DECHEMA

PROGRAMME

17 – 19 April 2023 · Konzerthaus Freiburg

3D Cell Culture 2023

Models, Applications & Translation

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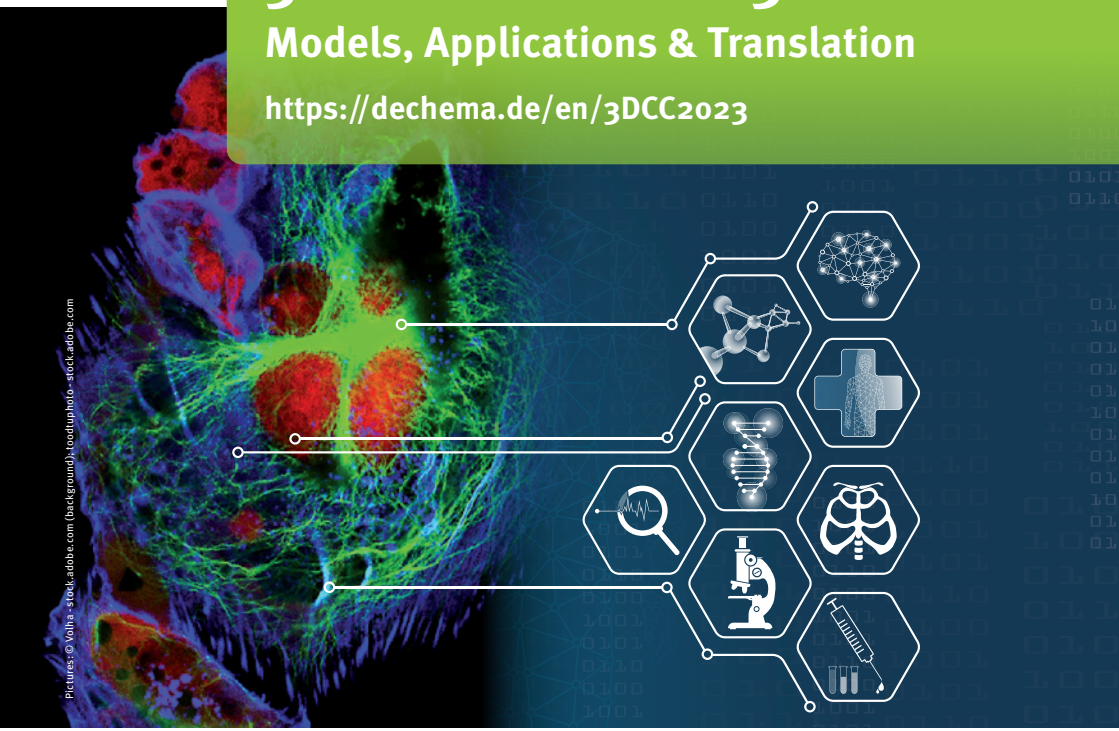

VBU Association of German Biotechnology Companies

SWISS BIOTECH™ National Thematic Network

TEDD

COMMITTEE / ORGANISER / CONTACT

COMMITTEE

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Jan Hansmann	Universitätsklinikum Würzburg/D
Hansjörg Hauser	Helmholtz Centre for Infection Research, Braunschweig/D
Cornelia Kasper	University of Natural Resources and Life Sciences, Vienna/A
Jens M. Kelm	PreComb Therapeutics AG, Wädenswil/CH
Antonina Lavrentieva	Leibniz Universität Hannover/D
Uwe Marx	TissUse GmbH, Berlin/D
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Ina Prade	Forschungsinstitut für Leder und Kunststoffbahnen (FILK) gGmbH, Freiberg/D
Markus Rimann	Zurich University of Applied Sciences, Wädenswil/CH
Caroline von Wulffen	DECHEMA e.V., Frankfurt am Main/D

ORGANISER AND CONTACT

DECHEMA e.V.
Theodor-Heuss-Allee 25
60486 Frankfurt am Main
Germany

Ms. Xueqing Wu
Phone: +49 (0)69 7564-152
E-Mail: xueqing.wu@dechema.de

As of April 2023
Programme is subject to alternations. Submission title and authors information as provided by the submitter. No proof by DECHEMA.

EXHIBITORS

LECTURE PROGRAMME

Monday, 17 April 2023

12:00 Registration and Light Lunch

13:30 **WELCOME ADDRESS**
A. Lavrentieva, Leibniz Universität Hannover/D

Organoids

Chair: A. Lavrentieva, Leibniz Universität Hannover/D

13:40 Keynote Lecture
Charting human development with organoid technologies
G. Camp[1]; [1] Roche Innovation Center Basel/CH

14:20 **A perfusable complex *in vitro* skin model derived from hiPSC skin organoids for disease modelling and infection studies**
A. Reigl[1]; L. Hauf[1]; D. Zdzieblo[2]; M. Metzger[2]; F. Groeber-Becker[2]; M. Engstler[1]; D. Groneberg[1]; [1] University of Würzburg/D; [2] Fraunhofer ISC, Würzburg/D

14:45 Coffee Break, Posters, Exhibition

Organoids

Chair: A. Lavrentieva, Leibniz Universität Hannover/D

15:25 Keynote Lecture
Infection, inflammation and cancer in the gut
S. Bartfeld[1]; [1] Technische Universität Berlin/D

16:05 **Oxygen-sensitive 3D cell culture systems based on microcavity arrays**
C. Grün[1]; E. Gottwald[1]; G. Liebsch[2]; [1] Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen/D; [2] PreSens Precision Sensing GmbH, Regensburg/D

Poster Flash Talks, Part I

Chair: D. Egger, University of Natural Resources and Life Sciences, Vienna/A

16:30 **Flash talks given by poster authors of Posters No. P01, P03, P04, P05, P06, P07**

17:00 **GET TOGETHER and POSTER PARTY**

19:30 End of day 1

Tuesday, 18 April 2023

Biology in Microphysiological Systems (MPS)

Chair: J. Kelm, PreComb Therapeutics AG, Wädenswil/CH

09:00 Keynote Lecture
Recapitulating complex human tissues using organ-on-chip and organoid technologies
P. Loskill[1]; [1] Eberhard Karls University Tübingen/D

09:40 **Patient-derived spheroid-on-a-chip model to identify novel personalized therapeutic approaches for pancreatic cancer**
N. Teusch[1]; K. Rennert[2]; M. Raasch[2]; [1] Heinrich-Heine-Universität Düsseldorf/D; [2] Dynamic42 GmbH, Jena/D

10:05 **Emulation of DSS-induced inflammatory bowel disease in a microphysiological intestine-on-chip to study the protective role of secondary bile acids**
T. Kaden[1]; K. Graf[1]; K. Rennert[1]; A. Mosig[2]; M. Raasch[1]; [1] Dynamic42 GmbH, Jena/D; [2] University Hospital Jena/D

10:30 Coffee Break, Posters, Exhibition

Personalised Medicine

Chair: D. Egger, University of Natural Resources and Life Sciences, Vienna/A

11:10 Keynote Lecture
Mesenchymal stromal cells for musculoskeletal regeneration: Current status and perspectives
D. Kouroupis[1]; [1] University of Miami, Miller School of Medicine, FL/USA

11:50 **A platform of reconstructed 3D cell models of the tumor microenvironment to address antibody-based therapies**
G. Domenici[1]; G. Trindade[1]; N. Lopes[1]; A. Cartaxo[1]; J. Miret Minard[2]; C. Brito[1]; [1] iBET, Instituto de Biologia Experimental e Tecnológica, Oeiras/P & Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Oeiras/P; [2] Universitat Autònoma de Barcelona, Bellaterra/E

12:15 **3D model of breast cancer based on recombinant spider silk: transcriptomic characterisation and application in personalized medicine**
C. Collodet[1]; E. Ståhl[1]; K. Blust[1]; S. Gkouma[1]; X. Chen[2]; J. Hartman[2]; M. Hedhammar[1]; [1] KTH, Stockholm/S; [2] KI, Stockholm/S

12:40 Lunch Break, Posters, Exhibition

Poster Flash Talks, Part II

Chair: J. Kelm, PreComb Therapeutics AG, Wädenswil/CH

14:10 **Flash talks given by poster authors of Posters No. P18, P20, P26, P38, P40, P52**

LECTURE PROGRAMME

Tuesday, 18 April 2023

Personalised Medicine

Chair: A. Lavrentieva, Leibniz Universität Hannover/D

14:40 **Development of a functional platform for real-time personalized drug sensitivity profiling of patient-derived 3D fresh tumor tissue cultures in the pediatric precision oncology program INFORM**
H. Peterziel[1]; N. Jamaladdin[1]; D. ElHarouni[1]; X. Gerloff[1]; S. Herter[1]; P. Fiesel[1]; Y. Berker[1]; M. Blattner-Johnson[1]; K. Schramm[1]; B. Jones[1]; D. Reuss[2]; L. Turunen[3]; A. Friedenauer[1]; T. Holland-Letz[4]; M. Sill[1]; L. Weiser[5]; C. Previti[1]; G. Balasubramanian[1]; N. Gerber[6]; J. Gojo[7]; C. Hutter[8]; I. Øra[9]; O. Lohi[10]; A. Kattamis[11]; B. de Wilde[12]; F. Westermann[1]; S. Tippelt[13]; N. Graf[14]; M. Nathrath[15]; M. Sparber-Sauer[16]; A. Sehested[17]; C. Kramm[18]; U. Dirksen[13]; O. Kallioniemi[3]; S. Pfister[1]; C. van Tilburg[1]; D. Jones[1]; J. Saarela[3]; V. Pietiäinen[3]; N. Jäger[1]; M. Schlesner[4]; A. Kopp-Schneider[4]; S. Oppermann[1]; T. Milde[1]; O. Witt[1]; I. Oehme[1]; [1] Hopp Children's Cancer Center Heidelberg (KiTZ), German Cancer Research Center (DKFZ) and German Cancer Consortium (DKTK) Heidelberg/D; [2] Heidelberg University Hospital, Heidelberg/D; [3] Institute for Molecular Medicine Finland (FIMM), Helsinki Institute of Life Science (HiLIFE), University of Helsinki/FIN; [4] German Cancer Research Center (DKFZ), Heidelberg/D; [5] Core Facility Omics IT and Data Management (ODCF), German Cancer Research Center (DKFZ), Heidelberg/D; [6] University Children's Hospital Zurich/CH; [7] Medical University of Vienna/A; [8] St. Anna Children's Hospital, Medical University of Vienna/A; [9] Children's Hospital, Skåne University Hospital, Lund & Karolinska University Hospital, Stockholm/S; [10] Tampere Center for Child Health Research, Tampere University and Tays Cancer Center, Tampere University Hospital/FIN; [11] National and Kapodistrian University of Athens/GR; [12] Ghent University/B; [13] University Hospital Essen/D; [14] Saarland University Medical Center, Homburg/D; [15] Klinikum Kassel and Klinikum at University of Munich/D; [16] Klinikum der Landeshauptstadt Stuttgart gKAöR and University of Medicine Tübingen/D; [17] Rigshospitalet, Copenhagen/DK; [18] University Medical Center Göttingen/D

15:05 **Co-clinical trial mimicking intravenous chemotherapy administration using high-throughput organ-on-a-chip**
N. Bobik[1]; E. Tallqvist[1]; B. Alsaed[1]; E. Kremneva[1]; T. Seppälä[1]; I. Ilonen[1]; H. Haikala[1]; [1] University of Helsinki/FIN

15:30 **Patient-derived colorectal cancer spheroids predict response to first-line chemotherapy and assist personalized treatment selection**
I. Held[1]; C. Ilmberger[2]; K. Halfter[1]; C. Eichner[1]; J. Werner[1]; B. Mayer[1]; [1] Ludwig-Maximilians-University Munich/D; [2] SpheroTec GmbH, Munich/D

15:55 Coffee Break, Posters, Exhibition

LECTURE PROGRAMME

Tuesday, 18 April 2023

Personalised Medicine

Chair: H. Hauser, Helmholtz Centre for Infection Research, Braunschweig/D

16:35 **To heal or not to heal: Simulating wound healing *in vitro* – a 3D coculture model with primary human cells**
F. Ullm[1]; A. Renner[2]; P. Riedl[2]; T. Pompe[2]; [1] FILK Freiberg Institute gGmbH, Freiberg/D; [2] Universität Leipzig/D

17:00 **A cell spheroid-based platform of hepatic Plasmodium infection leverages the clinical translation of anti-plasmodial drug candidates**
F. Arez[1]; D. Fontinha[2]; I. Ramella Gal[1]; H. Nunes-Cabaço[2]; S. Rebelo[1]; M. Rottmann[3]; C. Brito[1]; T. Spangenberg[4]; M. Prudencio[2]; P. M. Alves[1]; [1] iBET, Instituto de Biologia Experimental e Tecnológica & Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Oeiras/P; [2] Instituto de Medicina Molecular João Lobo Antunes, Universidade de Lisboa/P; [3] Swiss Tropical and Public Health Institute & University of Basel/CH; [4] Merck Global Health Institute, Ares Trading S.A., Coinsins/CH

17:25 **Type 1 diabetes modeling using human islet microtissues**
B. Yesildag[1]; J. Mir-Coll[1]; A. Neelakandhan[1]; C.B. Gibson[2]; N.R. Perdue[2]; C. Rufer[1]; M. Karsai[1]; A. Biernath[1]; F. Forschler[1]; P. Wu[3]; P.M. Misun[3]; A. Title[1]; A. Hierlemann[3]; F.F. Kreiner[4]; J.D. Wesley[2]; M.G. von Herrath[2,4,5]; [1] InSphero AG, Schlieren/CH; [2] Novo Nordisk Research Center Seattle, WA/USA; [3] ETH Zurich/CH; [4] Global Chief Medical Office, Novo Nordisk A/S, Bagsværd DK; [5] La Jolla Institute for Immunology, CA/USA

17:50 End of the lecture programme

19:00 **CONFERENCE DINNER WITH POSTER PRIZE AWARDS** (19:00 – 22:00)
Schloßbergrestaurant Dattler, Am Schlossberg 1, 79104 Freiburg

LECTURE PROGRAMME

Wednesday, 19 April 2023

Enabling Technologies for Standardisation and Scalability

Chair: M. Rimann, Zurich University of Applied Sciences, Wädenswil/CH

09:30 **Keynote Lecture**
Recent advances in automating life sciences
K. Thurow[1]; [1] University of Rostock/D

10:10 **Hydrogels with tunable gelation kinetics for automated 3D cell encapsulation workflows**
S. Pearson[1]; A. de Miguel-Jiménez[1]; A. del Campo[1]; [1] INM - Leibniz Institute for New Materials, Saarbrücken/D

10:35 **Automated patient-specific drug response profiling for functional precision oncology**
K. Nikitina[1]; T. Wegmann[1]; M. Freitas[1]; F. Nocera[2]; A. Amann[2]; L. Planas-Paz[3]; C. Pauli[3]; O. Mauti[1]; J. Kelm[1]; [1] PreComb Therapeutics AG, Hombrechtikon/CH; [2] Medical University of Innsbruck/A; [3] University Hospital of Zurich/CH

11:00 Coffee Break, Posters, Exhibition

Enabling Technologies for Standardisation and Scalability

Chair: I. Prade, FILK Freiberg Institute gGmbH/D

11:40 **A bioprinted 3D gut model with crypt-villous structures to mimic the intestinal epithelial-stromal microenvironment**
N. Torras Andrés[1]; J. Zabalo[1]; E. Abril[1]; A. Carré[1]; M. García-Díaz[1]; E. Martínez-Fraíz[1]; [1] IBEC - Institute for Bioengineering of Catalonia, Barcelona/E

12:05 **Cryopreservation of iPS-derived early neural organoids as an enabling technology for standardisation of 3D cell culture models**
S. Altmaier[1]; I. Meiser[1]; F. Stracke[1]; R. Le Harzic[1]; J. Neubauer[1]; H. Zimmermann[1,2,3]; [1] Fraunhofer Institute for Biomedical Engineering, Sulzbach/D; [2] Saarland University, Saarbrücken/D; [3] Universidad Católica del Norte, Coquimbo/CL

12:30 **Closing remarks**
I. Prade, FILK Freiberg Institute gGmbH/D

12:35 Light Lunch

13:40 End of the Conference

POSTER PROGRAMME

P01 **Automated 3D cell-based assays in animal-free nanofibrillar cellulose hydrogels for high-throughput screening analyses**
E. Niemi[1]; J. Sheard[1]; P. Mikkonen[1]; R. Ståhlberg[1]; L. Paasonen[1]; [1] UPM Biomedicals, Helsinki/FIN

P02 **Hydrogels from TEMPO-oxidized nanofibrillated cellulose for *in vitro* cultivation of encapsulated human mesenchymal stem cells**
I. Nikolits[1]; S. Radwan[2]; F. Liebner[1]; W. Dietrich[3]; D. Egger[1]; F. Chariyev-Prinz[1]; C. Kasper[1]; [1] University of Natural Resources and Life Sciences BOKU Vienna/A; [2] University of Applied Sciences Technikum Vienna/A; [3] Karl Landsteiner University of Health Sciences, Vienna/A

P03 **Alginate core shell capsules for 3D cultivation of adipose derived mesenchymal stem cells**
S. Nebel[1]; M. Lux[1]; S. Kuth[2]; F. Bider[2]; W. Dietrich[3]; D. Egger[1]; A. Boccaccini[2]; C. Kasper[1]; [1] University of Natural Resources and Life Sciences, Vienna/A; [2] Friedrich Alexander University of Erlangen-Nürnberg, Erlangen/D; [3] Karl Landsteiner University of Health Sciences, Tulln/A

P04 **Development of a human 3D immune competent skin model for identification and characterization of sensitizers and drug discovery**
J. Hölken[1]; N. Teusch[1]; [1] Heinrich-Heine University Düsseldorf/D

P05 **Biomimetic thiol-norbonene functionalized hydrogels for photolithographic bioprinting and tissue fabrication**
B. Angres[1]; G. Di Napoli[1]; C. Blechschmidt[1]; H. Wurst[1]; A. Cirulli[2]; N. Torras[2]; E. Martínez-Fraíz[2]; A. Altschuler[3]; A. Amitai-Lange[3]; R. Shalom-Feuerstein[3]; [1] Cellendes GmbH, Reutlingen/D; [2] IBEC, Institute for Bioengineering of Catalonia, Barcelona/E; [3] Technion, Israel Institute of Technology, Haifa/IL

P06 **A novel perfusion bioreactor to study cancer spheroids in 3D culture**
M. Mohamadian Namaqi[1]; F. Moll[1]; S. Wiedemeier[1]; A. Schug[1]; K. Lemke[1]; [1] Institut für Bioprozess- und Analysenmesstechnik, Heilbad Heiligenstadt/D

P07 **Hydrogel-based 3D cell culture models for the *in-vitro* recapitulation of oxygen gradients in tumoural microenvironments**
T. Fleischhammer[1]; F. Czernilofsky[2]; S. Dienemann[1]; S. Dietrich[2]; I. Pepelanova[1]; A. Lavrentieva[1]; [1] Gottfried Wilhelm Leibniz University Hannover/D; [2] Heidelberg University/D

P08 **High throughput microfluidic platform for *in vivo* -like Blood-brain barrier modeling**
S. Rissanen[1]; P. Junttila[1]; M. Peltokangas[1]; S. Mosser[1]; T. Nguyen[1]; P. Singh[1]; [1] Finnadvance Oy, Oulu/FIN

P09 **3D printed and stimulus responsive hydrogels for drug delivery**
S. Vaupel[1]; S. Kara[1]; U. Kragl[2]; J. Meyer[1]; [1] Leibniz Universität Hannover/D; [2] University of Rostock/D

P10 **Highly scalable and automation-compatible organ-on-chip platform**
P. Junttila[1]; M. Peltokangas[1]; S. Rissanen[1]; J. Kettunen[1]; S. Mosser[1]; T. Nguyen[1]; P. Singh[1]; [1] Finnadvance Oy, Oulu/FIN

P11 **High throughput organ-on-chip platform for epithelium & endothelium barrier modelling**
M. Peltokangas[1]; S. Rissanen[1]; P. Junttila[1]; S. Mosser[1]; T. Nguyen[1]; P. Singh[1]; [1] Finnadvance Oy, Oulu/FIN

POSTER PROGRAMME

P12 **3D Spacepatch: development of a 3D bioprinted wound patch for micro- und hypergravity conditions**
B. Lemke[1]; T. Lam[2]; L. Kloke[2]; G. Duda[1]; [1] Charité - Universitätsmedizin Berlin/D; [2] Cellbricks GmbH, Berlin/D

P13 **Leveraging SCREEN Imaging technology to enhance better evaluation of 3D *ex vivo* disease models**
S. Dhar[1]; Y. kuromi[2]; R. Hasebe[2]; M. Mitsi[3]; B. Simon[3]; [1] SCREEN GP EUROPE BV, Amstelveen/NL; [2] SCREEN Holdings Co. Ltd, Kyoto/J; [3] Ectica Technologies AG, Zurich/CH

P14 **Low-cost stereolithography-printed scaffolds for perfused 3D cell culture**
C. Schemmer[1]; K. Kreuels[1]; A. Gillner[1]; [1] RWTH Aachen University/D

P15 **Towards a freeze drying process allowing long-term storage of hydrogel-based microcarrier for the cultivation of pluripotent stem cells**
J. Balsters[1]; M. Gepp[1]; J. Neubauer[1]; H. Zimmermann[2]; [1] Fraunhofer Institute for Biomedical Engineering (IBMT), Wuerzburg/D; [2] Fraunhofer Institute for Biomedical Engineering (IBMT), Sulzbach/D

P16 **Effect of CRC fibroblast conditioned medium on the growth of 3D cultivated peritoneal metastases**
V. Gerakopoulos[1]; V. Nori[2]; M. Sachet[1]; C. Müller[1]; C. Ramos[1]; R. Oehler[1]; [1] Medical University of Vienna/A; [2] Università degli Studi di Firenze/I

P17 **3D-printed microfluidic perfusion system for parallel monitoring of hydrogel-embedded cell cultures**
K. Meyer[1]; S. Winkler[2]; P. Lienig[1]; G. Dräger[1]; J. Bahnemann[2]; [1] Gottfried Wilhelm Leibniz University Hannover/D; [2] University of Augsburg/D

P18 **Cancer associated fibroblasts shape the phenotype of macrophages in organotypic 3D colon cancer models**
M. Sachet[1]; N. Walterskirchen[1]; M. Stadler[1]; K. Pudelko[1]; A. Biermeier[1]; M. Bergmann[1]; R. Oehler[1]; H. Dolznig[1]; [1] Medical University of Vienna/A

P19 **Development of an organ-on-a-chip system with integrated sensors for organotypic tissue culture**
F. Moll[1]; S. Wiedemeier[1]; C. Krause[2]; K. Lemke[1]; [1] Institute for Bioprocessing and Analytical Measurement Techniques e.V., Heilbad Heiligenstadt/D; [2] PreSens Precision Sensing GmbH, Regensburg/D

P20 **Comparison and development of *in vitro* skin test system: reconstructed epidermis, three-dimensional full thickness skin equivalent and hiPSC-dervived skin organoids**
A. Reigl[1]; C. Lotz[2]; M. Metzger[1]; D. Zdzieblo[1]; F. Groeber-Becker[2]; D. Groneberg[1]; [1] University of Würzburg/D; [2] Fraunhofer ISC, Würzburg/D

P21 **Enabling electrochemical study in cell culture application**
E. Jarosińska[1]; Z. Zambrowska[1]; E. Witkowska-Nery[1]; [1] Institute of Physical Chemistry PAS, Warsaw/PL

P22 **Molecular profiling of single cells and 3D culture models via MALDI MSI platform**
J. Huber[1]; J. Cairns[1]; T. Bausbacher[1]; T. Enzlein[1]; E. Nürnberg[1]; R. Rudolf[1]; S. Iakab[1]; S. Schmidt[1]; C. Hopf[1]; [1] CeMOS / University of Applied Science Mannheim/D

POSTER PROGRAMME

P23 **Overcoming chemoresistance in ovarian cancer - establishment of an ovarian cancer spheroid model for personalized medicine**
N. Hedemann[1]; J. Dittrich[1]; J. Schiepanski[1]; A. Herz[1]; C. Rogmans[1]; N. Maass[1]; D. Bauerschlag[1]; [1] Christian-Albrechts-University Kiel and University Medical Center Schleswig-Holstein Campus Kiel/D

P24 **Impedance based prediction of eye irritation**
N. Knetzger[1]; [1] Fraunhofer Institut (ISC), Würzburg/D

P25 **Goblet cell differentiation in 3D *in vitro* full thickness conjunctiva models**
J. Schwebler[1]; C. Fey[2]; D. Kampik[1]; J. Hillenkamp[1]; C. Lotz[2]; [1] University Hospital Würzburg/D; [2] Fraunhofer Institute for Silicate Research (ISC), Würzburg/D

P26 **Generation of Methylcellulose/Gelatin Methacrylate (GelMA) microgels using an oil-free droplet deposition method**
O. Garcia Aponte[1]; A. Bavcic[2]; D. Egger[1]; F. Chariyev-Prinz[1]; C. Kasper[1]; [1] University of Natural Resources and Life Sciences, Vienna/A; [2] IMC University of Applied Sciences Krems, Vienna/A

P27 **Predicting immune-related antibody-induced toxicities with microphysiological organ-on-chip models**
A. Bothe[1]; D. Geilen[1]; K. Graf[1]; M. Raasch[1]; K. Rennert[1]; A. Masters[2]; B. Fogal[2]; G. Kaushik[2]; [1] Dynamic42 GmbH, Jena/D; [2] Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT/USA

P28 **Development of a fully automated system solution for the production and high-content screening of 3D tumor models**
P. Kraus[1]; J. Raffel[1]; M. Gleiß[2]; M. Flachmann[2]; M. Gutbrod[3]; P. Mela[1]; B. Mayer[4]; [1] Technical University of Munich/D; [2] Opto GmbH, Munich/D; [3] PreSens Precision Sensing GmbH, Regensburg/D; [4] Ludwig-Maximilians-University Munich/D

P29 **Stromal-epithelial crosstalk in an immunocompetent 3D cell culture model of the intestinal mucosa**
M. García-Díaz[1]; A. Vila[1]; C. Arca[1]; N. Torras[1]; E. Martínez[1]; [1] Institute for Bioengineering of Catalonia, Barcelona/E

P30 **Bioprinted hydrogel-based 3D model of the tumor microenvironmentin metastatic colorectal cancer**
M. Parchehbaf Kashani[1]; M. García-Díaz[1]; E. Martínez[1]; [1] Institute for Bioengineering of Catalonia (IBEC), Barcelona/E

P31 **Automated quality control and sorting of hiPSC-derived neural organoids**
M. Graeve[1]; B. Standfest[1]; J. Horbelt[1]; M. Thoma[1]; A. Traube[1]; V. Fernández Vallone[2]; H. Stachelscheid[2]; [1] Fraunhofer IPA, Stuttgart/D; [2] Berlin Institute of Health BIH Stem Cell Core at Charité - Universitätsmedizin, Berlin/D

P32 **Liver spheroid co-cultures with fresh or cryopreserved hepatocytes and endothelial cells as tool to investigate metabolism and hepatotoxicity**
A. Ullrich[1]; J. Moer[1]; T. Krimmling[1]; D. Runge[1]; S. Beuck[2]; M. Matz-Soja[3]; A. Zimmermann[4]; [1] Primacyt Cell Culture Technology GmbH, Schwerin/D; [2] A & M Labor für Analytik und Metabolismusforschung Service GmbH, Bergheim/D; [3] Universität Leipzig/D; [4] Sächsischer Inkubator für klinische Translation, Leipzig/D

POSTER PROGRAMME

P33 **Mito stress tests in 3D cultures: a new approach via oxygen-sensitive microcavity arrays**
C. Grün[1]; E. Gottwald[1]; G. Liebsch[2]; [1] Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen/D; [2] PreSens Precision Sensing GmbH, Regensburg/D

P34 **SGLT-2 and MDR-1 transport in a Proximal Tubule under micro-physiological conditions**
N. Namazian Jam[1]; S. Behrens[1]; Y. Dzekhtsiarova[1]; F. Sonntag[1]; J. Sradnick[2]; C. Hugo[2]; F. Schmieder[1]; [1] Fraunhofer IWS, Dresden/D; [2] University Hospital Carl Gustav Carus, Dresden/D

P35 **Addressing the challenges of 3D scaffolding in muscular models: from the laboratory to industrial applications**
S. Garcia-Benlloch[1]; L. Soriano-Romaní[1]; L. Tomás-Cobos[1]; [1] AINIA, Paterna/E

P36 **ReBiA - robotic enabled biological automation**
L. Königer[1]; C. Malkmus[1]; T. Däullary[2]; C. Popp[1]; M. Steinke[1]; T. Schwarz[1]; J. Hansmann[1]; [1] Fraunhofer ISC, Würzburg/D; [2] University Hospital Würzburg/D

P37 **Human-derived *in vitro* test systems of inflammatory bowel diseases for evaluating drug efficacy**
C. Fey[1]; S. Damigos[2]; N. Schlegel[2]; J. Haupt[3]; J. Lehmann[3]; A. Kannt[4]; M. Metzger[1]; D. Zdzieblo[1]; [1] Fraunhofer Institute for Silicate Research (ISC), Würzburg/D; [2] University Hospital Würzburg/D; [3] Fraunhofer Institute for Cell Therapy and Immunology (IZI), Leipzig/D; [4] Fraunhofer Institute for Translational Medicine and Pharmacology (ITMP), Frankfurt/D

P38 **AI-supported morphological analysis for the automated production of 3D-spheroidal tissue models**
D. Mahdy[1]; L. königer[2]; M. Peindl[1]; J. Hansmann[1]; [1] University Hospital Würzburg/D; [2] Fraunhofer ISC, Würzburg/D

P39 **Bioprinting by light sheet lithography: engineering complex tissues with high resolution at high speed**
L. Hafa[1]; L. Breideband[1]; G. Mårtensson[2]; R. Eklund[3]; H. Wurst[4]; B. Angres[4]; N. Torras[5]; E. Martinez[5]; R. Shalom-Feuerstein[6]; F. Pampaloni[1];[1] Buchmann Institute for Molecular Life Sciences (BMLS), Goethe University, Frankfurt am Main/D; [2] Div. nanobiotechnology, Royal Institute of Technology (KTH), Stockholm/S; [3] Mycronic AB, Taby/S; [4] Cellendes GmbH, Reutlingen/D; [5] Institute for Bioengineering of Catalonia (IBEC), the Barcelona Institute of Science and Technology (BIST)/E; [6] Technion - Israel Institute of Technology, Haifa/IL

P40 **Stromal tissue engineering for the generation of multilayered skin on 3D electrospun fibrous scaffolds**
T. Weigel[1]; C. Malkmus[2]; V. Weigel[1]; M. Wußmann[1]; C. Berger[3]; J. Brennecke[3]; F. Groeber-Becker[1]; J. Hansmann[2]; [1] Fraunhofer ISC, Würzburg/D; [2] University of Applied Sciences Würzburg-Schweinfurt, Schweinfurt/D; [3] University Hospital Würzburg/D

P41 **Molecule transfer into mammalian cells by single nanosecond laser pulses**
R. Wittig[1]; [1] Institute for Laser Technologies in Medicine and Metrology (ILM) at Ulm University/D

P42 **Novel adipocyte 3D model based on a human cell line**
F. Hackstein[1]; K. Hinsch[1]; O. Wehmeier[1]; [1] acCELLerate GmbH, Hamburg/D

POSTER PROGRAMME

P43 **Analyzing cytotoxicity over time in a 2D and 3D colorectal cancer model using SYNENTEC's automated high content imaging system**
W. Schaefer[1]; N. Hedemann[2]; A. Willms[1]; B. Werdelmann[1]; M. Stoehr[1]; S. Sebens[2]; R. Geisen[1]; M. Pirsch[1]; [1] SYNENTEC GmbH, Elmshorn/D; [2] Christian-Albrecht University, University Medical Center Schleswig-Holstein, Kiel/D

P44 **Production of short µ-fibers as building blocks for HTS-compatible 3D multiphasic hydrogel systems**
A. Meyer[1]; A. Omidinia-Anarkoli[2]; E. Jagla[3]; M. Harmeth[3]; M. Bund[1]; L. De Laporte[4]; [1] DWI - Leibniz Institute for Interactive Materials e.V.; RWTH Aachen University/D; [2] DWI - Leibniz Institute for Interactive Materials e.V., Aachen/D; [3] RWTH Aachen University/D; [4] DWI - Leibniz Institute for Interactive Materials e.V.; RWTH Aachen University; Advanced Materials for Biomedicine (AMB), Institute of Applied Medical Engineering (AME), University Hospital RWTH Aachen, Center for Biohybrid Medical Systems (CMBS), Aachen/D

P45 **Characterization of stem cell-derived kidney organoids and potential application as toxicity and infection models**
J. Dilz[1]; I. Auge[1]; R. Mrowka[1]; [1] University Hospital Jena/D

P46 **From chip-based microfluidic single cell analysis of dissociated 3D spheroids, tissues and cell clusters to higher resolution diagnostics**
J. Stiefel[1]; C. Freese[1]; M. Baßler[1]; [1] Fraunhofer Institute for Microengineering and Microsystems IMM, Mainz/D

P47 **TumOC – a tumour organoid-on-chip device for real-time measurements of drug treatment impact**
M. Flechner[1]; J. Loskutov[2]; U. Pfohl[2]; K. Osman[2]; M. Nadolny[2]; C. Regenbrecht[2]; L. Wedeken[2]; K. Uhlig[1]; [1] Fraunhofer Institute for Cell Therapy and Immunology, Bioanalytics and Bioprocesses, Potsdam/D; [2] CELLphenomics GmbH, Berlin/D

P48 **3D liver cultures for determination of fraction metabolised for low turnover compounds**
K. Kanebratt[1]; C. Vedin-Nilsson[1]; D. Hekman[1]; C. Hilgendorf[1]; [1] AstraZeneca R&D Gothenburg, Mölndal/S

P49 **3D breast cancer models using self-assembly of recombinant spider silk: comparison with spheroids and applications**
C. Collodet[1]; S. Karrani[1]; X. Chen[2]; J. Hartman[2]; M. Hedhammar[1]; [1] KTH, Stockholm/S; [2] KI, Stockholm/S

P50 **Selective high-throughput deposition of single spheroids towards automated 3D *in vitro* cell culture**
V. Zieger[1]; D. Frejek[2]; S. Zimmermann[1]; P. Koltay[1]; R. Zengerle[1]; S. Kartmann[2]; [1] University of Freiburg/D; [2] Hahn-Schickard-Gesellschaft für angewandte Forschung e.V, Freiburg/D

P51 **Droplet Microarray (DMA) for high throughput fabrication and screening of 3D cell culture models in nanoliter droplets**
A. Popova[1]; [1] Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen/D

P52 **New non-invasive, label-free monitoring approach for 2D and 3D cell culture**
A. Jötten[1]; P. Paulitschke[2]; [1] Ludwig-Maximilians-University Munich/D; [2] PHIO scientific GmbH, München/D

POSTER PROGRAMME

P53 **Development of an Integrated Live Cell Shipment Solution for Cell-Based Products that cannot be Cryopreserved**
G. Deblandre[1]; C. Swart[1]; R. Sieg[1]; H. Müller-Hartmann[1]; [1] Cellbox Solutions GmbH, Hamburg/D

P54 **Studying liver-islet crosstalk in a microphysiological system under healthy and diseased conditions**
A. Freitag[1]; F. Verdeguer[1]; W. Moritz[1]; O. Frey[1]; L. Hoelting[1]; [1] InSphero AG, Schlieren/CH

P55 **Development of 3D models to mimic the hematopoietic stem cell niche during malignant hematopoietic diseases**
L. Schaar[1]; A. Raic[1]; N. Schadzek[1]; M. Heuser[2]; M. Ringhoffer[3]; C. Lee-Thedieck[1]; [1] Gottfried Wilhelm Leibniz Universität Hannover/D; [2] Medizinische Hochschule Hannover/D; [3] Städtisches Klinikum Karlsruhe/D

P56 **3D fiber-hydrogel composite for guided neural tissue growth**
P. Choubey[1]; N. Schadzek[1]; C. Lee-Thedieck[1]; [1] Gottfried Wilhelm Leibniz University Hannover/D

P57 **Hydrogel-based *in vitro* vasculogenesis models for high-throughput screening**
N. Dennison[1]; M. Fusenig[1]; M. Maitz[1]; A. Shah[1]; M. Ramirez Martinez[1]; M. Wobus[2]; U. Freudenberg[1]; M. Bornhäuser[2]; C. Werner[1]; [1] Leibniz Institute of Polymer Research Dresden, Max Bergmann Center of Biomaterials, Dresden/D; [2] Medical Clinic 1, University Hospital Carl Gustav Carus, TU Dresden/D

P58 **Hydrogels with tunable gelation kinetics for automated 3D cell encapsulation workflows**
S. Pearson[1]; A. de Miguel-Jiménez[1]; U. Farrukh[1]; S. Hambardzumyan[1]; A. del Campo[1]; [1] INM – Leibniz Institute for New Materials, Saarbrücken/D

P59 **Architecture of the cancer cell spheroids as a factor determining invasiveness**
A. Bienia[1]; J. Sopel[1]; A. Kozińska[1]; A. Drzał[1]; P. Świerzewski[1]; M. Krzykawska-Serda[1]; M. Elas[1]; [1] Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Cracow/PL

P60 **Comparative analysis of the impact of RIPK4 on melanoma cells in 2D and 3D culture**
N. Wroński[1]; J. Gogola-Mruk[2]; A. Bienia[1]; W. Tworzydło[3]; A. Ptak[2]; A. Wolnicka-Głubisz[1]; [1] Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Cracow/PL; [2] Laboratory of Physiology and Toxicology of Reproduction, Jagiellonian University, Cracow/PL; [3] Jagiellonian University, Cracow/PL

NOTES

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