



EUROOCS

EUROPEAN ORGAN-ON-CHIP SOCIETY
CONFERENCE 2019

Graz, Austria, 2-3 July 2019

eurooc2019.eu

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Organising Institutions



Institute of Analytical Chemistry and Food Chemistry



EUROoCS - The European Organ-on-Chip Society

Photographing and Video Recording Policy

Please note that it is not allowed to take photos or record videos in the sessions and poster presentations!

IMPRESSUM

Graz University of Technology
Institute of Analytical Chemistry and Foodchemistry
Stremayrgasse 9/II
8010 Graz, Austria
www.analytchem.tugraz.at

The cover picture was provided by Sergey M. Borisov.



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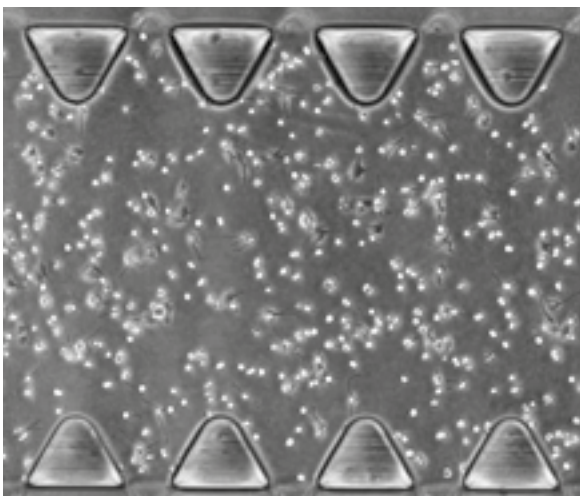


Image 1: Adenocarcinoma cells embedded in collagen I grown under flow at 1QL/min. Courtesy of I. Veith and M.C. Parrini.

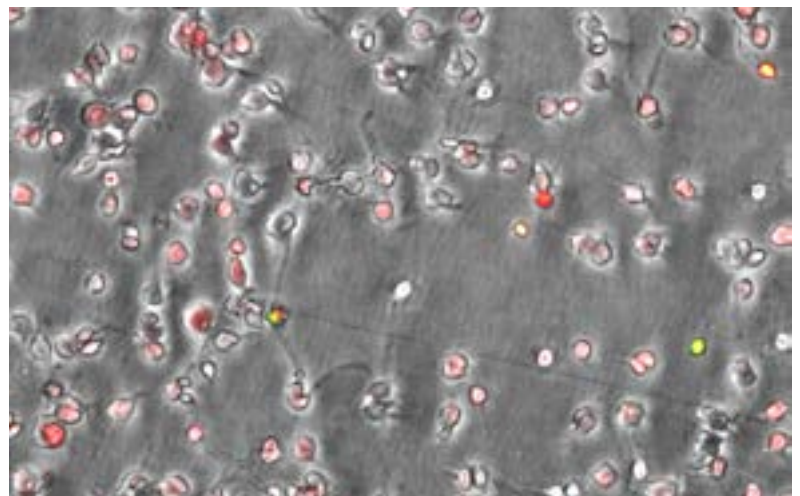


Image 2: Magnification of Img 1. Dead cells fluoresce green, whereas live cells fluoresce red. Courtesy of I. Veith and M.C. Parrini.

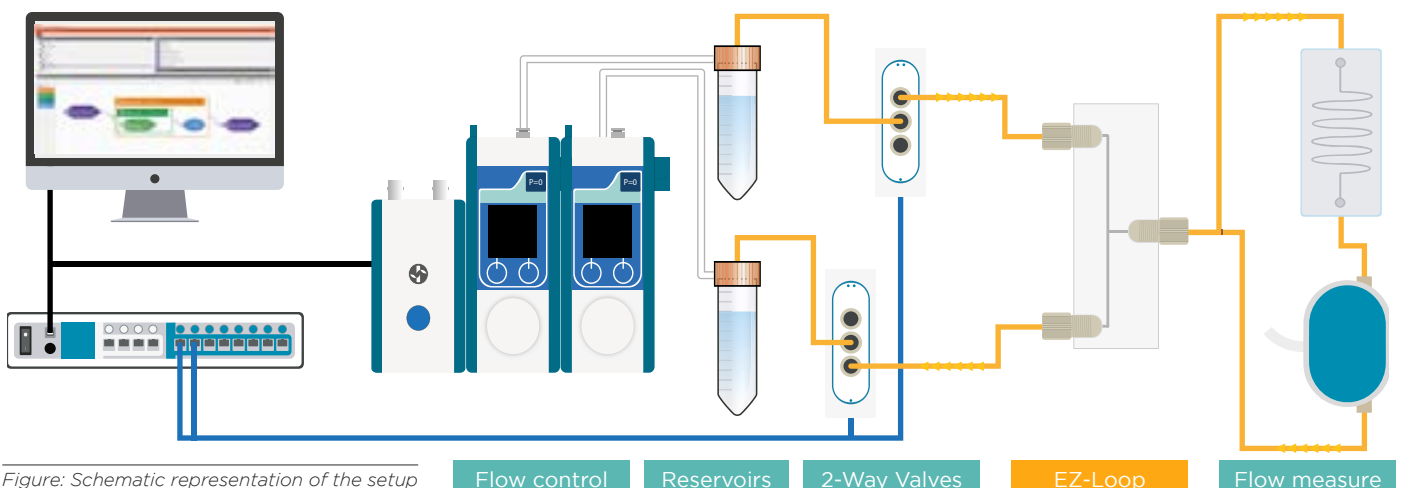
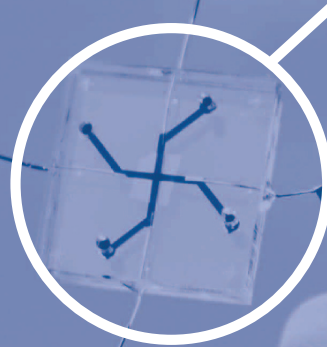


Figure: Schematic representation of the setup

Become part of an expanding network of experts



Help to move emerging Organ-on-Chip technology forward

We believe in the power of collaboration. Scientists, industry and regulators meeting to build future Organ-on-Chip platforms together

Stay tuned and join the Organ-on-Chip Society

We welcome everyone with a genuine interest in this field

Member benefits

- enjoy discounted registration fee for the Annual Conference
- have exclusive access to the digital platform and forum
- share latest results and news
- find and connect with experts in the field
- receive regular updates on latest developments through our newsletter



EUROoCS

The European Organ-on-Chip Society is an independent, not-for-profit organization established to encourage and develop Organ-on-Chip research and provide opportunities to share and advance knowledge and expertise in the field towards better health for all.

www.euroocs.eu

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TODAY

General Information

Name Tags

Attendees must wear their name tag at all times to gain admission to all sessions and events.

Wireless Internet Access

Throughout the conference venue you can find a wireless network (free of charge).

Mobile Phones, Photographing and Video Recording

As a courtesy to our speakers and other attendees, please turn off your mobile phones during the sessions. **It is not allowed to take photos or record videos in the sessions and poster presentations.**

Lunch

Coffee breaks and lunches are served in the lecture hall "Hörsaal 2" on the lower level. The dining area is located in "Hörsaal 2" as well as in the yard outside the lower level.

Poster and Travel Awards

All attendees are encouraged to vote for the best poster. Please fill in the voting form in your conference bag and place it in the provided box before the end of the lunchbreak on Wednesday. The poster prizes will be awarded during the closing ceremony on Wednesday.

Four students with excellent abstracts have been chosen as recipients of travel awards. They will receive their awards during the closing ceremony.

Reception and Dinner

On Tuesday evening after the poster session, a social reception and dinner will be hosted at the conference location. It will be set in a relaxed social atmosphere to allow for discussion and networking and will be followed by a party entertained by a DJ.

Oral Presentation Guidelines

Please note that speakers will have to hand in their presentations on USB flash drive at the respective presentation laptop before their session. Own laptops cannot be connected to the system.

The duration of oral presentations is 15 minutes including 5 minutes for questions from the audience. Selected talks will have an extended duration of 20 minutes including 5 minutes for questions. Keynote lectures are scheduled with 40 minutes including 5 minutes for questions.

Projectors and computers are available in all session rooms for your presentation. Files can be uploaded to the local computers during the session breaks. Speakers must arrive at their session room 15 minutes before the start of their session and report to the session chairs. Assistants are in all session rooms for technical help if needed.

Poster Presentation Guidelines

Posters will be presented during two poster sessions on Tuesday. The posters must remain attached during the entire conference. The posters have to be attached between Tuesday morning and lunchtime. The size of the panel space available for each poster is 120 cm x 90 cm. The poster format is A0, 118.9 cm x 84.1 cm, portrait (height x width). The assigned spot for of each poster is marked on the panel with the unique poster number.

Preface

Welcome to Graz and the 1st annual conference of EUROoCS - European Organ on Chip Society!

To unite Organ-on-Chip research in Europe, this meeting consolidates two initiatives, the European Organ-on-Chip Conference (EUROoC) and the International Organ-on-Chip Conference (IOOCS). In 2018, the EUROoC attracted more than 100 delegates and featured 5 keynote speakers (2 from the US and 3 from Europe), high-level oral presentations and engaging discussions during the poster sessions around the emerging technologies of microphysiological systems and Organ-on-Chip. It took place at the Fraunhofer IGB in Stuttgart and was organized by Maria Tenje (Uppsala University), Peter Loskill (Fraunhofer IGB/ University of Tübingen), Alexander Mosig (Jena University Hospital) and Torsten Mayr (Graz University of Technology). The IOOCS organized by Albert van den Berg (University of Twente), Christine Mummery (Leiden University Medical Center and University of Twente) and Janny van den Eijnden-van Raaij (hDMT) was first held in Enschede in 2015 and again in 2017 in Lausanne. Both IOOCS meetings attracted renowned international speakers and more than 100 delegates. In light of growing enthusiasm for Organ-on-Chip research, the European Organ-on-Chip Society (EUROoCS) was launched during the IOOCS in Eindhoven in November 2018 as an outcome of the H2020 FET Open-CSA ORCHID. Rather than continuing as independent meetings which might be hard for you as delegates to choose between, the organizers decided, to combine the two. We are proud now to welcome you to the annual EUROoCS Conference, the first of our society!

The aim of the EUROoCS conference is to provide a platform for an interdisciplinary scientific exchange. We believe that such a focused meeting is needed in a field such as ours, which is by nature very diverse, covering topics that range from developmental biology, microfabrication, tissue engineering, organoids and organ-specific models to regulatory aspects and disease modelling.

The EUROoCS 2019 conference provides some 200 registered participants with a natural meeting place for the European Organ-on-Chip research community. The scientific programme includes six keynote lectures, 32 contributed talks, and 96 posters. The posters will be exhibited during the whole conference. The conference venue is the old campus of the Graz University of Technology (TU Graz), which was founded by Archduke Johann in 1811. Today the university is home to seven faculties with over 13000 students and more than 3000 employees. The conference takes place in the beautiful building of the "old campus", which was opened in 1888. Some of the lectures will be given in the historical Aula. On Tuesday evening, a reception and dinner will be hosted in the same building to enjoy good food and to chat over a glass of styrian wine. Afterwards, it is party time with our DJ.

We believe that you will enjoy the City of Graz with its offering of a perfect blend of science, technology, art, culture and sightseeing. Graz is Austria's second largest city and visitors are usually very enthusiastic on the attractive cultural program it has to offer, the quality and diversity of the restaurants, and the beautiful historic old town which is a UNESCO World Cultural Heritage site.

We wish you an exciting EUROoCS 2019 conference and an unforgettable stay in Graz!

The organising committee and the board of EUROoCS

Conference Schedule

Tuesday July 2 nd 2019	
08:00-09:00	Registration
	Lecture Hall
09:00-09:15	Opening
09:15-10:00	Keynote Lecture [KL I] Models of neurological disease and metastatic brain cancer <i>Roger D. Kamm, Massachusetts Institute of Technology, USA</i>
10:00-10:45	Keynote Lecture [KL II] Building innervated intestinal tissue to model and treat digestive diseases <i>Maxime Mahé, Inserm UMR 1235 - TENS, University of Nantes, France; Division of Pediatric General and Thoracic Surgery, Cincinnati Children's Hospital Medical Center, USA</i>
10:45-11:15	Coffee break
	Aula
	Lecture Hall
	Materials, analytics and in-line sensing
	Healthy tissue models and safety testing
11:15-11:45	Selected Talk [ST 1] Continuous barrier integrity monitoring in a microphysiological human induced pluripotent stem cell (hiPSC) model of the blood-brain-barrier (BBB) <i>T.E. Winkler, Matthiesen I, Voulgaris D, Lundin A, Delsing L, Nikolakopoulou P, Herland A Kungliga Tekniska Högskolan, Sweden</i>
	Selected Talk [ST 2] Centrifugal Heart-on-a-Chip: User-friendly and parallelized generation of hiPSC-derived μ-tissues <i>Schneider O, Zeifang L, Fuchs S, Sailer C, Loskill P Fraunhofer-Institute for Interfacial Engineering and Biotechnology IGB, Germany</i>
11:45-12:05	[OL 1.1] A biomimetic gut on a chip device replicating human intestine complexity <i>Pitsalidis C, Saez J, Moysedou C M, Rioboo P, Withers A, Owens R University of Cambridge, United Kingdom</i>
	[OL 2.1] HepaChip-MWP - towards a microfluidic, perfusable and scalable in vitro model of the liver in multiwellplate format <i>Busche M, Schmees C, Becker H, Gall K, Hemmler R, Gebhardt R, Matz-Soja M, Damm G, Ullrich A, Stelzle M, Werner S, Hagemeyer B, Pawlak M, Moer J NMI Natural and Medical Sciences Institute at the Univ. at Tübingen, Germany</i>
12:05-12:25	[OL 1.2] Electrophysiological studies in organs-on-a-chip: CMOS multi-electrode arrays <i>Miccoli B, Lopez C M, Goikoetxea E Putzeys J, Sekeri M, Krylychkina O, Firrincieli A, Andrei A, Reumers V, Braeken D Imec, Belgium; KU Leuven, Belgium</i>
	[OL 2.2] Human microvasculature-on-chip: implications of three-dimensional mechanical cyclic stretch <i>Soheila Zeinali, Emily K. Thompson, Thomas Geiser, Olivier T. Guenat University of Bern, Switzerland</i>
12:25-12:45	[OL 1.3] Next-Generation Organ-on-Chip System for Metabolic Monitoring of Tumor Organoids Using Embedded Microsensors <i>Dornhof J, Weltin A, Kieninger J, Maurer J, Urban G A University of Freiburg, Germany</i>
	[OL 2.3] Development of lung-on-a chip with a biological stretchable membrane <i>Zamprogn P, Wüthrich S, Achenbach S, Stucki J S, Hobi N, Schneider-Daum N, Lehr C-M, Huwer H, Schmid R A, Guenat O T University of Bern, Switzerland</i>
12:45-13:30	Lunch break

13:30-14:30	Poster Session	
	Aula	Lecture Hall
	Materials, analytics and in-line sensing	Healthy tissue models and safety testing
14:30-14:50	<p>[OL 1.4] Organ-on-a-Disc - Enabling technology for the parallelization and automation of microphysiological systems <i>Stefan Schneider, Florian Erdemann, Thomas Hutschalik, Oliver Schneider, Peter Loskill</i> <i>Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, Germany</i></p>	<p>[OL 2.4] Development of an in vitro intestinal model featuring peristaltic motion <i>Geremie L, Bernheim-Dennery M, Descroix S</i> <i>Institut Curie, France</i></p>
14:50-15:10	<p>[OL 1.5] Vascularized and innervated bone deconstructed on a chip <i>Neto E, Leitão L, Simões M, Conceição F, Sousa D M, Alves C J, Chu V, Conde J P, Lamghari M</i> <i>i3S - Instituto de Investigação e Inovação em Saúde, Portugal; INEB - Instituto de Engenharia Biomédica, Portugal</i></p>	<p>[OL 2.5] BBB on-a-chip: a 3D in vitro model of the human blood brain barrier (BBB) <i>Menon R, Wevers N R, Spijkers S, Ramakers C</i> <i>Wilschut K J, van Vught R, Trietsch S J, Vulto P, Joore J</i> <i>Mimetas, The Netherlands</i></p>
15:10-15:30	<p>[OL 1.6] Microfluidic Hanging-Drop Platforms for Culture, Interaction and Analysis of 3D Microtissues <i>Misun P M, Boos J A, Rousset N, Frey O, Hierlemann A</i> <i>ETH Zurich, Switzerland</i></p>	<p>[OL 2.6] Drug screening on chip: A microfluidic platform for human iPSC-derived multiorgan model of liver and kidney as an individualized Microfluidic-Multiorgan-Chip model <i>Töpfer E, Raasch M, Reuter S, Westphal A, Fritsche E, Hariharan K, Theobald J, Cheng X, Schnabel J, Mosig A S</i> <i>microfluidic ChipShop GmbH, Germany</i></p>
15:30-15:50	<p>[OL 1.7] Acoustic trapping: a non-contact method to handle cell-laden hydrogel droplets in a microchannel <i>Fornell A, Johannesson C, Searle S S, Happstadius A, Nilsson J, Tenje M</i> <i>Uppsala University, Sweden</i></p>	<p>[OL 2.7] Integration of Quantitative Systems Pharmacology (QSP) and Organ-on-Chips for Translational Pharmacology Applications <i>Christian Maass, Andrzej Kierzek, Piet van der Graaf</i> <i>Certara, U.K.</i></p>
15:50-16:10	<p>[OL 1.8] A picture is worth more than many descriptors: a novel method for massive analysis of cell motility using deep learning architecture in organ on chip devices <i>Mencattini A, Di Giuseppe D, Comes M.C., Casti P, Bertani F R, Businaro L, Di Natale C, Parrini MC, Martinelli E</i> <i>University of Rome Tor Vergata, Italy</i></p>	<p>[OL 2.8] Development of skin-on-chip model containing neopapillae and Proof-of-Concept hazard assessment testing with contact sensitizer cinnamaldehyde <i>Vahav J, Van den Broek LJ, Thon M, Atac B, Lindner G, Scheper R.J., Marx U, Gibbs S</i> <i>TissUse GmbH, Germany</i></p>
16:10-16:30	Coffee break	
	Lecture Hall	
	Keynote Lecture [KL III]	
16:30-17:15	<p>The potential of Organ on a Chip to support clinical development and use of new drugs <i>Richard Peck, Roche Pharma Research and Early Development, Switzerland</i></p>	
17:30-19:00	Poster Session	
19:30-21:00	Reception and Dinner	
21:00-23:00	Party	

Lecture Hall	
09:00-09:15	EUROoCS
09:15-10:00	<p>Keynote Lecture [KL IV]</p> <p>Neurovascular in vitro models</p> <p><i>Anna Herland, KTH Royal Institute of Technology, Sweden; Swedish Medical Nanoscience Center, Karolinska Institute, Sweden</i></p>
10:00-10:45	<p>Keynote Lecture [KL V]</p> <p>Organs-on-Chips Technology: A Platform for Advancing Efficacy and Safety Testing</p> <p><i>Geraldine Hamilton, Emulate, Inc., USA</i></p>
10:45-11:15	Coffee break
Aula	
Lecture Hall	
Integration of immuno-aspects	Disease modelling and efficacy testing
<p>11:15-11:45</p> <p>Selected Talk [ST 3] Profiling of T-Cell Bispecific (TCB) antibodies using Organs-on-Chips Technology</p> <p><i>Nikolche Gjorevski, Jordan Kerns, Jen Obrigewitch, William Tien-Street, Abhishek Shukla, Tanvi Shroff, Katia Karalis, Geraldine A. Hamilton, Adrian B. Roth and Annie Moisan</i> <i>Roche, Switzerland</i></p>	<p>Selected Talk [ST 4] iPSC-derived myogenic progenitor cells are suitable for the engineering of three-dimensional muscle bundles for studies on skeletal muscle disorders</p> <p><i>van der Wal E, Iuliano A, Saggiomo V, Pijnappel W W M, de Greef J C</i> <i>Leiden University Medical Center, The Netherlands</i></p>
<p>11:45-12:05</p> <p>[OL 3.1] Human Immunocompetent Choroid-on-a-chip: a key tool for studying ocular side effects of biological drugs</p> <p><i>Cipriano M, Probst C, Schlünder K, Linke K, Weiss M, Schneider A, Moisan A, Kustermann S, Loskill P</i> <i>Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, Germany</i></p>	<p>[OL 4.1] Cartilage on Chip: Hyper-Physiological Compression in a microscale platform triggers osteoarthritic traits in a cartilage model</p> <p><i>Mainardi A, Occhetta P, Votta E, Ehrbar M, Vallmajo-Martin Q, Martin I, Barbero A, Rasponi M</i> <i>Politecnico di Milano, Italy; University Hospital Basel, Switzerland</i></p>
<p>12:05-12:25</p> <p>[OL 3.2] A 3D intestine-on-chip model allows colonization with commensal bacteria to study host-microbiota interaction</p> <p><i>Maurer M, Last A, Gresnigt M S, Hube B, Mosig A S</i> <i>University Hospital Jena, Germany</i></p>	<p>[OL 4.2] Generation of physiological flow conditions for arrays of microtissues through gravity-driven flow</p> <p><i>Lohasz C, Renggli K, Bonanini F, Frey O, Hierlemann A</i> <i>ETH Zurich, Switzerland</i></p>
<p>12:25-12:45</p> <p>[OL 3.3] A novel 3D in vitro model of the human gut-microbiome axis</p> <p><i>Moysidou C-M., Pitsalidis C., Saez J. S., Owens R. M.</i> <i>University of Cambridge, United Kingdom</i></p>	<p>[OL 4.3] A multicellular approach to iPSC-derived myocardium on a microfluidic platform for human disease modelling and drug toxicity assessment</p> <p><i>Stein JM, de Graaf M N S, Giacomelli E, van der Meer B, van Helden R W J, Gaio N, Mummery CL, Bellin M, Orlova V</i> <i>LUMC, The Netherlands</i></p>
12:45-14:00	Lunch

	Lecture Hall	
14:00-14:45	Keynote Lecture [KL VI] Organ-on-chip models for applied research purposes: Chances, Challenges & Open questions - A personal pharmaceutical industry end-user perspective <i>Stefan Kauschke, Boehringer Ingelheim Pharma GmbH & Co.KG, Germany</i>	
	Aula	Lecture Hall
	Integration of immuno-aspects	Disease modelling and efficacy testing
15:00-15:20	[OL 3.4] Establishment of a human alveolus-on-a-chip model to study microbial pathogenesis <i>Rennert K, Deinhardt-Emmer S, Nietzsche S, Ehrhardt C, Löffler B, Mosig A S</i> <i>University Hospital Jena, Germany</i>	[OL 4.4] 3D model of Parkinson's disease specific-dopaminergic neurons for high-throughput phenotyping and drug screening <i>Menon R, Chiang C, Jarazo J, Anthony P, Wilschut K J, Lanz H L, Triestch S J, Schwamborn J C, Joore J, Vulto P</i> <i>Mimetas BV, Netherlands</i>
15:20-15:40	[OL 3.5] Immuno-oncology on chip: recreating and measuring heterogenous cell battling in tumor ecosystem <i>De Ninno A, Businaro L, Bertani F R, Mattei F, Schiavoni G, Gabriele L, Martielli E, Vacchelli E, Parrini M C, Lucarini V</i> <i>Italian National Research Council, Italy</i>	[OL 4.5] Open-Top Heart on Chip: Cardiac and Vascular Interactions in Heart Failure <i>Vivas A, van der Meer A D, van den Berg A, Passier R</i> <i>University of Twente, The Netherlands</i>
15:40-16:00	[OL 3.6] Tumor-on-chip platforms to model tumor microenvironments and their responses to anti-cancer drugs <i>Parrini MC</i> <i>Institut Curie, France</i>	[OL 4.6] Modeling intracranial aneurysms-on-a-chip <i>van der Meer A, Mikhal J, de Sa Vivas A, Aquarius R, Geurts B, Boogaarts H</i> <i>University of Twente, The Netherlands</i>
	Lecture Hall	
16:00-16:30	Award and Closing Ceremony, Announcement of EUROoCS Conference 2020	
16:30-17:00	Coffee Break	

Poster List

Poster ID	Abstract title, Authors
P01	Flexible sensor integration for the analysis of key physiological parameters in Organ-on-a-Chip systems <u>Albaladejo Siguan M</u> , Schneider O, Rogal J, Rabl D, Mayr T, Loskill P
P02	Development of roll to roll printed microstructured surfaces to control neuronal cell growth <u>Haase A</u> , Smolka M, Nees D, Briz N, Ayerdi A, Bijelic G, Thesen M, Lohse M, Ramos I
P03	Integrated and scalable technologies to monitor cardiac activity in microfluidic heart-on-a-chip devices <u>Pauwelyn T</u> , Miccoli B, Kanthasamythurai A, Gorashi R, Boom R J, Skolimowski M, Vrouwe E, Reumers V, Braeken D
P04	Studying and extrapolating compound metabolism in 3D microtissue-based flow systems Hürlimann F, Rousset N, <u>Hölting L</u> , Hierlemann A, Frey O
P05	Packaging of electrical sensors in COC microfluidics with through-foil vias <u>Henzler P</u> , Stelzle M, Jones P D
P06	Quantifying Cell-Substrate Adhesion with Single-Cell Impedance Spectroscopy <u>Van Den Bulcke C</u> , Braeken D, Aerts S, Lagae L
P07	Parkinson's Disease on a Chip: Culturing and Monitoring Human Midbrain Organoids (hMOs) Employing a Redox Cycling Sensor <u>Spitz S</u> , Zanetti C, Marchetti-Deschmann M, Schwamborn J C, Ertl P
P08	Analysis of three-dimensional in vitro cell models using a light scattering biosensor <u>Höll G</u> , Rothbauer M, Olmos Calvo I, Kiener H P, Ertl P
P09	Optical sensors for in-situ determination of glucose in organ-on-chip systems <u>Rabl D</u> , Sulzer P, Müller B J, Zach P, Mayr T
P10	Real-time oxygen biosensing in three-dimensional vascular organ-on-a-chip systems <u>Rothbauer M</u> , Zirath H, Mayr T, Ertl P
P11	Bioelectronic Organs-on-Chips for the Development and Monitoring of 3D Human Organ Models <u>Saez J</u> , Moysidou C M, Pitsalidis C, Withers A, Owens R M
P12	Microengineered crisscross grooves for multiple tissue-tissue interfaces in Organ-on-chips <u>Yeste J</u> , García-Ramírez M, Illa X, Guimerà A, Alvarez M, Hernández C, Simó R, Villa R
P13	PDMS free Autonomous Plug&Play Multi-Organ-Chips with Integrated Pumping and Sensing <u>Sonntag F</u> , Schmieder F, Probst C, Busek M, Günther K, Loskill P
P14	A Placenta-on-a-chip with multi-membrane electrode array technology (mMEAT) for nanotoxicological studies <u>Rothbauer M</u> , Schuller P, Afkhami R, Puentes V, Moriones O H, Bastus N
P15	Blood clotting time and decay measurements based on the resonance of the PDMS micro-pillar arrays embedded in a microfluidic channel <u>Mohammadi Aria M</u> , Yalçın Ö

Poster ID	Abstract title, Authors
P16	Cancer-on-chip: optimizing models for personalized medicine <u>Chakrabarty S</u> , Gaio N, Solano W Q, Kuijten M, Odijk H, Jonkers J, Dekker R, Kanaar R, van Gent DC
P17	Development of a 3D NVU-on-a-chip model for studying vascular dementia <u>DNahon D</u> , Cochrane A, de Graaf M, Xu Cao, Halaidych O, Terwindt G, Roybon L, Mummery C, Orlova V
P18	Formation and propagation of renal cysts in a multitube biomimetic system, in the case of the ADPKD <u>Myram S</u> , Venzac B, Descroix S, Coscoy S
P19	Assessing the interaction of micro-tumors with cellular barriers in a scalable microfluidic in vitro model <u>Busche M</u> , Thierschmidt J, Nair A, Antkowiak L, Schmees C, Werner S, Becker H, Schnabel J, Stelzle M
P20	Modelling Cardiac Ischemia with Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes <u>Häkli M</u> , Välimäki H, Kreutzer J, Kattiparambil R D, Kallio P, Aalto-Setälä K, Pekkanen-Mattila M
P21	Towards a microfluidic vascular model to study migraine <u>Kasi D G</u> , Ferrari M D, van den Maagdenberg A M J M, Orlova V
P22	Towards a human cortex on-a-chip for brain disease modelling <u>Frimat J P</u> , Hu M, Schijns O E M G, Tolner E A, van den Maagdenberg A M J M, Hoogland G, Luttgé R
P23	Cancer cell migration in an oxygen gradient of different breast cancer and glioblastoma cell lines <u>Sleeboom J J F</u> , Kruyt F A E, Sahlgren C M, Toonder J M J
P24	Development of a Microfluidic Organ-on-a-chip Model of the Outer Retinal Barrier for Studying Vascular Dysfunction in Age-related Macular Degeneration <u>Arik Y B</u> , Buijsman W, Veenstra C, Bergveld P, Gagliardi G, den Hollander A I, Bosschaart N, van den Berg A, Passier R, van der Meer A D
P25	Studying human liver-pancreas interaction in a scalable microfluidic format <u>Karakoç I</u> , Hürliemann F, Yesildag B, Hierlemann A, Moritz W, Frey O
P26	Microfluidic multi-cellular spheroid array <u>Eilenberger C</u> , Rothbauer M, Ertl P, Küpcü S
P27	Modeling multifactorial gastrointestinal diseases in vitro <u>Mooiweer J</u> , Moerkens R, Slager J, Zorro M, Withoff S, Wijmenga C
P28	Development of a diet-induced, disease-mimicking in vitro model of non-alcoholic steatohepatitis (NASH)/ fibrosis <u>Stokman G</u> , Pieterman E, Toet K, Hartvelt S, Ostendorf R, Bobeldijk I, Verschuren L, Morrison M, Kuppens-Munther B, Hanemaaijer R
P29	Unrevealing the molecular nuances of TRPC6 in Focal Segmental Glomerulosclerosis in an in vitro human podocyte established on microfluidic chip system <u>Batool L</u> , Hariharan K, Kurtz A
P30	Microphysiological Cardiac Spheroids in Health and Disease <u>Ergir E</u> , Ertl P, Forte G

Poster ID	Abstract title, Authors
P31	Glioblastoma on chip - the role of autophagy in the tumour progression <u>Randelovic T, Marquina I, Alfaro J, Fernandez L, Ochoa I, Olivan S</u>
P32	Role of vascular mechanics in blood-brain barrier dysfunction <u>Dessalles C A, Babataheri A, Barakat A I</u>
P33	Scalable 3D Vessel-on-Chip model using hiPSCs derived vascular cells <u>de Graaf M N S, Cochrane A, van den Hil F E, Buijsma W, van der Meer A, van den Berg A, Mummer, C, Orlova V</u>
P34	Building blocks for a European Organ-on-Chip roadmap. - The role of the European Organ-on-Chip Society (EUROoCS). <u>Mastrangeli M, Millet S, Mummery C, Loskill P, Braeken D, Eberle W, Cipriano M, Fernandez L, Graef M, Gidrol X, Picollet-D'Hahan N, van Meer B, Ochoa I, Schutte M, van den Eijnden-van Raai J</u>
P35	A novel Human Brain-Chip for disease modeling and therapeutic assessment <u>Kodella K, Manatakis D V, Hinojosa C, Hamilton G A, Karalis K, <u>Pediaditakis I</u></u>
P36	Zinc Oxide Nanoparticle Exposure on a Breathing Lung Alveolus-on-chip <u>Stucki A O, Proust Y-M, Schneider-Daum N, Lehr C-M, Krebs T, Stucki J D, Hobi N, <u>Guenat O T</u></u>
P37	From the fungi to the axon-on-a-chip: the development of a high-throughput model for axonal pathology targeted therapies <u>Guimaraes S C, Pêgo A P</u>
P38	Development of a Human Primary Colon Intestine-Chip to Study the Intestinal Epithelial Barrier for Healthy and Disease States <u>Luc R, Apostolou A, Kasendra M, Lucchesi C, Kerns S J, Hinojosa C, <u>Hamilton G A</u>, Karalis K</u>
P39	Nanofibrillar Cellulose Hydrogel as 3D Culture Matrix for Automated Cell-Based Assays <u>Paasonen L</u>
P40	European Organ-on-Chip Testing Center <u>Windt L, van Meer B</u>
P41	Retina-on-a-Chip: Controlled illumination of a PDMS-free Retina-on-a-Chip for the proximity-culture of retinal organoids with pigment epithelial cells <u>Chuchuy J, Probst C, Achberger K, Haderspeck J, Antkowiak L, Liebau S, Loskill P</u>
P42	WAT-on-a-chip: Microphysiological systems integrating human white adipose tissue <u>Rogal J, , Binder C, Kromidas E, Probst C, Schenke-Layland K, Schenke-Layland K, Schenke-Layland K, Loskill P, Loskill P</u>
P43	Mimicking the microvasculature using 3D sugar printing <u>Pollet A M A O, Homburg F G A, den Toonder J M J</u>
P44	Brain extracellular matrix mimicking hydrogels for modeling of neuronal development <u>Matthiesen I, Jury M, Aronsson C, Nikolakopoulou P, Winkler T E, Voulgaris D, Selegård R, Aili D, Herland A</u>
P45	Towards 3D Heart-on-Chip: Cardiac Microtissues in Microfluidic Channels <u>Buijsman W, Slaats R, Ribeiro M C, Passier R, van den Berg A, van der Meer A</u>
P46	Modular Microfluidic Platform with Gravity-Driven Flow for Establishing Intestinal Barrier Models <u>Nguyen T P O, Hierlemann A, Renggli K</u>

Poster ID	Abstract title, Authors
P47	Microfluidic mechanical bioinfluence on function of "kidney-on-chip" <u>Lou S</u> , Bouten C, den Toonder J
P48	3D-Bioprinting of microfluidic in vitro model of the proximal tubule of the kidney Buch J, <u>Busche M</u> , Schmees C, v. Guttenberg Z, Hofmann J, Stelzle M
P49	Bio-mechanically tuning 3D cell culture environments for lung-on-chip devices <u>Muiznieks, Lisa D</u> , Velvé Casquillas, Guilhem
P50	Microphysiological system to mimic hemodynamic force stimulation <u>Busek M</u> , Schubert M, Kolanowski T J, Schmieder F, Richter A, Sonntag F, Guan K
P51	An artificial niche to study the cell biology of human hematopoietic stem cells <u>Souquet B</u> , Vianay B, Thery M
P52	Enter the Matrix - Hydrogel Stiffness And Its Effect On Chondrocyte Redifferentiation <u>Bachmann B</u> , Spitz S, Redl H, Nürnberger S, Ertl P
P53	An endocrine pancreas-on-a-chip model for non-invasive high content analysis <u>Schlünder K</u> , Zbinden A, Marzi J, Probst C, Urbanczyk M, Black S, Kraushaar U, Duffy G, Schenke-Layland K, Loskill P
P54	A developmental model for intramembranous ossification based on a "Bone-on-a-Chip" for toxicity testing and basic science <u>Scheinpflug J</u> , Schneider M, Schönfelder G, Schulze F
P55	Microfluidic device for a skin in vitro model <u>González-Lana S</u> , Pancorbo L, Lacueva A, Oliván S, Ochoa I, Fernández L, Monge R
P56	Human pluripotent stem cell derived neural 3D cultures - building neural tissue block for body-on-a-chip platform <u>Joki T</u> , Harju V, Ylä-Outinen L, Koivisto J, Karvinen J, Kellomäki M, Narkilahti S
P57	Microfluidic blood vessel chip for in vitro transport and efficacy testing of compounds <u>Zittel E</u> , Grün C, Kappings V, Ivannikov D, Seidl C, Schepers U
P58	In vitro reconstruction of a functional microfluidic Blood-Brain-Barrier model <u>Kappings V</u> , Grün C, Zittel E, Pfister R, Ivannikov D, Schepers U
P59	Guiding neuronal processes in 3D by hydrogel scaffolds and nanogrooved substrates <u>Bastiaens A J</u> , Xie S, Luttge R
P60	Challenges of human iPSC-derived micro-physiologic systems emulating human liver function <u>Raasch M</u>
P61	Vascularization in 3D tissue models <u>Vuorenpää H</u> , Koivisto J T, Parraga J, Montonen T, Kellomäki M, Hyttinen J, Miettinen S
P62	GUT-ON-A-CHIP: Intestinal barrier model to study intestinal absorption and host-microbe interaction <u>Eslami Amirabadi H</u> , Wierenga E, Boogaard J, Grollers M, Stevens L J, Usta B, Pieters L, Ingenhut B L J, Masereeuw R, Steeg E V D
P63	Perfusable 3D angiogenesis in high throughput microfluidic culture platform van Duinen V, <u>Ramakers C</u> , Trietsch S J, van Zonneveld A J, Hankemeier T, Vulto P

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P64	3D NephroScreen: high throughput drug-induced nephrotoxicity screening on a proximal tubule-on-a-chip model Gijzen L, Vormann M K, Ramakers C, Vriend J, Trietsch S J, Wilmer M, Suterdick L, Masereeuw R, Vulto P, Lanz H L
P65	The microphysiological Retina-on-a-Chip: A multi-layered tissue screening platform Antkowiak L, Achberger K, Probst C, Chuchuy J, Haderspeck J, Loskill P, Liebau S
P66	Toxicity testing in microfluidic cell culture using integrated optical sensors Müller B, Rabl D, Sulzer P, Walch M, Zirath H, Buryška T, Rothbauer M, Ertl P, Mayr T
P67	When the human body attacks itself: A Blood-Brain Barrier-on-a-chip study Voulgaris D, Nikolakopoulou P, Matthiesen I, Winker T E, Herland A
P68	3D printed microfluidics for antidrug-antibody detection in autoimmune diseases Cabot J M, Rodriguez X, Ortega A, Bortolotti C, Biscarini F, Ricart J
P69	In vitro organoid model of the human liver sinusoid Nagy N, Raasch M, Rennert K, Evenburg T, Rohrmoser S, Johannssen T, Noerenberg A
P70	Liver-on-chip - A Model for Different Aspects of Sepsis Siwczak F, Rennert K, Gröger M, Raasch M, Mosig A S
P71	Establishment of a human alveolus-on-a-chip model to study microbial pathogenesis Rennert K, Deinhardt-Emmer S, Nietzsche S, Ehrhardt C, Löffler B, Mosig A S
P72	Chemokine gradients on a chip Bonneuil W V, Frattolin J D, Fasanella Masci F, Watson D J, Brook B S, Nibbs R J B, Moore Jr J E
P73	Characterization of four functional biocompatible pressure-sensitive adhesives for rapid prototyping of cell-based lab-on-a-chip and organ-on-a-chip systems Kratz S R A, Rothbauer M, Ertl P
P74	Aorta-on-a-chip: a novel tool to gain molecular insights into aneurysm disease Paloschi V, Buchmann B, Rogowitz R, Bartels J, Meucci S, Bausch A, Maegdefessel L
P75	Personalised investigations of microbiome-nervous system interactions in the context of Parkinson disease Sedrani C, Grandmougin L, Bolognin S, Wilmes P
P76	A lung-on-a-chip platform for improved tissue maturation Bovard D, Sandoz A, Morelli M, Trivedi K, Iskandar A, Luettich K, Frentzel S, Hoeng J
P77	Tubeless, workflow-integrable perfusion system for microphysiological systems Werner S, Hagmeyer B, v. Guttenberg Z, Hofmann J, Stelzle M
P78	On-Chip Single-Cell Electroporation and Transfection for Tissue Engineering Applications Duckert B, Fauvart M, Braeken D, Lagae L
P79	Evaluation of Ionic Interactions of bone cement-on-chip Atif A R, Palmer M P, Tenje M, Mestres G
P80	Custom-designed 2D microelectrode array fabrication Ryynänen T, Karttu A, Mäki A-J, Sukki L, Väliäho J, Välimäki H, Rajan D, Kreutzer J, Lekkala J, Kallio P

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P81	Development and validation of a reusable microfluidic system for the evaluation of biomaterials' biological properties Blasi A, Nguyen H, <u>Barbe L</u> , Tenje M, Mestres G
P82	Direct Laser Bioprinting of Cells on Thin Porous Collagen Scaffolds for Tissue Engineering V. Leva, M. Chatzipetrou, L. Alexopoulos, D. S. Tzeranis, <u>I. Zergioti</u>
P83	A human epithelium on chip with integrated electrodes for TEER measurements <u>Giampetruzzi L</u> , Barca A, Casino F, Capone S, Verri T, Siciliano P, Francioso L
P84	Medical grade titanium on-chip: assessing the biological properties of biomaterials for bone regeneration <u>Carter S D</u> , Nguyen H, Moreira M, Tenje M, Mestres G
P85	Effect of fluid-flow induced shear stress on fibroblast-like synoviocytes <u>Piluso S</u> , Li Y, Teixeira Moreira L, Leijten J, van Weeren R, Karperien M, Malda J
P86	Profiling of T-Cell Bispecific (TCB) antibodies using Organs-on-Chips Technology <u>Gjorevski N</u> , Kerns JS, Tien-Street W, Obrugewitch J, Shukla A, Shroff T, Apostolou A, Luc R, Karalis KA, Hamilton GA, Roth AB and Moisan A
P87	A microfluidic platform for vascularized Organs-on-Chip <u>Grün C</u> , Kappings V, Megnin C, Pollich L, Zittel E, Schepers U
P88	Activation enhances recovery in a brain on chip model of the ischemic penumbra <u>le Feber J</u> , Muzzi L, Levers M, Hassink G
P89	Organ-on-Chip Microengineering Györvary E, Paoletti S, Revol V, <u>Weder G</u>
P90	Understanding of nephrolith using a Lab on a Chip <u>Ibis E</u> , Dhand P, Wang Yu T, Suleymanli S, Ganguly D, Pleeging P, Staufer U, van der Heijden A, Kramer H, Eral B
P91	Developing "Vessel-on-Chip" technology to model vascular physiology and pathophysiology using human induced pluripotent stem cells <u>Cochrane A</u> , de Graaf M, Halaidych O V, Nahon D, Cao X, van de Hil F E, Mummery C L, Orlova V V
P92	Development of an organ-on-a-chip for lymphovascular tumor cell invasion and biophysical microenvironment analysis in urothelial carcinoma <u>Rajabi T</u> , Nitschke K, Ahrens R, Erben P, Guber A E
P93	Exploiting the potential of commercial flight-proven hardware for organ on chip experimentation in space. <u>Balsamo M</u> , Neri G, Pieroni L, Donati A, Zolesi V
P94	A microphysiological model to measure toxic effects at an artificial proximal tubule <u>Schmieder F</u> , Gottlöber F, Sradnick J, Hohenstein B, Sonntag F
P95	Observation of fluid layering and reverse motion in double-walled carbon nanotubes <u>Yaghmaei K</u> , Rafei-Tabar H
P96	Glomerulus-on-a-chip with cellular and extracellular matrix complexity <u>Ferro M P</u> , Huang Y Y S

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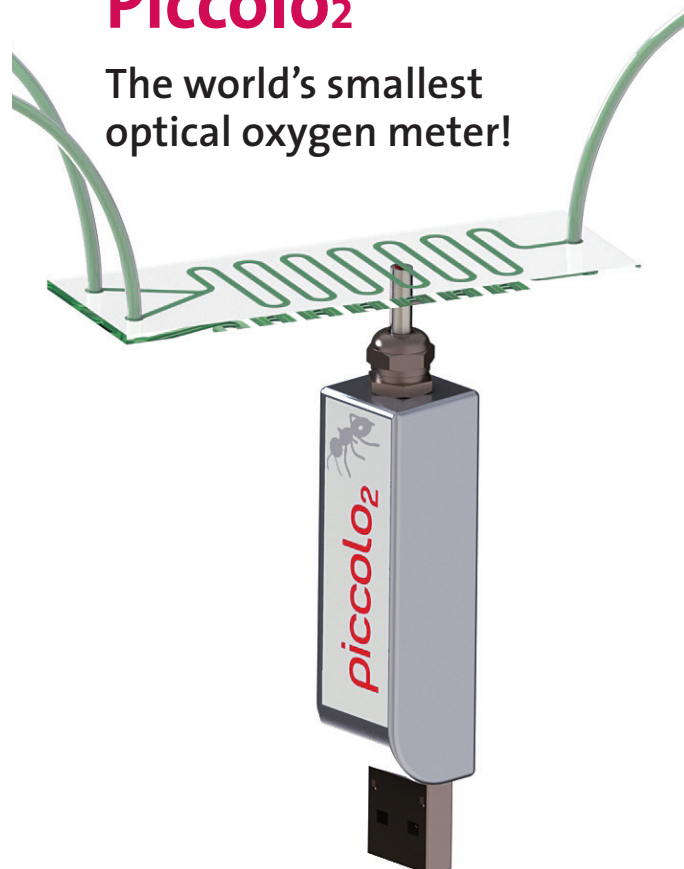
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Programme Overview

	TUESDAY	WEDNESDAY
08:00	Registration	
09:00	Opening	EUROoCS
10:00	Keynote 1 Roger Kamm	Keynote 4 Anna Herland
11:00	Keynote 2 Maxim Mahé	Keynote 5 Geraldine Hamilton
12:00	Coffee Break	Coffee Break
	Selected Talk	Selected Talk
	Analytics Sensing	Integration Immuno asp.
	Oral 1.1	Oral 3.1
	Oral 1.2	Oral 3.2
	Oral 1.3	Oral 3.3
	Healty tissue Safety testing	Disease mod. Efficacy test
	Oral 2.1	Oral 4.1
	Oral 2.2	Oral 4.2
	Oral 2.3	Oral 4.3
13:00	Lunch	Lunch
14:00	Poster Session	Keynote 6 Stefan Kauschke
15:00	Oral 1.4	Oral 2.4
	Oral 1.5	Oral 2.5
	Oral 1.6	Oral 2.6
	Oral 1.7	Oral 2.7
	Oral 1.8	Oral 2.8
	Analytics Sensing	Integration Immuno asp.
	Oral 3.4	Oral 4.4
	Oral 3.5	Oral 4.5
	Oral 3.6	Oral 4.6
	Healty tissue models Safety testing	Disease mod. Efficacy test
16:00	Coffee Break	Poster Prize and Closing
17:00	Keynote 3 Richard Peck	Coffee Break
18:00	Poster Session	
19:00	Reception, Dinner and Conference Party 19.00 - 23.00 h	

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