiation**
C. Junqueira Alves*, R. Darioli, T. Hannah, R. Wiener, N. Daviaud, R. Tejero, N. Tsankova, E. Azeloglu, R. Friedel, H. Zou, *Icahn School of Medicine at Mount Sinai, USA*
- [P1.46] Laminin-functionalized 3D silk scaffold maintains expansion, stemness and differentiation potential of human pluripotent stem cells**
Z. Xiao, B. Eleuteri, T. Kallur*, *BioLamina, Sweden*
- [P1.47] Development of a microglia-cerebral organoid system using iPSCs**
K. Kalpana*, M. Nijsure, I. Kruglikov, A. Domenico, G. Croft, S. Noggle, V. Fossati, *New York Stem Cell Foundation, USA*
- [P1.48] Two-way control of non-muscle myosin light chain activity plays a crucial role in epithelial cell sheet**
Y. Kasai*, T. Morino, K. Yamamoto, H. Kojima, *Jikei University School of Medicine, Japan*
- [P1.49] Optimized 3D liver model for drug metabolism and toxicity assessment**
M. Kennedy*, M. Millett, M. Connolly, J.M. Silva, D. Kuninger, *Thermo Fisher Scientific, USA*
- [P1.50] In vitro long-term expansion of mouse dental Epithelial organoids**
H-Y. Kim*, H-S. Jung, *Yonsei University, Republic of Korea*
- [P1.51] A transepithelial morphogen gradient and flow-dependent physical cue control the in vitro intestinal 3D morphogenesis in a microengineered human gut-on-a-chip**
W. Shin, H.J. Kim*, *UT Austin, BME, USA*
- [P1.52] Liver organoids generation from human pluripotent stem cells**
J.H. Kim*, H.S. Lee, D.W. Han, *Konkuk University, Republic of Korea*
- [P1.53] WITHDRAWN**

- [P1.54] **Targeting M cells in organoids; an organoid-based model for the quantitative evaluation of uptake of modified nanoparticles in the small intestine**
A. Klisuric^{*1}, Y. Bar-Ephraim², R. Gibson¹, B. Thierry¹, H. Clevers², ¹University of South Australia, Australia, ²Hubrecht Institute, The Netherlands
- [P1.55] **Targeting myeloid-derived suppressor cells for gastric cancer immunotherapy**
V. Koh^{*1}, J. Chakrabarti², S.L. Chan³, J. Wang², S. Ahmed², Y. Ito^{3,4}, J. So^{1,4}, W.P. Yong^{1,3}, Y. Zavros², ¹National University Health System, Singapore, ²University of Cincinnati, USA, ³Cancer Science Institute of Singapore, Singapore, ⁴National University of Singapore, Singapore
- [P1.56] **Organ-wide vessel segmentation using VesSAP technology in DISCO-cleared mouse pancreas**
Z.I. Kolabas^{*1,2}, M.I. Todorov^{1,2}, K. Stanic^{1,2}, A. Erturk^{1,2}, ¹Klinikum der Universität München Institut für Schlaganfall- und Demenzforschung, Germany, ²Helmholtz Zentrum München, Germany
- [P1.57] **WITHDRAWN**
- [P1.58] **CRISPR-pass: Gene rescue of nonsense mutations using adenine base editors**
C.I. Lee^{*1}, D.H. Jo², G.H. Hwang³, J.H. Yu³, J.H. Kim², S.E. Park³, J.S. Kim¹, J.H. Kim², S. Bae³, ¹Seoul National University, Republic of Korea, ²Seoul National University Hospital, Republic of Korea, ³Hanyang University, Republic of Korea
- [P1.59] **iPSC-Derived kidney organoids recapitulate renal manifestations of tuberous sclerosis complex**
J.O.H. Hernandez Ramos¹, M.F. Sobral Reyes¹, M. Sundberg^{2,3}, M. Sahin^{2,3}, D.R. Lemos^{*1,3}, ¹Brigham and Women's Hospital, USA, ²Boston Children's Hospital, USA, ³Harvard Medical School, USA
- [P1.60] **3D Liver Microtissues bridge applications from drug-induced liver injury (DILI) to low-clearance in ADME seamlessly**
O. Frey, R. Kostadinova, P. Guye, J. Lichtenberg*, *InSphero AG, Switzerland*
- [P1.61] **PDX-derived 3D tumor microtissues as ex-vivo human experimental models for evaluating therapeutic responses**
F. Chiovaro¹, I. Agarkova¹, N. Buschmann¹, C. Pichon¹, T. Langova¹, A. Maier², J. Schueler², P. Guye¹, J. Lichtenberg^{*1}, ¹InSphero AG, Switzerland, ²Charles River DRS Germany GmbH, Germany
- [P1.62] **Co-culture system for studying immune based therapies in patient derived pancreatic ductal adenocarcinoma organoids**
E. Lim*, C. Cruz, K. Yu, *Memorial Sloan Kettering Cancer Center, USA*
- [P1.63] **Developing iPSC derived human neuronal cell model for Mucopolysaccharidosis IIID**
G. Lopez*, K. Cheng, S. Li, F. Wang, T. Chou, *LA Biomed, USA*
- [P1.64] **Pro-tumorigenic role of ETS-related gene (ERG) in pre-cancerous prostate lesions**
M. Lorenzoni¹, A. Alaimo¹, F. Cambuli¹, V. Foletto¹, S. Genovesi¹, M. Zaffagni¹, D. De Felice¹, A. Bertossi¹, A. Romanel¹, M. Barbareschi², A. Lunardi^{*1}, ¹University of Trento, Italy, ²Santa Chiara Hospital, Trento, Italy
- [P1.65] **A human ips cell model of centrosomal defects reveals new molecular mechanisms for deafness**
A. Czajkowski¹, A. Mounier¹, B. Mughal¹, B. Grobarczyk¹, G. Milan², P.P. Lefebvre^{1,3}, L. Nguyen¹, L. Delacroix¹, B. Malgrange^{*1}, ¹University of Liège, Belgium, ²University of Padua, Italy, ³CHU de Liège, Belgium
- [P1.66] **Single cell characterization of patient-derived human primary prostate epithelial cell organoids**
T. McCray*, L. Nonn, *University of Illinois at Chicago, USA*
- [P1.67] **Rationally-enriched intestinal organoid screening uncovers nuclear export mediated stem cell fate decisions**
B. Mead^{*1,2}, K. Hattori³, J. Ordovas-Montanes^{1,2}, L. Levy^{1,3}, M. Vukovic^{1,2}, D. Sze³, R. Langer¹, J. Karp^{1,3}, A. Shalek^{1,2}, ¹Massachusetts Institute of Technology, USA, ²MGH Ragon Institute & Broad Institute, USA, ³Brigham & Women's Hospital, USA
- [P1.68] **High-throughput microfluidic platform for vascularization of three-dimensional tissues**
R. Menon, S. Previdi, H. Lanz, A. Nicolas, F. Schavemaker, S. Trietsch, D. Kurek*, P. Vulto, *Mimetas Organ-on-a-Chip Company, The Netherlands*
- [P1.69] **Hepatitis C virus (HCV) infects and perturbs liver stem cells**
N. Meyers^{*1,3}, A. Erickson², C. Simoneau¹, M. Khalid^{1,4}, V. Natarajan¹, T. Mahmoudi⁴, J. Baron³, S. Cooper², T. McDevitt¹, M. Ott^{1,3}, ¹Gladstone Institutes, USA, ²California Pacific Medical Center, USA, ³University of California San Francisco, USA, ⁴Erasmus University Medical Center, The Netherlands
- [P1.70] **Oct1 regulates transcription of a new milk protein α 1-casein in stress response**
Z.Y. Min*, Y. Yu, *Peking University Third Hospital, China*
- [P1.71] **Multi-system organoid models of SATB2-associated disorders**
F. Mirakhori, *University of Maryland, USA*
- [P1.72] **WITHDRAWN**

- [P1.73] Non-small cell lung cancer modelling using patient-derived organoids**
V. Monica*^{1,2}, G. Chiaverina^{1,2}, L. Primo^{1,2}, ¹Candiolo Cancer Institute, Italy, ²University of Torino, Italy
- [P1.74] The celiac mucosal barrier-on-chip to investigate its role in initiation of celiac disease**
J. Mooiweer*¹, R. Moerkens¹, J. Slager¹, A. Ramirez¹, K. Le¹, C. Wijmenga^{1,2}, R. Barrett³, S. Withoff¹, ¹University Medical Center Groningen, University of Groningen, The Netherlands, ²K.G. Jebsen Coeliac Disease Research Centre, Department of Immunology, University of Oslo, Norway, ³Cedars-Sinai Medical Center, USA
- [P1.75] Synthetic genetic circuits to control stem cell programs in tissue assembly**
A. March, M. Santorelli, C. Lam, V. Fitts, L. Morsut*, University of Southern California, USA
- [P1.76] Developing models that replicate cephalic arch geometry and flow conditions in dialysis patients with end-stage renal disease to understand and predict access thrombosis**
A. Moya-Rodríguez*, C. Bernstein, M. Hammes, A. Basu, University of Chicago, USA
- [P1.77] 3D bio-printed vascularized human skin as a novel drug screening assay platform for atopic dermatitis**
X. Liu*, S. Michael, M. Ferrer, M.J. Song, NIH, Vanuatu
- [P1.78] Tracheal organoid including cartilage and smooth muscle**
K. Kishimoto, M. Morimoto*, RIKEN BDR, Japan
- [P1.79] Brain organoids as a model to decipher autism spectrum disorder in Qatari population**
N. P. Abdul Manaph*, S. Ltaief, A. R. Al-Shammari, S. Khattak, Qatar Biomedical Research Institute, Qatar
- [P1.80] Development of 3D Scaffolds to Study Bile Duct Morphogenesis**
A. Funfak*¹, L. Bouzahir², E. Gontran², N. Minier¹, P. Dupuis-Williams^{2,3}, S. Gobaa¹, ¹Institut Pasteur, France, ²Institut National de la Santé et de la Recherche Médicale (INSERM), France, ³École Supérieure de Physique et de Chimie Industrielles de la Ville de Paris (ESPCI), France
- [P1.81] Cytokine-triggered STAT5 action promotes metastasis through high colonic cancer stem cell activity**
H.F. Li², R.X. Liu², J. Cai², R. Moriggl³, X.N. Han*¹, ¹Cincinnati Children's Hospital Medical Center (CCHMC), USA, ²Chinese Academy Institute of Medical Sciences (CAMS) and Peking Union Medical College (PUMC), China, ³University of Vienna, Austria
- [P1.82] Development of a human Colon Intestine-Chip to study colonic mucosa development and functionality**
A. Apostolou*^{1,2}, R. Luc², R. Panchakshari³, A. Banerjee³, M.D. Paraskevopoulou³, D. Manatakis², E. Manolakos^{1,4}, G. Hamilton², C. Giallourakis³, K. Karalis², ¹National and Kapodistrian University of Athens, Greece, ²Emulate Inc., USA, ³Takeda Pharmaceutical Company Ltd., USA, ⁴Northeastern University, USA
- [P1.83] Tumor spheroid-on-a-chip: A standardized microfluidics platform for investigating tumor angiogenesis**
J. Ko, J. Ahn, S. Kim, J. Lee, N.L. Jeon*, Seoul National University, Republic of Korea
- [P1.84] 3D Models of Hepatocellular Carcinoma to Study Combinations of Angiogenesis Inhibitors with Radiation Treatment**
S. Znati*^{1,2}, R. Carter¹, M. Vasquez Duran¹, H. Shahbakhti¹, A. Westhorpe¹, C. De Vellis¹, J. Prince⁴, M. Loizidou^{1,2}, R. Sharma^{1,3}, ¹University College London, UK, ²Royal Free Hospital, UK, ³University College London Hospital, UK, ⁴Oxford University, UK
- [P1.85] Disease modeling of carcinogenesis using lung organoid generated from pluripotent stem cells**
A. Miura*, D. Yamada, I. Tosa, K. Suzawa, H. Yamamoto, S. Toyooka, T. Takarada, Okayama university, Japan
- [P1.86] The development of a model for the human neuromuscular junction**
J. Sanchez*, E. Solomon, K. Davis-Anderson, S. Micheva-Viteva, R. Iyer, S. Twary, Los Alamos National Laboratory, USA
- [PT1.01] Intestinal mesenchymal signals guide regional identity**
M. Maimets*¹, M.T. Pedersen¹, M. Thodberg³, J. Guiu¹, A. Sandelin³, K. Jensen^{1,2}, ¹BRIC, University of Copenhagen, Denmark, ²Novo Nordisk Foundation Center for Stem Cell Research, Denmark, ³The Bioinformatic Center, University of Copenhagen, Denmark
- [PT1.02] Engineering innervated human gastric organoids to study the development and physiology of the gastric enteric nervous system**
A.K. Eicher*^{1,2}, H.M. Berns², N. Sundaram², L.E. Haines², M.A. Helmrath², J.M. Wells², ¹University of Cincinnati, USA, ²Cincinnati Children's Hospital Medical Center, USA
- [PT1.03] IL-1 and TNF α contribute to the inflammatory niche to enhance lung regeneration after flu infection**
H. Katsura*, Y. Kobayashi, P.R. Tata, B.L.M. Hogan, Duke University, USA

- [PT1.04] A platform for generation of chamber-specific cardiac tissues and disease modelling**
Y. Zhao*¹, N. Rafatian¹, N. Feric^{1,3}, B.J. Cox¹, R. Aschar-Sobbi^{1,3}, E.Y. Wang¹, P. Aggarwal⁴, B. Zhang¹, G. Conant¹, K. Ronaldson-Bouchard^{3,5}, ¹University of Toronto, Canada, ⁴Medical College of Wisconsin, USA, ⁵Columbia University, USA
- [PT1.05] Fast and efficient generation of knock-in human organoids using homology-independent CRISPR/Cas9 precision gene editing**
D. Hendriks¹, B. Artegiani¹, J. Beumer*¹, R. Kok², I. Joore¹, X. Zheng², S. Tans², J. van Zon², H. Clevers^{1,3}, ¹Hubrecht Institute, The Netherlands, ²FOM Institute AMOLF, The Netherlands, ³The Princess Maxima Center for Pediatric Oncology, The Netherlands
- [PT1.06] Synthetic hydrogels identify matrix biochemical and mechanical properties required for renal epithelial cell tubulogenesis**
A. Mulero-Russe*¹, R. Cruz-Acuña¹, A. Clark¹, R. Zent², A. García¹, ¹Georgia Institute of Technology, USA, ²Vanderbilt University, USA
- [PT1.07] Mechanical forces lead to wrinkling of human brain organoids**
E. Karzbrun*¹, O. Reiner², ¹KITP, UCSB, USA, ²Weizmann Institute of Science, Israel
- [PT1.08] Controlled hydrogel photodegradation improves colony formation of intestinal organoids**
M. Yavitt*^{1,2}, T. Brown^{1,2}, E. Hushka^{1,2}, K. Anseth^{1,2}, ¹University of Colorado Boulder, USA, ²The BioFrontiers Institute, USA
- [ST05] Bioengineered 3-dimensional lung organoid: A clinically relevant *in vitro* model for small cell lung cancer**
C. Sen*, D. Wilkinson, L. Meneses, D. Shia, P. Vijayaraj, A. Purakayastha, T. Rickabaugh, B. Dunn, B. Gomperts, *University of California, Los Angeles, USA*
- [ST07] Organoid cultures reveal distinct genetic profile of early-onset colorectal cancer enriched for the serrated neoplasia pathway**
H.H.N. Yan*¹, H.C. Siu¹, S.L. Ho¹, S.S.K. Yue¹, W.Y. Tsui¹, D. Chan¹, S.T. Yuen¹, H. Clevers^{2,3}, W.L. Law¹, S.Y. Leung¹, ¹The University of Hong Kong, Hong Kong, ²University Medical Centre Utrecht, The Netherlands, ³Princess Maxima Center for Pediatric Oncology, The Netherlands
- [ST08] Generation of lactocyte-rich alveolar organoids from human breast milk**
B. Goods*, B. Mead, S. Nyquist, K. Kolb, A. Shalek, *Massachusetts Institute of Technology, USA*
- [ST09] Stem cell derived human pancreatic organoids for studying early lesions of pancreatic cancer**
L. Huang*, R. Desai, D. Melton, S. Muthuswamy, *Harvard University, USA*

Poster Session 2

Tuesday, August 27, 2019 - 11:55–13:30

- [P2.01] Modeling neurodegenerative diseases using iPSC derived cells and brain organoids**
A. Mukherjee*, E. Armijo, C. Gonzalez, X. Diao, M. Chavez, M. Shah Nawaz, C. Soto, *University of Texas Health Science Center at Houston, USA*
- [P2.02] Establishment of functional immune cells in human pluripotent stem cell-derived colonic organoid cultures**
J.O. Munera*¹, C. Bouffi², J.M. Wells², ¹Medical University of South Carolina, USA, ²Cincinnati Childrens Hospital Medical Center, USA
- [P2.03] Culture of human intestinal organoids in a serum- and conditioned medium-free formulation**
R. Mustata-Micsik*¹, J. Horcas¹, M. Lankhorst², R.K. Conder², W. Chang¹, T.E. Thomas², A.C. Eaves^{2,3}, S.A. Louis², ¹STEMCELL Technologies UK Ltd., UK, ²STEMCELL Technologies Inc., Canada, ³Terry Fox Laboratory, BC Cancer Agency, Canada
- [P2.04] A long-term organoid model of the adult mouse kidney**
A. Myszczyzyn*, W. Birchmeier, A. Fendler, *Max Delbrück Center for Molecular Medicine in the Helmholtz Association (MDC), Germany*
- [P2.05] Modeling lung adenocarcinoma using alveolar organoids**
S. Naranjo*, A. Tang, T. Jacks, *MIT, USA*
- [P2.06] Tumor microenvironment-dependent endothelial cell heterogeneity is regulated by matricellular protein SPARCL1 in human colorectal carcinoma**
E. Naschberger*¹, C. Tenkerian¹, D. Regensburger¹, A. Ramming¹, B. Schmid³, V.S. Meniel², N. Britzen-Laurent¹, V.S. Schellerer¹, M. Stürzl¹, ¹University Medical Center Erlangen, Germany, ²European Cancer Research Institute Cardiff, UK, ³Friedrich-Alexander-University Erlangen-Nuremberg, Germany
- [P2.07] Trophic role of endothelial progenitor cells in human lung organoid development**
S. Nepal*, M. Liu, J. Rehman, Z. Hong, D. Kotton, Y. Liu, A. Malik, *University of Illinois, USA*

- [P2.08] **Activation of Hedgehog signaling improves neural crest derivation from human pluripotent stem cells as revealed by single-cell transcriptomics and a human innervated colonic organoid model**
C. Lau¹, Z. Li¹, K. Lui¹, C. Hui², J. Wells³, E. Ngan^{*1}, ¹The University of Hong Kong, Hong Kong, ²University of Toronto, Canada, ³Cincinnati Children's Hospital Research Foundation, USA
- [P2.09] **Artesunate improves salivary secretion in type1 diabetes mellitus rats and postpone the manifestation of xerostomia through relocating and upregulating the expression of aquaporin 5**
W. Li, X.L. Nong*, Guangxi Medical University, China
- [P2.10] **Utilising BH3 mimetics in the treatment of CRC**
M. Palmieri^{*1,2}, M. Luo¹, Y. Hirokawa^{1,2}, E. Leong^{1,2}, C. Riffkin^{1,2}, J. Gong^{1,2}, D. Huang^{1,2}, O. Sieber^{1,2}, ¹Walter and Eliza Hall Institute of Medical Research, Australia, ²The University of Melbourne, Australia
- [P2.11] **Utility of fused cortical organoids to investigate the interaction of brain subdomains**
I.H. Park^{*1}, X. Yangfei¹, Y. Tanaka¹, B. Cakir¹, B. Patterson¹, K.Y. Kim¹, S.H. Lee², Y.J. Kang², ¹Yale University, USA, ²University of Arkansas for Medical Sciences, USA
- [P2.12] **Development of choroid plexus organoids to study secretion and barrier permeability in the developing brain**
L. Pellegrini*, C. Bonfio, J. Chadwick, F. Begum, M. Skehel, M.A. Lancaster, Laboratory of Molecular Biology - MRC, UK
- [P2.13] **Inflammatory cytokine TNF α promotes the long-term culture of mouse primary hepatocyte in 3D culture**
W.C. Peng^{*1}, B. Li², M. Grompe², R. Nusse¹, ¹Stanford University, USA, ²OHSU, USA
- [P2.14] **Customized rotating wall vessel bioreactors for optimized growth of retinal organoids at reduced cost**
M.A. Phelan^{*1,2}, P.I. Leikes², A. Swaroop¹, ¹National Eye Institute, USA, ²Temple University, USA
- [P2.15] **3D human iPS cell-derived bioengineered muscles for complex tissue modeling and therapy development in muscular dystrophies**
L. Pinton^{*1,2}, S. Sarcar¹, S.M. Maffioletti¹, H.B. Steele-Stallard^{1,2}, M. Khedr¹, D. Moore¹, A. Henderson¹, I. Mannhardt³, L.A. Moyle¹, G. Ferrari¹, ¹University College London, UK, ²King's College London, UK, ³University Medical Center Hamburg Eppendorf, Germany
- [P2.16] **Modelling diffuse intrinsic pontine glioma invasion with patient tumour cells in a cerebral organoid co-culture**
V.G. Prior^{*1,2}, S. Maksour^{3,4}, S. Miellet^{3,4}, A. Hulme^{3,4}, M. Dottori^{3,4}, G.M. O'Neill^{1,2}, ¹Kids Research, Australia, ²University of Sydney, Australia, ³Illawarra Health and Medical Research Institute, Australia, ⁴University of Wollongong, Australia
- [P2.17] **Dissect the function of DRAM2 in maculopathy using human embryonic stem cell (hESC) derived eye organoids and single cell RNA-seq**
H. Qin*, L. Orozco Guerra, J. Chen, K. Sun, H. Chen, M. Townsend, Z. Modrusan, M. Jeanne, Genentech, USA
- [P2.18] **Single-cell signalling analysis of heterocellular organoids**
X. Qin^{*1}, J. Sufi¹, P. Vlckova¹, P. Kyriakidou¹, S.E. Acton², V.S.W. Li³, M. Nitz⁴, C.J. Tape¹, ¹University College London Cancer Institute, UK, ²University College London, UK, ³The Francis Crick Institute, UK, ⁴University of Toronto, Canada
- [P2.19] **Differentiation and culture of exocrine human pancreatic organoids from stem cell-derived pancreatic progenitors**
N. Quiskamp^{*1}, C. Segeritz-Walko¹, S. Lam¹, C. Wu¹, J. Stingl¹, T.E. Thomas¹, A.C. Eaves^{1,2}, S.A. Louis¹, ¹STEMCELL Technologies, Canada, ²Terry Fox Laboratory, Canada
- [P2.20] **Mouse and human adult liver - derived bipotent ductal organoids functionally recapitulate liver steatosis**
T.D. Raabe*, S. McCarron, K. Quiroz-Figueroa, D. Abbey, N.J. Hand, D.J. Rader, K. Olthoff, A. Shaked, B. Bathon, University of Pennsylvania, USA
- [P2.21] **Patient-Derived organoid models at Princess Margaret living biobank**
N. Radulovich*, L. Tamblyn, N. Liu, C. Ng, M. Udaskin, J. Cruickshank, M.S. Tsao, University Health Network, Canada
- [P2.22] **Intestinal organoids reveal epithelium intrinsic damage response mechanism**
M. Rahman*, M. Marchetti, B. Edgar, Huntsman Cancer Institute, USA
- [P2.23] **ANGIOstream: A novel Angiogenesis in vitro assay system**
A. Rahmo, SMSbiotech, USA
- [P2.24] **Patient-derived three-dimensional neuronal cultures as model systems for neurodegenerative disease**
W. Raja, E. Neves*, P. Xu, C. Chung, R. Scannevin, K. Rhodes, Yumanity Therapeutics, USA

- [P2.25] **Study on lacrimal gland and eye changes in diabetic xerophthalmia rat model and the effect of artesunate intervention**
X. Nong, G. Rajbanshi*, W. Li, B. Wang, *Hospital and College of Stomatology, Guangxi Medical University, China*
- [P2.26] **Programmed ureteric bud cells obtain competence for secondary induction in the kidney**
Z. Tan¹, A. Rak-Raszewska*¹, I. Skovorodkin¹, S. Vainio^{1,2}, ¹Faculty of Biochemistry and Molecular Medicine, Finland, ²Borealis Biobank of Northern Finland, Finland
- [P2.27] **Generation of functional renal organoids requires reaching minimal cell number**
A. Rak-Raszewska*¹, G. Reint¹, F. Geiger¹, S. Vainio¹, ¹University of Oulu, Finland, ²Oulu University Hospital, Finland
- [P2.28] **Fully automated and scalable 3D-based toxicity testing in human neural microtissues**
H. Renner*¹, M. Grabos¹, M. Otto^{1,2}, J. Wu^{1,3}, P. Disse⁴, S. Peischarde⁴, S.A. Leidel^{1,3}, G. Seebohm⁴, H.R. Schöler¹, J.M. Bruder¹, ¹Max Planck Institute for Molecular Biomedicine, Germany, ²Westfälische Wilhelms-Universität Münster, Germany, ³University of Bern, Switzerland, ⁴University Hospital Münster, Germany
- [P2.29] **Synthetic hydrogels for hepatic organoid culture**
S. Rezakhani*¹, G. Sorrentino¹, E. Yildiz¹, S. Nuciforo², M.H. Heim², M.P. Lutolf¹, K. Schoonjans¹, ¹EPFL, Switzerland, ²University Hospital Basel, Switzerland
- [P2.30] **Colonoid-macrophage bioengineered tissue model for evaluation of immunomodulatory drugs**
T. Roh*, Y. Chen, H. Paul, D. Kaplan, *Tufts University, USA*
- [P2.31] **Kidney organoid encapsulation in ECM mimicking hydrogels for organoid maturation**
F.A.A. Ruijter*, T. Geuens, A. Schumacher, C. van Blitterswijk, M. Baker, V. LaPointe, *Maastricht University, The Netherlands*
- [P2.32] **Improving cell survival to control cerebral organoid formation from human pluripotent stem cells**
S. Ryu*, Y. Chen, P-H. Chu, C. Malley, A. Simeonov, I. Singec, *NIH National Center for Advancing Translational Sciences, USA*
- [P2.33] **3D Brain organoids as a platform for in vitro modeling idiopathic autism spectrum disorder**
C.Y. Shin, H.L. Sai*, T.H. Kwak, J.H. Kim, H.S. Lee, *Konkuk University, Republic of Korea*
- [P2.34] **Generation of 3D cortical models by bioprinting of human iPSC-derived neurons**
F. Salaris*^{1,2}, C. Colosi¹, C. Brighi^{1,2}, A. Soloperto¹, V. de Turris¹, G. Belloni^{1,2}, M.C. Benedetti^{1,2}, S. Di Angelantonio^{1,2}, A. Rosa^{1,2}, ¹Center for Life Nano Science, Istituto Italiano di Tecnologia, Italy, ²Sapienza University of Rome, Italy
- [P2.35] **Organoid model of palatal fusion based on human neural crest**
N. Sandhu*, M. Prasad, J. Hackland, M. Garcia-Castro, *University of California, Riverside, USA*
- [P2.36] **Modelling presomitic mesoderm from the bottom-up: A synthetic development approach**
M. Santorelli*, T. Sondkar, C. Lam, L. Morsut, *University of Southern California, USA*
- [P2.37] **Local network activity develops in primary rodent cortical microtissues**
J. Severson*, D. Hoffman-Kim, *Brown University, USA*
- [P2.38] **Cardiomyopathy phenotypes observed in human engineered heart tissue depend on functional maturation**
L.R. Sewanan*, S. Shen, R. Ng, S.G. Campbell, *Yale University, USA*
- [P2.39] **In vitro expansion and genetic manipulation of human alveolar stem cells in fibroblast-free culture**
K. Shiraishi*, S. Shichino, T. Nakajima, S. Ueha, K. Matsushima, *Tokyo University of Science, Japan*
- [P2.40] **Modeling pancreatic cystic fibrosis and pancreatic ductal adenocarcinoma using pluripotent stem cell-derived human pancreatic ductal epithelial cells**
S. Simsek*^{1,2}, T.R. Evans², S. Chen², ¹DS Havacılık, Turkey, ²Weill Cornell Medical College, USA
- [P2.41] **Modeling microcephaly in patient iPSC cell derived brain organoids with U4atac snRNA mutations**
J. Singh*¹, M. Pirozzi², L.A. Bury³, A. Wynshaw-Boris³, R.A. Padgett¹, ¹Cleveland Clinic, USA, ²Seattle Children's Research Institute, USA, ³Case Western Reserve University, USA
- [P2.42] **Engineering a 3D vascular unit to discover multicellular interactions underlying human pathophysiology for barrier tissue models**
M. Song*^{1,2}, X. Liu¹, J. Fu¹, R. Quinn², E. Nguyen², K. Bharti², M. Ferrer¹, ¹National Institute of Health/National Center for Advancing Translational Sciences, USA, ²National Institute of Health/National Eye Institute, USA
- [P2.43] **Deep tissue labelling and clearing provides single cell whole organ information to generate high-resolution blueprint for tissue engineering**
K. Stanic*^{1,2}, S. Zhao^{1,2}, Z.I. Kolabas^{1,2}, B. Forstera^{1,2}, A. Erturk^{1,2}, ¹Klinikum der Universität München Institut für Schlaganfall- und Demenzforschung, Germany, ²Helmholtz Zentrum München, Germany

- [P2.44] Epilepsy in a dish: Modeling WWOX-related neurological disorders by patient-derived cerebral organoids**
D.J. Steinberg^{*1}, S. Repudi¹, A. Saleem^{2,3}, M. Aquilino^{2,3}, E. Banne⁴, M. Mahajnah⁵, P. Carlen^{2,3}, J.H. Hanna⁶, R.I. Aqeilan¹, ¹Hebrew University of Jerusalem, Israel, ²University of Toronto, Canada, ³University Health Network, Canada, ⁴Kaplan Medical Center, Israel, ⁵Hillel Yaffe Medical Center, Israel, ⁶Weizmann Institute of Science, Israel
- [P2.45] Epilepsy in a Dish: Electrophysiological evaluation of iPSC and hESC-derived organoids for studying WWOX-related epileptic encephalopathy**
A. Saleem^{*2,1}, D. Steinberg³, M. Aquilino^{2,1}, S. Mylvaganam¹, S. Repudi³, J. Hanna⁴, R. Aqeilan³, P. Carlen^{1,2}, ¹University Health Network, Canada, ²University of Toronto, Canada, ³Hebrew University of Jerusalem, Israel, ⁴Weizmann Institute of Science, Israel
- [P2.46] Modelling response to radiotherapy in rectal cancer with patient-derived organoids**
A. Stodolna^{*}, J. Stockton, C. Yau, J. Silva, A. Beggs, University of Birmingham, UK
- [P2.47] BK Channelopathy in human neuronal models of Angelman syndrome**
A-X. Sun^{*1,2}, Q. Yuan², S. Je², ¹National Neuroscience Institute, Singapore, ²Duke-NUS Medical School, Singapore
- [P2.48] Non-parametric hyperdimensional analysis of multiscale phenotypic factors in intact human cerebral organoids**
J. Swaney^{*}, A. Albanese, D.H. Yun, N. Evans, L. Kametsky, M. Kim, J. Antonucci-Johnson, L. Gehrke, M. Sur, K. Chung, Massachusetts Institute of Technology, USA
- [P2.49] WITHDRAWN**
- [P2.50] Quantitative analysis of human gastrointestinal motility by using iPSC-derived engineered gut with enteric neurons**
K. Take^{*1,2}, T. Yamashita^{1,2}, N. Suzuki^{1,2}, H. Matsumoto^{1,2}, D. Kamiya^{1,3}, M. Ikeya^{1,3}, ¹Takeda-CiRA Joint Progr, Japan, ²Takeda Pharmaceutical Company Limited, Japan, ³Kyoto University, Japan
- [P2.51] Hydraulic oscillations set the size of stem cell zones in intestinal organoids**
N.P. Tallapragada^{*1}, T. Wald², S. Keough¹, F.J. de Sauvage³, O.D. Klein², A.M. Klein¹, ¹Harvard Medical School, USA, ²UC San Francisco, USA, ³Genentech, USA
- [P2.52] Modeling genetic risk of Alzheimer's disease using human brain isogenic APOE organoids co-cultured with microglia**
J. TCW, Icahn School of Medicine at Mount Sinai, USA
- [P2.53] The role of endothelial cells in the self-assembly of bioengineered pseudoislets**
F.C. Tengström^{*}, M.M.J.P.E. Stijns, C.A. Blitterswijk, V.L.S. LaPointe, Maastricht University, The Netherlands
- [P2.54] Development of 3D liver organoids in a screenable format for detection of drug-induced liver injury (DILI) and liver disease modeling**
M. Kijanska, S. Strobel, R. Kostadinova, J. Rupp, K. Fiaschetti, A. Pajak, A. Wolff, E. Thoma^{*}, InSphero AG, Switzerland
- [P2.55] A 3D bioprinted human neurovascular unit as a tissue-in-a-well platform for brain disease modeling and drug screening**
Y.T. Tung^{*}, M.J. Song, M. Ferrer, National Institutes of Health, USA
- [P2.56] Autism patient-derived cerebral organoids demonstrate migration and synaptic defects**
J. Urresti^{*}, P. Moran-Losada, P. Zhang, P. Negraes, C. Trujillo, M. Amar, N. Yu, J. Yates, A.R. Muotri, L.M. Iakoucheva, University of California San Diego, USA
- [P2.57] Establishment of a culture method of dog bladder cancer organoids**
T. Usui, Tokyo University of Agriculture and Technology, Japan
- [P2.58] Age-related epigenetic drift in intestinal primary stem cells and organoids**
H. Vaidya^{*1,2}, J. Jelinek², J.P. Issa², ¹Temple University Lewis Katz School of Medicine, USA, ²Coriell Institute for Medical Research, USA
- [P2.59] Chimeras between programmed and ex vivo kidney progenitor cells for cohort based functional RenOmics**
S. Vainio^{*1,2}, Z. Tan^{1,3}, J. Shan^{1,3}, N. Ahman^{1,3}, A. Rak-Rakzveska^{1,3}, G. Bart⁴, K. Halth¹, U. Saarela^{1,3}, I. Skovorodkin^{1,3}, ¹Oulu University, Finland, ²Borealis Biobank of Northern Finland, Finland, ³Biocenter Oulu, Finland, ⁴InfoTech Oulu, Finland
- [P2.60] Modeling neuromuscular diseases using optogenetics and tissue-engineering**
O.F. Vila^{*1}, S.G.M. Uzel², S.P. Ma¹, D. Williams¹, Y. Qu¹, J. Pak¹, T. Costa¹, R.D. Kamm², G. Vunjak-Novakovic¹, ¹Columbia University, USA, ²Massachusetts Institute of Technology, USA
- [P2.61] Frizzled7 functions as a Wnt receptor in gastrointestinal epithelial stem cells: Implications for cancer growth and progression**
E. Vincan^{*1}, D.J. Flanagan¹, R.H.M. Schwab¹, B.M. Tran¹, J.M. Moselen¹, T.J. Phesse^{1,2}, ¹University of Melbourne, Australia, ²Cardiff University, UK

- [P2.62] A novel islet - Peripheral blood mononuclear cell co-culture model for studying type 1 diabetes**
M. von Herrath*², J. Wesley², N. Perdue², C. G Bamman², B. Yesildak¹, S. Grepper¹, A. Biernath¹, A. Neelakandhan¹, ¹In Sphero AG, Switzerland, ²Novonordisk, Denmark
- [P2.63] Microfluidic-based bioprinting of perfusable, hollow liver tissue fibres for drug induced liver injury testing**
S. Wadsworth*¹, K-I. Hamada², Y. Tsubota¹, K. Tomoda², R. Agarwal¹, S. Pan¹, T. Tokunaga², A. Satou², S. Getsios¹, T. Mohamed¹, ¹Aspect Biosystems Ltd., Canada, ²JSR-Keio University Medical and Chemical Innovation Center, JSR Corporation, Japan
- [P2.64] Pulmonary alveolar type I cell population consists of two distinct subtypes that differ in cell fate**
Y. Wang*, T. Cai, N. Tang, National Institute of Biological Sciences, Beijing, China
- [P2.65] Biallelic loss of humanNARS inhibits proliferation of Radial Glial cells (RGs) in brain organoids and causes microcephaly**
L. Wang*^{1,2}, Z. Li^{1,2}, D. Antaki^{1,2}, V. Stanley^{1,2}, M. Breuss^{1,2}, J. Gleeson^{1,2}, ¹University of California San Diego, USA, ²Howard Hughes Medical Institute, USA
- [P2.66] TFAP2C is a critical indicator and regulator of reliable and efficient telencephalic organoid differentiation from human pluripotent stem cells**
M. Watanabe*, N. Vishlaghi, J. Haney, F. Turcios, W. Gu, J.E. Buth, O. Miranda, M. Ohashi, D. Chen, S. Sabri, University of California, Los Angeles, USA
- [P2.67] Plexins control epithelial growth in the intestine**
I. Matkovic¹, H. Sustova¹, F. Hub¹, T. Worzfeld*^{1,2}, ¹University of Marburg, Germany, ²Max-Planck-Institute for Heart and Lung Research, Germany
- [P2.68] Modeling metabolic reprogramming in PKD using patient iPSC-derived kidney organoids**
B. Zhou¹, T. Zhang¹, T. Xu¹, E.G. Chew^{1,2}, P. Li¹, J.H. Low¹, K. Suzuki³, J.N. Foo^{1,2}, M. Fang¹, Y. Xia*¹, ¹Nanyang Technological University, Singapore, ²Genome Institute of Singapore, Singapore, ³Osaka University, Japan
- [P2.69] Adapalene prophylaxis reprograms macrophages and alters immune signaling to suppress septic arthritis**
P. Yadav*, B. Bhatt, Indian Institute of Sciences, India
- [P2.70] Comparative analysis of patient-derived organoids from primary colorectal cancer and matched metastatic and recurrent lesions**
R. Yao*¹, Y. Suzuki², K. Tsuda², S. Nagayama¹, ¹Japanese Foundation for Cancer Research, Japan, ²University of Tokyo, Japan
- [P2.71] Functionalized synthetic hydrogels for expansion of human liver organoids**
S. Ye*¹, C. Licht², M. Caiazzo¹, L. De Laporte², B. Spee¹, K. Schneeberger¹, ¹Utrecht University, The Netherlands, ²Aachen University, Germany
- [P2.72] Generation of tonsil epithelial organoids from human palatine and pharyngeal tonsils in a chemically defined medium**
H.K. Kim¹, H. Kim², Y.C. Lim², J. Yoo*^{1,3}, ¹CHA University, Republic of Korea, ²Konkuk University, Republic of Korea, ³ORGANOIDSCIENCE, Inc., Republic of Korea
- [P2.73] In vivo evaluation of scaffolds compatible for colonoid engraftments onto injured mouse colon epithelium**
J.H. Jee, J. Yoo*, CHA University, Republic of Korea
- [P2.74] Kidney tubuloids provide patient-specific functional renal epithelium**
F.A. Yousef Yengej*^{1,2}, M.B. Rookmaker², F. Schutgens^{1,2}, C. Ammerlaan^{1,2}, C.J.A. Olde Hanhof³, J. van der Wijst³, J.G.J. Hoenderop³, R. Masereeuw⁴, M.C. Verhaar², H. Clevers^{1,5}, ¹Hubrecht Institute, The Netherlands, ²University Medical Center Utrecht, The Netherlands, ³Radboud University Medical Center Nijmegen, The Netherlands, ⁴Utrecht University, The Netherlands, ⁵Princess Máxima Center for Pediatric Oncology, The Netherlands
- [P2.75] Gastric cancer intratumor heterogeneity revealed by multi-region sequencing and organoids modeling**
H. Yu*, Y. Yang, X.Y. Gao, T. Zhang, L.H. Cao, Y. Hu, B. Dong, L.H. Zhang, J.F. Ji, J.M. Wu, Peking University Cancer Hospital & Institute, China
- [P2.76] Directed differentiation of human intestinal organoids into the enteroendocrine lineage via small molecules**
D. Zeve*, E. Stas, D. Breault, Boston Children's Hospital, USA
- [P2.77] Genetic aberrations dictate distinct tumor immune landscape and immunomodulatory therapies in HGSOc**
S. Zhang*, B. Neel, NYU School of Medicine, USA
- [P2.78] Human intestinal organoids uncover novel developmental and functional features of enteroendocrine cells**
J. Beumer*¹, J. Puschhof¹, J. Bauza Martinez², W. Wu², H. Clevers¹, ¹Hubrecht Institute, The Netherlands, ²Utrecht University, The Netherlands

- [P2.79] A drug-responsive and high throughput 3D model of white adipose tissue**
A.D. Graham*^{2,1}, R. Pandey², V.S. Tsancheva¹, A. Candeo³, S.W. Botchway³, A.J. Allan², L. Teboul², K. Madi⁴, S.N. Olofi¹, R.D. Cox¹ et al
¹OxSyBio, UK, ²MRC Harwell, UK, ³STFC Central Laser Facility, UK, ⁴3Dmagination, UK
- [P2.80] Modelling Wnt pathway inhibition in colorectal cancer cell lines and human organoids**
T. Foets*¹, M. de la Roche, University of Cambridge, UK
- [P2.81] Analysis for the roles of DUSP6 in modulating gut barrier functions and microbiome homeostasis with mouse models and organoid culture**
C-S. Chang¹, Y-C. Liao¹, C-T. Huang¹, J-W. Ruan², C-M. Lin¹, Y-T. Tsai³, H-L. Chan³, Y-C. Liao¹, C-Y. Kao*¹, ¹National Health Research Institutes, Taiwan, ²National Cheng Kung University, Taiwan, ³National Tsing Hua University, Taiwan
- [P2.82] A patient-derived lung-on-chip recapitulates clinically relevant IL-2-induced pulmonary edema**
L. Cabon*¹, G. Raggi²⁻³, V. Micallef¹, S. Fischer¹, N. Schneider-Daum⁴, C.M. Lehr⁴, H. Huwer⁵, E. Breous-Nystrom¹, N. Hobi²⁻³, A.B. Roth¹, ¹Roche Innovation Center Basel, Switzerland, ²AlveoliX, Swiss Organs on Chip Innovation, Switzerland, ³University of Bern, Switzerland, ⁴Helmholtz Institute for Pharmaceutical Research Saarland, Germany, ⁵Völklingen Heart Center, Germany
- [P2.83] Screening for potential therapeutics against neurodevelopmental disorders using a 3-Dimensional human cortical neural platform**
F. Zanella*¹, P.D. Negraes, N. Sodhi, S. Romero, C. Carromeu, StemoniX, USA
- [PT2.01] Human intestinal organoids: Transformative tools to study intestinal infections**
S.E. Blutt*¹, S.E. Crawford, S. Ramani, M.K. Estes, Baylor College of Medicine, USA
- [PT2.02] Self-organizing human trunk 3D neuromuscular organoids**
J. Martins*¹, C. Fischer, P-L. Ruffault, L-C. Kabuß, A. Urzi, C. Birchmeier, S. Sauer, M. Gouti, Max Delbrück Center for Molecular Medicine, Germany
- [PT2.03] Modeling adaptive immunity with tonsil organoids**
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- [PT2.04] In silico modelling confirms developmental waves in human gastruloids are mediated by BMP-WNT interplay**
H. Kaul*¹, N. Werschler^{2,1}, M. van Leeuwen^{4,1}, M. Bockajl¹, J. Ostblom³, P.W. Zandstra¹, ¹University of British Columbia, Canada, ²University of Waterloo, Canada, ³University of Toronto, Canada, ⁴University of Amsterdam, The Netherlands
- [PT2.05] Stable epigenetic variation in intestinal organoids**
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- [PT2.06] Physiochemical control of biliary assembly in natural extracellular matrices**
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- [PT2.07] Gene correction and defects rescue of Cockayne syndrome derived stem cells by CRISPR/Cas9**
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- [PT2.08] Long term maturation of human cortical spheroids models post-natal brain development**
A. Gordon*¹, T. Khan², J. Andersen², A. Pasca¹, S. Pasca², D.H. Geschwind¹, ¹UCLA, USA, ²Stanford, USA
- [ST10] [ST10] Tissue-engineered mini-guts establish a homeostatic organoid culture system resembling native intestinal tissue**
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- [ST11] Intestinal organoids in a multi-omics, systems biology framework to investigate gut health and host-microbe interactions**
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- [ST12] Organoids to predict anti-EGFR therapy responses in colorectal cancer**
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