EUROoCS CONFERENCE 2022

Day 1
Monday July 4th 2022

Hall Cervin
08:00-9:00 (CET)
Coffee / Registration

Auditorium
09:00-9:15
Welcome and Opening Remarks
Chairs: Xavier Gidrol & Fabrice Navarro,
Peter Loskill, as chair of EUROoCS

Auditorium
09:15-10:00
Keynote Lecture [KL I] **A pharmaceutical perspective on adoption of microphysiological systems**
Jason Ekert
Senior Director, Fellow and Head of In Vitro Complex Models, In Vitro In Vivo Translation, GlaxoSmithKline, USA
Chair: Fabrice Navarro

Atrium
10:00-10:30
Coffee break

Session A-1: Neuronal Models
Chair: Stéphanie Descroix
Salon Mont Blanc 1

[OL 1.1] **10:30-10:50**
A 3D neuro-microphysiological platform for interrogating neuronal circuits
Fulya Ersoy, *Beatriz Molina-Martinez, Laura-Victoria Jentsch, Matthijs Luit van der Moolen, Stella Donato, Peter Heutink, Peter Jones, Peter Loskill, Paolo Cesare*
NMI; German Center for Neurodegenerative Diseases (DZNE) & Hertie Inst. for Clinical Brain Research: Dept of Microphysiological Systems, Inst. for Biomedical Engineering, Faculty of Medicine, Eberhard Karls Univ. of Tübingen; 4 3R-Center for In vitro Models and Alternatives to Animal Testing, Eberhard Karls University of Tübingen, Tübingen, Germany

Session A-2: Heart-on-Chip platforms
Chair: Christine Mummery
Salon Mont Blanc 2

[OL 2.1] **10:30-10:50**
Tapered pillars increase tissue position reproducibility in engineered heart tissue platforms
Milica Dostanić, *Laura Windt, Jeroen Stein, Berend van Meer, Christine Mummery, Lina Sarro, Massimo Mastrangeli*
Delft University of Technology, Delft; Leiden University Medical Center, Leiden; University of Twente, Enschede, The Netherlands

Session A-3: Spheroids and organoids
Chair: Xavier Gidrol
Salon Makalu

[OL 3.1] **10:30-10:50**
Self-organization of human stem cells into spheroids in a multinode acoustic levitation
Nathan Jeger-Madiot, *Lousineh Arakelian, Niclas Setterblad, Patrick Bruneval, Mauricio Hoyos, Jérôme Larghero, Jean-Luc Aider*
Laboratoire de Physique et Mécanique des Milieux Hétérogènes (PMMH), UMR 7636 CNRS, ESPCI Paris, PSL, Paris Sciences et Lettres Université, Sorbonne Université, Université de Paris 1, Paris; Unité de Thérapie Cellulaire, APHP, Hôpital Saint-Louis, Paris; Technological Core facility of the Institut de Recherche Saint-Louis, Université Paris-Diderot and Inserm, Hôpital Saint-Louis, Paris, France

Session A-4: Multi-organ Models
Chair: Maria Tenje
Auditorium

[OL 4.1] **10:30-10:50**
A multi-organ MPS, linking the gut and liver for ADME studies
Yassen Abbas, *Tomasz Kostrzewski, David Hughes*
CN-BIO Innovations, Cambridge, United Kingdom

[OL 1.2] **10:50-11:10** **Decoding Glioblastoma: simulating tumor microenvironment to detect novel bio-markers using organ-on-chip models** ***Clara Bayona***, *Sara Abizanda, Claudia Olaizola, Magdalena Wrona, Jesús Salafranca, Cristina Nerín, Rosa Monge, Sara Oliván and Iñaki Ochoa* *Tissue microenvironment (TME) Lab, IIS Aragon, Zaragoza, Spain* *BEONCHIP S.L, Zaragoza; Dept of Analytical Chemistry, I3A, EINA-University of Zaragoza, Zaragoza, Spain*	[OL 2.2] **10:50-11:10** **Development of a pneumatically HoC platform to promote cardiomyocyte maturation** ***Sofia Gomez***, *Jaap den Toonder and Ye Wang* *Eindhoven University of Technology, Eindhoven, The Netherlands*	[OL 3.2] **10:50-11:10** **SpheroFlow: a Heart-on-Chip featuring non-invasive readouts and electrical pacing capabilities** ***Alessia Moruzzi,*** *Oliver Schneider, Stefanie Fuchs, Torsten Mayr, Julia Marzi, Peter Loskill* *NMI Natural and Medical Sciences Institute; Institute of Biomedical Engineering, Faculty of Medicine, Eberhard Karls Univ. Tübingen, Tübingen; Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, Stuttgart, Germany*	[OL 4.2] **10:50-11:10** **Pump-less microfluidic device for the functional co-culture of human stem cell derived islet and liver organoids** ***Aleksandra Aizenshtadt***, *Shadab Abadpour, Chencheng Wang, Mathias Busek, Gruenzner Stefan, Alexey Golovin, Justyna Stokowiec, Hanne Scholz, Stefan Krauss* *Hybrid Technology Hub, Institute of Basic Medical Sciences, University of Oslo, Dept of Immunology and Transfusion Medicine, Oslo University Hospital, Dept of Transplant Medicine and Institute for Surgical Research, Oslo University Hospital, Oslo, Norway* *Chair of Microsystems, Technische Universität Dresden, Dresden, Germany*
[OL 1.3] **11:10-11:30** ***In vitro* Traumatic Brain Injury model based on Human 3D neural tissue** ***Luc Stoppini***, *Marc O. Heuschkel, Loris Gomez Baisac, Yoan Neuenschwander, Denis Prim, Cédric Schmidt, Marc E. Pfeifer, Jérome Extermann, and Adrien Roux* *Tissue Engineering Laboratory, HEPIA HES-SO University of Applied Sciences and Arts Western Switzerland, 1202 Geneva; Diagnostic Systems Research Group, Institute of Life Technologies, School of Engineering, University of Applied Sciences and Arts Western Switzerland (HES-SO Valais-Wallis), 1950 Sion; Micro-Nano-technology group, HEPIA HES-SO University of Applied Sciences and Arts Western Switzerland, 1202 Geneva, Switzerland HEPIA/HES-SO, Geneva, Switzerland*	[OL 2.3] **11:10-11:30** **Drug screening in a beating heart-on-chip with integrated read-outs** ***Roberta Visone***, *Caterina Pernici, Alessandro Cordiale, Ferran Lozano, Cecilia Thairi, Elisa Di Pasquale, Paola Occhetta, Marco Rasponi* *BiomimX Srl, Milan; Dept of Electronics, Information and Bioengineering (DEIB), Politecnico di Milano, Milan; Humanitas University Department of Biomedical Sciences, Milan, Italy*	[OL 3.3] **11:10-11:30** **Skin organoids as tools for disease modeling: characterization of the epidermal-dermal junction** ***Veronika Ramovs***, *Hans Janssen, Ignacia Fuente, Amandine Pitaval, Walid Rachidi, Susana M Chuva de Sousa Lopes, Christian, Freund, Xavier Gidrol, Christine L Mummery, Karine Raymond* *Leiden University Medical Center, Leiden; Netherlands Cancer Institute, Amsterdam; the Netherlands* *Fundación DEBRA Chile, Santiago, Chile* *University of Grenoble Alpes, CEA, INSERM, IRIG-BIOMICS, Grenoble, France* *Ghent Fertility and Stem cell Team (G-FaST), Department for Reproductive Medicine, Ghent University Hospital, Ghent, Belgium*	[OL 4.3] **11:10-11:30** **Integration of a microbiome-gut-brain axis on a microfluidic chip to study neuro-degenerative diseases** ***Lena Sophie Koch***, *Pien Goldsteen, David Choy Buentello, Reinoud Gosens, Kerensa Broersen* *Univ. of Twente, Enschede; Univ. of Groningen, Groningen, the Netherlands;* *Tecnologico de Monterre, Monterrey, Mexico*

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[OL 1.4] **11:30-11:50** **A Brain-on-chip Platform to Study the Optimal Parameters of Focused Ultrasound Neuromodulation** ***Gandhika Wardhana***, *Michel Hu Jean-Philippe Frimat, Arn M.J.M. van den Maagdenberg, Tiago Costa, Massimo Mastrangeli* *Microelectronics, Delft Univ.of Technology, Delft; Human genetics & Neurology, Leiden University Medical Centre, Leiden, the Netherlands*	[OL 2.4] **11:30-11:50** **A human cardiac chamber recapitulating the pumping function of the heart** ***Mariel Cano-Jorge***, *Marcel. Ribeiro, Simone ten Den, Danique Snippert, Kim Vermeul, Tom Kamperman, Marcel Karperien, Guillaume Lajoinie, Robert Passier* *Dept of Applied Stem Cell Technologies, TechMed Centre, Univ. of Twente, Enschede; River Biomedics BV, Enschede; Dept of Developmental BioEngineering, TechMed Centre, Univ. of Twente, Enschede; Dept of Physics of Fluids, TechMed Centre, Univ. of Twente, Enschede; Dept of Anatomy and Embryology, Leiden University Medical Centre, Leiden, the Netherlands*	[OL 3.4] **11:30-11:50** **Differences in response to glucose stimulation of the islet-on-chip under flow and static conditions** ***Patrycja Sokolowska,*** *Magdalena Kopinska, Elzbieta Jastrzebska, Zbigniew Brzozka* *Chair of Medical Biotechnology, Faculty of Chemistry, Warsaw University of Technology, Warsaw; Laboratory of Cell Signaling and Metabolic Disorders, Nencki Institute of Experimental Biology, Polish Academy of Sciences, Warsaw, Poland*	[OL 4.4] **11:30-11:50** **Training-on-a-Chip: a multi-organ device to study the effect of muscle exercise on insulin secretion *in vitro*** *Juan M. Fernández-Costa, Ma. Alejandra Ortega, Júlia Rodríguez-Comas, Gerardo Lopez-Muñoz, Jose Yeste, Lluís Mangas-Florencio, Míriam Fernández-González, Eduard Martin-Lasierra, Ainoa Tejedera-Villafranca, and* ***Javier Ramon-Azcon*** *Institute for Bioengineering of Catalonia (IBEC), The Barcelona Institute of Science and Technology (BIST), Barcelona, Spain* *Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain*
Atrium **11:50-14:00** Lunch break / Poster Session			
Auditorium **14:00-14:45** Keynote Lecture [KL II] **How to engineer human pluripotent stem cells to understand human development and disease** **Dr Nuria Montserrat** *Research professor and senior group leader, ICREA (Catalan Institution for Research and Advanced Studies), Barcelona, Spain* *Chair: Xavier Gidrol*			
Special Session B-1: Standardization and Qualification of Organ-on-Chip *Chair: Maurice Whelan* Meeting room 1 Auditorium		**Special Session B-2: Company Challenges** *Chair: Pelin Candarlioglu* Meeting room 2 Salon Makalu, Salon Mont Blanc 1, Salon Mont Blanc 2	
14:45-14:55 **Welcome and introduction** ***Maurice Whelan*** *(Chair EUROoCS Regulatory Advisory Board)* *JRC-ECVAM, Ispra, Italy*		**14:45-14:50** **Welcome and introduction** ***Pelin Candarlioglu (Chair EUROoCS Industrial Advisory Board)*** *GlaxoSmithKline, Stevenage, United Kingdom*	
14:55-15:25 **Standardization of Organ-on-Chip: the way forward** ***Andries van der Meer*** *Univ of Twente, the Netherlands*		**14:50-15:05** **Plenary pitches of Company challenges:** ***Alvéole, BiomimX, CN-Bio, Emulate, esqLABS GmbH, Femtoprint, Finnadvance, InSphero, NETRI, Spartha Medical***	

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15:25-15:40 **Qualification of Organ-on-Chip: helpful resources from your RAB** ***Monica Piergiovanni,*** *Sofia Batista Leite, Evangelos Daskalopoulos* *JRC ECVAM, Ispra, Italy* **15:40-16:05** **News from the regulators** ***Susanne Brendler-Schwaab (BFarm, Germany), Jose Tarazona (EFSA), Nathalie Delrue (OECD)*** **16:05-16:15** **Q&A** ***Maurice Whelan***	**15:05-16.15** **Discussion about possible solutions between interested participants and the individual company representatives**
Atrium **16:15-16:45** Coffee break	
Auditorium **16:45-17:30** Keynote Lecture [KL III] **Tumor on a chip and Personalized Nanomedicine** **Ofra Benny** Director Inst of Drug Research, Hebrew University of Jerusalem, Israel *Chair: Madalena Cipriano*	
17:30-18:15 EUROoCS Member meeting (only for members)	
End of Day 1 **GALA DINNER**	

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Day 2
Tuesday July 5th 2022

Hall Cervin
08:00-9:00 (CET)
Coffee / Registration

Auditorium
09:00-09:45
Keynote Lecture [KL IV] **Organ-on-Chip, and lessons learned from the semiconductor industry**
Ronald Dekker
Professor, Philips MEMS & Micro devices & Delft University of Technology, The Netherlands
Chair: Dries Braeken

Auditorium
09:45-10:30
Keynote Lecture V [KL V] **Developing gut on chip model for biology and biophysics**
Dr Stéphanie Descroix
Team leader of the MMBM team at Institut Curie Paris and Institut Pierre Gilles De Gennes, France
Chair: Fabrice Navarro

Atrium
10:30-11:00
Coffee break

Session C-1: Vasculature
Chair: Janny van den Eijnden-van Raaij
Auditorium

[OL 1.5] **11:00-11:20**
Vascularized Organoids-on-Chip
Clément Quintard, Gustav Jonsson, Camille Laporte, Amandine Pitaval, Caroline Bissardon, Alexandra Leopoldi, Pierre Blandin, Jean-Luc Achard, Fabrice Navarro, Josef M. Penninger, Yves Fouillet, ***Xavier Gidrol***
University of Grenoble Alpes, CEA, LETI, Technologies for health division & IRIG BIOMICS, Inserm, Grenoble, France
Institute of Molecular Biotechnology of the Austrian Academy of Sciences, Vienna, Austria.
Department of Medical genetics, Life Sciences Institute, University of British Columbia, Canada

Session C-2: Sensors and monitoring
Chair: Torsten Mayr
Salon Makalu

[OL 2.5] **11:00-11:20**
JeWells: high throughput and quantitative 3D imaging of organoids and micro-physiological elements
Gianluca Grenci, Florian Dilasser, Remi Galland, Jean-Baptiste Sibarita, Virgile Viasnoff, ***Anne Beghin***
MechanoBiology Institute, National University of Singapore, Singapore; Interdisciplinary Institute for Neuroscience, University of Bordeaux, CNRS UMR 5297, Bordeaux, France; Dept of Biological Sciences, National University of Singapore, Singapore; Yong Loo Lin School of Medicine, ITRP, Department of Microbiology & Immuno-ology, NUS, Singapore, Singapore

Session C-3: Disease Models
Chair: Erika Györvary
Salon Mont Blanc 1

[OL 3.5] **11:00-11:20**
Temporal study of autism initiation and progression in 3D neuronal model
Marine Dion, Alicia Vauclard, ***Mohamad Ali Fawal****, Sophie Pautot*
SYNAXYS, Toulouse, France

Session C-4: Pharmacology and toxicology
Chair: Pelin Candarlioglu
Salon Mont Blanc 2

[OL 4.5] **11:00-11:20**
Characterization of LSECs on the Human Liver-Chip for Potential *in vitro* Therapeutic Applications
Pelin Candarlioglu, Jadalannagari Sushma, ***Jake Chaff***
Emulate, Inc., Boston, United States; GlaxoSmithKline, Stevenage, United Kingdom

[OL 1.6] **11:20-11:40** **Modular 3D neurovascular unit-on-chip model for studying vascular dementia** ***Dennis Nahon***, *Michel Hu, Frimat Jean-Philippe, Christine Mummery, Valeria Orlova* *Dept. Anatomy & Embryology, Leiden University Medical Center; Dept. Human Genetics, Leiden University Medical Center, the Netherlands*	[OL 2.6] **11:20-11:40** **Connecting labs for higher level organ-on-chip systems: integration of a pH sensor and a blood vessel-on-chip on a standardized platform** ***Anke Vollertsen***, *Hande Aydogmus, Andreas Pollet, Berend van Meer, Albert van den Berg, Massimo Mastrangeli, Jaap den Toonder, Mathieu Odijk, Andries van der Meer* *University of Twente, Enschede; Delft University of Technology, Delft; Eindhoven University of Technology, Eindhoven, the Netherlands*	[OL 3.6] **11:20-11:40** **Tumor-on-chip model to study the effect of nanoparticle-mediated photothermia on tumor microenvironment of pancreatic ductal adenocarcinoma** ***Anastasiia Dubrova***, *Charles Cavaniol, Yoann Lalatonne, Aurore Van de Walle, Claire Wilhelm, Stéphanie Descroix* *Institut Pierre-Gilles de Gennes, Institut Curie, Paris; Inserm, U1148, Hopital Avivennes-APHP, Bobigny, France*	[OL 4.6] **11:20-11:40** **Multicellular micro-EHTs on chip to model cardiac disease and toxicity** ***Carla Cofiño Fabres***, *Tom Boonen, José Manuel Rivera Arbeláez, Marcelo Catarino Ribeiro, Robert Passier* *University of Twente, Enschede; River BioMedics BV, Enschede; Leiden University Medical Center, Leiden, the Netherlands*
[OL 1.7] **11:40-12:00** **Cultured 3D blood vessel: comparison with human isolated blood vessels** ***Tessa de Vries***, *Dennis Schutter, Antoon van den Bogaerdt, Jan Danser, Antoinette Maassen van den Brink* *Division of Vascular Medicine and Pharmacology, Dept of Internal Medicine, Erasmus University Medical Center, Rotterdam; ETB-BISLIFE, Heart Valve Department, Beverwijk, the Netherlands*	[OL 2.7] **11:40-12:00** **Monitoring of viability in Organ-On-Chip devices by integrated impedance measurements** ***Anubhav Bussooa***, *Emily Tubbs, Frédéric Revol-Cavalier, Ayman Chmayssem, Manuel Alessio, Marie-Line Cosnier, Nicolas Verplanck* *University of Grenoble Alpes, CEA, LETI Technologies for Health division & IRIG, Biomics,, Grenoble, France*	[OL 3.7] **11:40-12:00** **From NSCLC tissues to tumoroids with its TME** ***Helene Le***, *Joseph Seitlinger, Ysia Idoux-Gillet, Nadia Jessel, Sandrine Cochin, Cécile Zaupa, Jean-Marc Balloul, Eric Quéméneur* *Transgene, Illkirch-Graffenstaden; Inserm UMR1260, Strasbourg, France*	[OL 4.7] **11:40-12:00** **Learnings from case studies applying a dynamic skin and liver co-culture model to evaluate the effect of exposure scenarios on the chemical fate and toxicodynamic properties of chemicals** ***Jochen Kühnl***, *Thi Phuong Tao, Katrin Brandmair, Ilka Maschmeyer, Silke Gerlach, Uwe Marx, Julia Przibilla, Fredy Kern, Andreas Schepky, Carine Jacques-Jamin, Camille Genies, Nicola Hewitt* *Beiersdorf AG, Hamburg; TissUse GmbH, Berlin; Pharmacelsus GmbH, Saarbrücken; Pierre Fabre Dermo-Cosmétique, Toulouse, France; Cosmetics Europe, Brussels, Belgium*
[OL 1.8] **12:00-12:20** **An easy-to-fabricate, open-top OoC-platform to generate *in vitro* barrier tissue with a functional hiPSC-derived microvascular network** ***Tarek Gensheimer***, *Marc Vila Cuenca, Valeria Orlova, Robert Passier, Andries van der Meer* *Dept of Applied Stem Cell Technologies, Univ. of Twente, Enschede; Dept of Anatomy and Embryology, Leiden Univ. Medical Centre, Leiden, the Netherlands*	[OL 2.8] **12:00-12:20** **Quantification of hiPSC ATP production in a microfluidic chip - Validation against standard method** ***Stefanie Fuchs***, *Ruben van Helden, Maury Wiendels, Mees de Graaf, Berend van Meer, Valeria Orlova, Christine Mummery, Torsten Mayr* *Inst. of Analytical Chemistry and Food Chemistry, Graz Univ. of Technology, Graz, Austria; Dept of Anatomy & Embryology, Leiden University Medical Center, Leiden, the Netherlands*	[OL 3.8] **12:00-12:20** **Breast tumor-on-chip applicable for efficacy and safety assessment of CAR-T cell therapy** ***Tengku Ibrahim Maulana***, *Claudia Teufel, Madalena Cipriano, Oliver Schneider, Julia Rogal, Miriam Alb, Michael Hudecek, Peter Loskill* *Dept of Microphysiological Systems, Institute of Biomedical Engineering, Faculty of Medicine, Eberhard Karls University, Tübingen; Universitäts-klinikum Würzburg, Medizinische Klinik und Poliklinik II, Würzburg; NMI Natural and Medical Sciences Institute at the University of Tübingen, Reutlingen; 3R Center Tübingen for In Vitro Models and Alternatives to Animal Testing, Tübingen, Germany*	[OL 4.8] **12:00-12:20** **Human stem cell-based retina on chip - a screening platform for retinal drug development** ***Madalena Cipriano***, *Kevin Achberger, Matthias Düchs, Christian Schön, Joahanna Chuchuy, Lena Mesch, Julia Roosz, Stefan Liebau, Peter Loskill* *Department for Microphysiological Systems, Institute of Biomedical Engineering & Institute of Neuroanatomy & Developmental Biology (INDB), Eberhard Karls & 2 3R-Center for In vitro Models and Alternatives to Animal Testing & NMI Natural and Medical Sciences Institute, University Tübingen, Tübingen, Germany* *Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riß, Germany*

[OL 1.9] **12:20-12:40** **Brain endothelial cell remodeling in response to blood flow-derived forces in a microvessel-on-chip** ***Clara Ramón-Lozano***, *Claire Dessalles, Avin Babataheri, Abdul. Barakat* *LadHyX, CNRS, École polytechnique, Institut polytechnique de Paris, Palaiseau, France* *Dept of Biochemistry, University of Geneva, Geneva, Switzerland*	[OL 2.9] **12:20-12:40** **TumOC - a tumour organoid-on-chip device for real-time measurements of drug treatment impact** *Marie Flechner, Jürgen Loskutov, Ulrike Pfohl, Katja Osman, Christian Regenbrecht, Lena Wedeken,* ***Katja Uhlig*** *Fraunhofer Institute for Cell Therapy and Immunology, Branch Bioanalytics and Bio-processes IZI-BB, Potsdam; CELLphenomics GmbH, Berlin; Univ. of Applied Sciences for Engineering and Economics (HTW), Berlin; ASC Oncology GmbH, Berlin; Institute of Pathology, University Medicine Göttingen, Göttingen, Germany*	[OL 3.9] **12:20-12:40** **Organs-on-chip: challenges and solutions towards regulatory acceptance** ***Laurène Froment***, *Nuria Roldan, Janick Stucki and Nina Hobi* *AlveoliX AG, Bern, Switzerland*	[OL 4.9] **12:2012:40** **Cancer-on-chip for chemotherapy testing in breast cancer tissue *ex vivo*** *Sanjiban Chakrabarty, William. F. Quiros-Solano,* ***Zofia M. Komar***, *Maayke Kuijten, Ben Haspels, Sandeep Mallya, Calvin Shun Yu Lo, Amr Othman, Cinzia Silvestri, Nikolas Gaio, Hanny Odijk, Marieke van de Ven, Jos Jonkers, Ronald Dekker, , Nitika Taneja, Roland Kanaar, Dik C. van Gent* *Department of Molecular Genetics & Oncode Institute, Erasmus MC Cancer Institute, Rotterdam; Dept of Microelectronics, Electronic Components, Technology and Materials, Delft University of Technology, Delft; Mouse Clinic Intervention Unit, The Netherlands Cancer Institute, Amsterdam; BIOND Solutions B.V., Delft, The Netherlands* *Dept of Cell and Molecular Biology, Manipal School of Life Sciences, Manipal Academy of Higher Education, Manipal, Karnataka; Dept of Bioinformatics, Manipal School of Life Sciences, Manipal Academy of Higher Education, Manipal, Karnataka, India*
[OL 1.10] **12:40-13:00** **Modelling lung endothelium support of alveolar progenitor function using organoid and chip platforms** *Abilash Ravi, Tarek Gensheimer, Xinhui Wu, Jill Johnson, Martin Harmsen, Reinoud Gosens, Andries van der Meer, Anne van der Does, Pieter Hiemstra* *Dept of Pulmonology, Leiden Univ. Medical Center, Leiden; Dept of Applied Stem Cell Technologies, Univ. of Twente, Enschede; Dept of Molecular Pharmacology, Faculty of Science and Engineering, Univ. of Groningen, Groningen, The Netherlands; School of Biosciences, College of Health & Life Sciences, Aston University, Birmingham, United Kingdom; Groningen Research Institute for Asthma and COPD, University Medical Center Groningen, Univ. of Groningen, Groningen; Dept of Pathology and Medical Biology, University Medical Center Groningen, Univ. of Groningen, Groningen, the Netherlands*	[OL 2.10] **12:40-13:00** **Multi-sensor pancreatic-islets-and-muscle-on-chip for real-time studies of glucose homeostasis** ***Marie Monchablon***, *Dorian Chapeau, Amandine Seroussi, Flora Bouvet, Gilles N'Kaoua, Antoine Pirog, Emilie Puginier Pinet, Benoît Charlot, Stéphane Arbault, Julien Gaitan, Pier Scotti, Jochen Lang, Anthony Bouter, Matthieu Raoux, Sylvie Renaud* *Bordeaux University, Bordeaux; Montpellier University, Bordeaux, France*	[OL 3.10] **12:40-13:00** **A multichannel perfusable kidney-on-a-chip to study cyst formation in polycystic kidney disease** ***Brice Lapin***, *Sarah Myram, Sylvie Coscoy, Stéphanie Descroix* *Institut Curie, Paris, France*	[OL 4.10] **12:40-13:00** **Microfluidic high-throughput screening platform to screen pre-clinical stage compound effects on neurite outgrowth of human Motor neurons post-injury** ***Jessica Rontard***, *Aurélie Batut, Delphine Debis, Benoît Maisonneuve, Louise Dubuisson, Mélanie Gleyzes, Marion Hochedel, Yannick Calderini, Florian Larramendy, Thibault Honegger* *NETRI, Lyon, France*

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Atrium

13:00-14:30

Lunch break / Poster session

Session D-1: Technology platforms *Chair: Andries van der Meer* Salon Mont Blanc 1	**Session D-2: Biomechanical Forces** *Chair: Marco Rasponi* Salon Mont Blanc 2	**Session D-3: Immune-competent Models** *Chair: Martin Raasch* Auditorium	**Session D-4: Microenvironment** *Chair: Peter Loskill* Salon Makalu
[OL 1.11] **14:30-14:50** **MechanoCHIP: resealable platform for physiological mechanical stimulation of cell co-cultures** ***Sandro Meucci***, *Bianka Fabinyi, Britt Wesselink, Cornelia Bratengeier, Victor van Santen, Astrid Bakker, Anna Fahlgen, Skolimowski Maciej* *Micronit BV, Enschede; Academisch Centrum Tandheelkunde Amsterdam, Amsterdam, The Netherlands; Linköping University, Linköping; BioReperia, Linköping, Sweden*	[OL 2.11] **14:30-14:50** **Tendon on a Chip** ***Simon Grossemy***, *Martin Knight and Hazel Screen* *SEMS Queen Mary university of London, London, UK*	[OL 3.11] **14:30-14:50** **Immunocompetent Microphysiological System: Anti-tumor Activity and Toxicity by Natural Killer Cells** ***Oanh Nguyen***, *Christian Lohasz, Patrick Misun, Jihyun Lee, Andreas Hierlemann* *ETH Zurich, Basel, Switzerland*	[OL 4.11] **14:30-14:50** **Development of a biomimetic pancreatic microenvironment** *Clémence Pfeil, Anastasia Papoz,* ***Flora Clément****, Xavier Gidrol* *University. Grenoble Alpes, CEA, Inserm, IRIG, Biomics, Grenoble, France*
[OL 1.12] **14:50-15:10** **Ionic polymer metal composite (IPMC)-based micropump for organs-on-chip** ***Paul Motreuil Ragot***, *Dhanesh Kasi, Bjorn de Wagenaar, Andres Hunt, Valeria Orlova, Arn van den Maagdenberg, Pasqualina Sarro, Massimo Mastrangeli* *Delft University of Technology, Delft; Leiden University Medical Center, Leiden, the Netherlands*	[OL 2.12] **14:50-15:10** **A platform for training and noninvasive measurement of skeletal muscle-on-chip 3D tissues** ***Alessandro Iuliano***, *Erik van der Wal, Stijn in 't Groen, Anjali Bohlasing, Markus Kruger, Dominik Priesmann, Matthias Haalstra, Jakob Pyszkowski, Kevin Bielawski, Ramkumar Raghurama, Vittorio Saggiomo, Jessica de Greef, Pim Pijnappel* *Erasmus MC, Rotterdam; LUMC, Leiden; Wageningen Univ & Research, Wageningen; Optics11Life, Amsterdam, the Netherlands; Univ. of Cologne, Cologne, Germany*	[OL 3.12] **14:50-15:10** **Personalized immuno-oncology-on-chip** ***Maria Carla Parrini***, *Irina Veith, Arianna Mencattini, Christine Lansche, Solenn Brosseau, Giacomo Gropplero, Hamasseh Shirvani,Fathia Mami-Chouaib, Jacques Camonis, Fatima Mechta-Grigoriou, Stéphanie Descroix, Eugenio Martinelli, Gérard Zalcman* *Institut Curie, Stress and Cancer Lab, Inserm U830, Paris, France* *University of Rome TorVergata, Dept of Electronic Engineering, Rome, Italy* *Institut Curie, CNRS UMR168, Paris; Institut Roche, Boulogne-Billancourt; Gustave Roussy, Inserm UMR1186, Villejuif, France*	[OL 4.12] **14:50-15:10** **Fabrication of an environment-controlled human-based colon microphysiological system** ***Dimitri Hamel***, *Julie Foncy, Audrey Ferrand, Laurent Malaquin* *Digestive health research institute (IRSD, INSERM), Toulouse; Laboratory for Analysis and Architecture of Systems (LAAS-CNRS), Toulouse, France*

[OL 1.13] **15:10-15:30** **An automated chip with a rapid prototypable cell culturing layer for multiplexed organs-on-chips** ***Anke R. Vollertsen***, *Sabine de Winter, Albert van den Berg, Mathieu Odijk and Andries D. van der Meer* *Applied Stem Cells Technologies group, University of Twente, Enschede, the Netherlands BIOS Lab on a Chip group, University of Twente, Enschede, the Netherlands* *Organ-on-Chip Center Twente, MESA+, University of Twente, Enschede, the Netherlands.*	[OL 2.13] **15:10-15:30** **Mechanical patterning improves physio-logical functions of engineered human epithelia** ***Doris Roth,*** *Dorothea Kraft, Anne M. van der Does, Annemarie van Schadewijk, Abilash Ravi, Tengku Ibrahim Maulana, Christiana Senger, Sander van Riet, Dennis K. Ninaber, Amy L. Ryan, Pieter S. Hiemstra, Janna C. Nawroth* *Helmholtz Pioneer Campus, Helmholtz Zentrum München (GmbH), Munich, Germany* *Dept. of Pulmonology, Leiden University Medical Center, Leiden, The Netherlands* *Emulate Inc., Boston, MA, U.S.A.* *Hastings Center for Pulmonary Research, Division of Pulmonary, Critical Care and Sleep Medicine, Department of Medicine, University of Southern California, Los Angeles, CA, U.S.A.*	[OL 3.13] **15:10-15:30** **Patient-specific human immunocompetent adipose tissue-on-chip models** ***Julia Rogal***, *Julia Roosz, Claudia Teufel, Madalena Cipriano, Katja Schenke-Laylan, Peter Loskill* *Institute of Biomedical Engineering, Eberhard Karls University Tübingen, Tübingen, Germany; AIMES - Center for the Advancement of Integrated Medical and Engineering Sciences, Department of Neuroscience, Karolinska Institute, Solna; Division of Nanobiotechnology, Department of Protein Science, Science for Life Laboratory, Solna, Sweden; NMI, University of Tübingen, Reutlingen; 3R-Center for In vitro Models and Alternatives to Animal Testing, Eberhard Karls University Tübingen, Tübingen, Germany*	[OL 4.13] **15:10-15:30** **Steering epithelial and mesenchymal cell type composition in Intestine-Chip, Transwell and organoids** ***Renée Moerkens***, *Joram Mooiweer, Aarón Daniel Ramírez-Sánchez, Cisca Wijmenga, Robert Barrett, Iris Jonkers, Sebo Withoff* *Department of Genetics, University Medical Center Groningen, University of Groningen, Groningen, the Netherlands* *Board of Governors Regenerative Medicine Institute, Cedars-Sinai Medical Center, Los Angeles; Widjaja Foundation Inflammatory Bowel and Immunobiology Research Institute, Cedars-Sinai Medical Center, Los Angeles, USA*
[OL 1.14] **15:30-15:50** **Smart Multi-Well Plate: an autonomous, modular and scalable OoC platform** ***Sandro Meucci***, *Bjorn de Wagenaar, Agnes Agnes Bußmann, Jannis Meents, Nikolas Gaio, Rosa Monge, Richard Klemm, Albert Breemen, Jacco Scheer, Thiago de Oliveira Moura, Sebastiaan Kerstjes, Massimo Mastrangeli* *Micronit BV, Enschede; ECTM, Delft University of Technology, Delft; BI/OND, Delft; Holst Centre, Eindhoven; Besi, Duiven; Philips, Eindhoven, the Netherlands; Fraunhofer EMFT, Munich; Multichannel Systems, Reutlingen, Germany; BeOnChip, Zaragoza, Spain; Microfluidic ChipShop, Jena, Germany; Besi, Radfeld, Austria*	[OL 2.14] **15:30-15:50** **Improvement of contractile performance of hPSC-engineered 3D cardiac tissues using a versatile platform** ***José Manuel Rivera-Arbeláez***, *Carla Cofiño-Fabres , Tom Boonen, Verena Schwach, Albert van den Berg, Loes I. Segerink, Marcelo C. Ribeiro and Robert Passier* *Department of Applied Stem Cell Technologies, TechMed Centre, University of Twente, Enschede; BIOS Lab-on-a-Chip Group, MESA+ Institute for Nanotechnology, Max Planck Institute for Complex Fluid Dynamics, University of Twente, Enschede, The Netherlands. River BioMedics, Enschede; Department of Anatomy and Embryology, Leiden University Medical Centre, Leiden, the Netherlands*	[OL 3.14] **15:30-15:50** **Immune cell extravasation modelled in acute infection-on-chip depends on hydrogel density** ***Lisette van Os***, *Jan Schulte, Dario Ferrari, Arunima Sengupta, Soheila Zeinali, Olivier Guenat* *University of Bern, ARTORG Center for Biomedical Engineering, Bern, Switzerland*	[OL 4.14] **15:30-15:50** **Novel fabrication technique to confine hydrogels with different patterns inside microfluidic devices without pillars** ***Claudia Olaizola Rodrigo***, *Clara Bayona , Marina Pérez, Manuel Doblaré, Rosa Monge, Sara Oliván, Ignacio Ochoa* *Beonchip S.L. Zaragoza; Tissue microenvironment Lab (TMELab). IIS Aragón, I3A. CIBER-BBN. University of Zaragoza, Spain.*

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Atrium **15:50-16:30** Coffee break
Auditorium **16:30-17:15** Keynote Lecture [KL VI] **Humanizing the Drug Development Process merging Organ-on-Chip and Computational Modelling** **Christian Maass** Senior scientist OoC and QSP modelling, esqLABS, Saterland, Germany *Chair: Janny van den Eijnden-van Raaij*
Auditorium **17:15-18:00** **Prize ceremony** *Chair: Maria Tenje* **Closing Remarks** *Chairs: Xavier Gidrol and Fabrice Navarro* **Announcement of EUROoCS 2023** *Chair: Peter Loskill*
End of EUROoCS 2022