

Programme International MicroNanoConference 2017 - Tuesday 12 December

Opening and Morning Keynote Session (09.30 - 10.45)						
ROOM:	Effectenbeurszaal					
09.30 - 09.45	Albert van den Berg University of Twente and Chairman of the Program Committee of the iMNC					
09.45 - 10.15	Graphene-CMOS Integration: Application and Challenges Frank Koppens, ICFO, Spain This lecture is sponsored by Philips Innovation Services					
10.15 - 10.45	Beyond the Chasm - Trends and Challenges in Commercializing Microfluidics Holger Becker, Microfluidic ChipShop, Germany					
10.45 - 11.15 Break / exhibition / poster session - Grote Zaal						
Parallel Sessions (11.15 - 12.45)						
Session	Sensors	Photonics	Nanomedicine/ drug delivery / drug targeting	Entrepreneurial & Business (I)	Organ-on-a-Chip	MNBS Workshop (11.15-13.00)
ROOM:	Veilingzaal		Effectenbeurszaal		Berlage zaal	
Chair	Erwin Hijzen, Philips Innovation Services		Anna Salvati, University of Groningen		Nikolaos Kattavenos, European Commission Richard Tuffs, Errin	
11.15 - 11.45	Characterization of Miniaturized Environmental Sensors for Mobile, Wearables and IoT Applications Nebosja Nenadovic, Austria Microsystems	Silicon Photonics Integration Roadmap for Applications in Computing Systems Bert Jan Offrein, IBM Zurich, Switzerland	Micromaterials and Nanomedicines to Improve Drug Targeting to Tumors Twan Lammers, RWTH Aachen / University of Twente	Evolving from a Start Up towards a Global Company Jasper van Weerd, LipoCoat <i>Startup pitches</i> - Amber Implants, Seyed Mohammad Ahmadi - Biomillenia, Dirk Löffert, France	Organ-on-a-Chip workshop organized by Confocal.nl, Fluidigent, hDMT, Micronit Microtechnologies and Thermo Fisher Scientific with a focus on Gut-on-Chip (WUR and TNO), 3D Vessels-on-Chip (LUMC, UTWente) and structured and sensorized reassemblable Organ-on-a-Chip devices.	Keynote - Setting the Scene, Andreas Lymberis, European Commission. A framework for multi-stakeholder/ecosystem driven innovation - Results from InSSight, Mark de Colvenear, DSP Valley, Belgium Lab-on-a-Chip - Non-invasive diagnostics based on LabonaChip systems, Jesus Ruano-Lopez, IK4 Ikerlan, Spain Hyposens - Nano-confined photonic system for detection of breast cancer spread to the lymph nodes, Francesc Mitjans, LEITA Technological Center Terrassa, Spain inSPECT - Integrated Spectrometers for Spectral Tissue Sensing, Jean Schleipen, Philips BIODx and BIOFDS - A miniature Bio-photonics Companion Diagnostics platform for reliable cancer diagnosis and treatment monitoring, Ioanna Zergioti, ICOS, Greece SniffPhone - Non-invasive Disease Diagnosis Using Wearable Technologies, Haack Hossam, Technion - Israel Institute of Technology Haifa SMARTDIAGNOS - An EU Horizon 2020 innovation project to develop a new generation of fully integrated PCR-based infection diagnostics, Anders Wolff, Technical University of Denmark LigBioSens - Detection of KRAS and BRAF mutations in colorectal cancer using blood liquid biopsy, Juan J. Diaz Mochon, DestiNA Genomics Ltd, UK MADIA - Magnetic Diagnostic Assay for neurodegenerative diseases, Alek Dediu InFormed - An integrated pilot line for medical devices - SMART CATHETERS, covering the complete innovation chain from technology concept to system qualification - Ronald Dekker, Philips
11.45 - 12.00	Plasmonic Substrates Based on DVD Manufacturing Techniques for Highly Sensitive Quantification of Biomolecules Iris Prinz, Stratec Consumables, Austria	Application of High-Throughput Label-free Microarrays for Biomolecular Interaction Studies Günther Proll, Biometrics, Germany	Protein Coated Magnetic Nano Hybrids for Medical Applications Andreas Weidner, Technische Universität Ilmenau, Germany	A Game-Changing Way of Investing in Early-Stage Innovation Jo de Boeck, Imec.xpand	You can participate in the demos and speak with the experts present.	
12.00 - 12.15	Electronic Nose Technology for Agriculture Aleksander Andreski, Saxion	Fast and Efficient Detection of Rare Cells Using CMOS-based Low-cost Quantum Dot Camera Zihim Ding, Anitoa Systems LLC, USA	Polyethylenimine-based Nanoparticles Decorated with Various Integrin Ligands Mimicking RGD Peptides for Targeted Delivery of Plasmid DNA Ali Dehshahri, Shiraz University of Medical Sciences, Iran	<i>Startup Pitches</i> - NanoPhab, Francesco Pagliano - BIOND Solutions, Nikolas Gaio		
12.15 - 12.30	Biofunctionalization as Key Step in Biosensor Applications - From R&D to Highthroughput Manufacturing Wilfried Weigel, Scienion, Germany	Si3N4 Based Miniaturized Biosensors for Sensitive Detection of Protein and DNA Geert Besselink, LionIX International	Asymmetric Liposomes for Nucleic Acid Delivery Robbert Jan Kok, University of Utrecht	Spinning-out University Technologies: a role for students in the commercialization process Jes Broeng, professor of Entrepreneurship and Innovation, DTU Fotonik, Lyngby, Denmark		
12.30 - 12.45	Capacitive Micromachined Ultrasonic Transducer Platform Rob van Schaijk, Philips Innovation Services	Micro-Ring Resonator-based Photonic Systems for Detection of Various Biomarkers Gerald Ebberink, Saxion	Modelling Nanoparticle Uptake and Intracellular Transport into Cells and Barriers Christoffer Åberg, University of Groningen	<i>Startup pitches</i> - Exkimiulab, Niek Kunst - Femtoprint, Alexander Steimle, Switzerland - Hyperion Technologies, Bert Monna		
12.45 - 14.00 Break / exhibition / poster session - Grote Zaal						
13.20 - 13.40 Pix4life: the Open-Access Manufacturing Platform for Photonic Integrated Circuits - Grote Zaal - C						
Parallel Sessions (14.00 - 16.00)						
Session	Microfluidics & Analytical Systems (I)	Fabrication at Nanoscale	Organ-on-Chip (I)	Entrepreneurial & Business (II)	Workshop NanoNextSteps	MNBS Workshop (14.00 - 15.45)
ROOM:	Veilingzaal		Effectenbeurszaal		Mendes da Costa Kamer	
Chair	Eduard Pelsers, Philips		Herman Blok, Micronit Microtechnologies		14.00 - 15.00 hrs.	
14.00 - 14.30	Bio-Inspired Microfluidics for Health Jaap den Toonder, Eindhoven University of Technology	Current Trends in Integrated Photonics and the Role of nanoPHAB Francesco Pagliano, nanoPHAB	Lung-on-chip Models with Organ-level Functions Olivier Guenet, Alveolix, Switzerland	The Story of Avantes, focus on Innovation as the Road to Success Benno Oederkerk, Avantes <i>Startup pitches</i> - lamFluidics, Tom Kamperman - Life Sense Group, Wouter Moes	Workshop regarding the continuation of public-private collaboration and innovation on a national scale: NanoNextSteps. A joint initiative of NanoNextNL, together with MinacNed and the University of Twente. This workshop is identical to the workshop of Wednesday afternoon, with a complementary focus on Organ-on-Chip and Bio-Nano Devices.	Keynote: One Health (DMC-MAIVEC & DIAGORAS) - Interfacing human diagnostics with vector control towards a holistic healthcare approach against infectious diseases, Konstantinos Mitsakakis, Hahn-Schickard, Germany MEDILIGHT - Developments towards a miniaturized smart system for light stimulation and monitoring of wound healing, Marina Urbankova, Amiras, Czech Republic AllerScreening - Point-of-care device based on KETs for diagnosis of food allergies, Miguel Holgado, CBGP UPM-INIA, Spain PhasmaFOOD - Portable photonic miniaturised smart system for on-the-spot food quality sensing, Paraskevas Bourgos, WINGS ICT Solutions, Greece PROTEUS - Carbon nanotubes approach in water quality monitoring, Nicolas Guints, Easy Global Market Valbonne, France and Nicolas Massonet, Ecole Polytechnique, France LoveFoodMarket - A portable MicroNano-BioSystem and Instrument for ultra-fast analysis of pathogens in food: Innovation from lab prototype to pre-commercial instrument, Zuzana Bilikova, UPCE, Czech Republic SOCKETMASTER - Development of a Master Socket for optimised design of prosthetic socket for lower limb amputees, Jianxin Gao, TWI Ltd, UK SAPHELY - Self-amplified photonic biosensing platform for microRNA-based early diagnosis of diseases, Jaime Garcia-Ruperez, Universitat Politècnica de Valencia, Spain Phoensis - Advanced nanophotonic point-of-care analysis device for fast and early diagnosis of cardiovascular diseases, Jaime Garcia-Ruperez, Universitat Politècnica de Valencia, Spa SMARTER-SI - Smarter Access to Manufacturing for Systems Integration, Eric Moore, Tyndall Institute, Ireland & Guy Voirin, CSEM, Switzerland
14.30 - 14.45	The Effect of Microchamber Geometry on the Efficiency of Magnetic Microbead Mixing Eriola Shanko, Technical University of Eindhoven	Implementation of Carbon Nanomembranes into Different Sensor Concepts Albert Schnieders, CNM Technologies, Germany	Organ-on-a-Chip: An Updated Commercialisation Report Card 2017 Malcolm Wilkinson, Kirkstall Ltd, United Kingdom	Investing in the Technology, Medtech, and Healthcare Sectors Dick Sietses, Health Innovations		
14.45 - 15.00	Integrated Flow Control Based on Capillary Burst Valves and Electrostatic Actuation Mechanism for Sequential Flow of Reagents Ailki Tsopela, Micronit Microtechnologies	Enhanced Control over Carbon Nanotube Textile Synthesis Using a Micro Coriolis Device Wouter Sparreboom, Bronkhorst High Tech	Gut On-A-Chip: Towards a More Physiological and Predictive Human Intestinal Barrier Model Lianne Stevens, TNO	<i>Startup pitches</i> - Hoekmine, Colin Ingham - NovioCell, Juliette van den Dolder, Hefziba ten Brink		
15.00 - 15.15	Detection of IV Medicine Mixture Composition at Low Flows Rory Dijkink, Saxion	A Chip-based, Widely Tunable InPSi3N4 Hybrid Laser with Ultra-high Coherence Youwen Fan, University of Twente	Using 3D-Printing to Fabricate Microfluidic Vascular Models to Mimic Arterial Thrombosis Hugo Albers, University of Twente	The Search for Investment Partners Supporting Internationalisation of Research Based Companies in their Early Stages of Development Christopher Mott, Open Strategic Global Ventures		
15.15 - 15.30	Microfluidic Devices for UV-Vis Spectroscopy for Illicit Drug Brigitte Bruijns, University of Twente	Rapid Process Ramp-up of Sensor Guided Automated Assembly Processes Tobias Mueller, Fraunhofer IPT, Germany	Development of a 3D In Vitro Platform for Functional and Structural Interrogation of Neuronal Circuits Paolo Cesare, NMI, Germany	<i>Startup Pitches</i> - SCIL Nanoimprint solutions, Rob Voorkamp - SeraNovo, Niall Hodgins		
15.30 - 16.00 Break / exhibition / poster session - Grote Zaal						
Afternoon Keynote Session and Closure of the Day (16.00 - 17.15)						
ROOM:	Effectenbeurszaal					
Chair	Cas Damen, Twente Solid State and member of the Organizing Committee of the iMNC					
16.00 - 16.30	On the Challenge of Characterizing Nanomedicines in Bio-fluids Stefaan Desmedt, Ghent University, Belgium					
16.30 - 17.00	More and more NanoLinks Juergen Brugger, EPFL, Switzerland - This lecture is sponsored by NanoLabNL					
17.00 - 17.15	Announcement Startup of the Year 2017 - The Startup of the Year Award is sponsored by NanoNextNL					
ROOM:	Grote Zaal					
17.15 - 18.30	Drinks / exhibition / poster session					
17.30 - 18.30	InSSight Workshop : An ecosystem view on Micro Nano Bio Systems Interactive discussion on multi-stakeholder, cross-discipline, interregional innovation		Microfluidics Association and Microfluidic Standardisation Informal meeting			
18.30 - 21.00	Conference Dinner and Evening Programme					

Programme International MicroNanoConference 2017 - Wednesday 13 December

Opening and Morning Keynote Session (8.55 - 10.00)					
ROOM:	Effectenbeurszaal				
08.55 - 09.00	Frank van de Scheur, Philips Innovation Services, board member of MinacNed				
09.00 - 09.30	Micro-instrumentation Towards In Vivo NMR Metabolomics - a Roadmap Jan Korvink, KIT, Germany				
09.30 - 10.00	Atomic Layer Deposition: an Enabling Technology for Nanoscale to Large Area Applications Erwin Kessels, Eindhoven University of Technology				
10.00 - 10.45 Break / exhibition / poster session - Grote Zaal					
Parallel Sessions (10.45 - 12.15)					
Session	Microfluidics & Analytical Systems (II)	Characterization at Nanoscale (II)	Organ-on-Chip (II)	Single Cell Dispensing on a Microreactor Device	Ecosystems and Key Innovations MNBS Issues
ROOM:	Veilingzaal		Effectenbeurszaal		Berlage zaal
Chair	Per Magnus Kristiansen, FHNW University of Applied Sciences and Arts Northwestern Switzerland		Martijn Franssen, PANalytical		Peter van Stiphout, BionChip
10.45 - 11.15	Nanophotonic Lab-on-Chip Biosensor Platform for Ultrahensive Analysis at the Point-of-Care Laura Lechuga, Catalan Institute of Nanoscience and Nanotechnology, Spain	Structure-properties Relationship Determination at the Nanoscale Using Advanced Electron Microscopy Nicolas Gauquelin, University of Antwerpen, Belgium	Merging High-Content and High-Throughput Screening: Microphysiological Organ-on-a-Chip Systems Featuring Complex Human Tissues With Physiological Structure and Function Peter Loskill, Fraunhofer Institute for Interfacial Engineering and Biotechnology, Germany	Workshop single cell dispensing on a micro reactor device organized by Cellenion, Micronit Microtechnologies and Fluidigent. The demonstration is followed by a microscopic characterization by Confocal.LI to make the result visible. Micronit Microtechnologies will talk about the standardisation of microfluidics, with their web store products and prototyping service 'miproto' as leading examples. You can participate in the demos and speak with the experts present.	Transforming a mature technology into a viable clinical solution: the Loop of Innovation, Furio Gramatica, Fondazione Don Carlo Gnocchi Onlus, Italy Standardisation of MNBS Building Blocks for manufacturing, Petra Weiler, VDI/VDE-IT, Germany Multi-stakeholder innovation & SMEs, Richard Crotty, Environmental Laboratory Services Ltd.
11.15 - 11.30	Commercial Value and Challenges of Drop-Based Microfluidic Screening Platforms - An Opinion Christian Holtze, BASF SE, Germany	Lighting Up Molecules in Large-scale Multi-modal Electron Microscopy Ben Giepmans, UMC Groningen	Modeling the Pre-invasive Breast Cancer Microenvironment Using High-throughput Microfluidic Cell Encapsulation Jelle Slesboom, Technical University of Eindhoven		
11.30 - 11.45	Microfluidic Droplet Arrays for Rapid Single Cell Culture and Analysis Amin Hassanzadeh Barforoushi, University of New South Wales, Australia	Optimized MEMS-based Sample Carrier for In-situ Heating in the Transmission Electron Microscope Tijn van Omme, DENSO Solutions	Characterizing Micromechanical Viscoelastic Properties of Soft Tissues and (Bio)Materials in Physiologic-like Conditions Giorgio Mattei, Optics11		
11.45 - 12.00	3D Printed Stainless Steel Microreactor with Electrospun Ionization Tip Gianmarco Scotti, University of Helsinki, Finland	New modalities in Re-scan Confocal Microscopy (RCM) Erik Manders, University of Amsterdam	Three-Stage Enzymatic Digestive System for a Gut-on-a-Chip Pim de Haan, University of Groningen		
12.00 - 12.15	Generator - Collector Electrochemical Sensor Configurations Based on Track-Etch Membrane Separated Platinum Leaves Hamid Zafarani, Technical University of Delft	Characterization of Porosity & Flow in Battery Materials with 3D Reconstruction of Plasma FIB Serial Slice Daniel Phifer, Thermo Fisher Scientific	96 Perforable Blood Vessels to Study Vascular Permeability In Vitro Vincent van Duinen, LUMC		
12.15 - 13.30 Break / exhibition / poster session - Grote Zaal					
Parallel Sessions (13.30 - 15.00)					
Session	Microfluidics & Analytical Systems (III)	Thin films: Fabrication and Characterization	Organ-on-Chip (III)	Workshop NanoNextSteps 13.30 - 14.30 hrs.	Ecosystems and Key Innovation MNBS Issues
ROOM:	Veilingzaal		Effectenbeurszaal		Blauwe Kamer
Chair	Han Gardeniers, University of Twente		Fred Bijkerk, University of Twente		Janny van den Eijnden, hDMT
13.30 - 14.00	Microfluidic Standardisation: Part 1 Interfacing (Marko Blom, Micronit Microtechnologies) Part 2 Testing and Characterization (Stefan Thalhammer, Heidenhain, Germany)	Optics for EUV Lithography Eric Louis, MESA+	Robust Microfluidic Organ Mimic Platforms Ashutosh Agarwal, University of Miami, USA	Workshop regarding the continuation of public-private collaboration and innovation on a national scale: NanoNextSteps. A joint initiative of NanoNextNL, together with MinacNed and the University of Twente.	Smart Anything Everywhere and Digital Innovation Hubs, Rainer Günzler, Hahn-Schickard Freiburg, Germany Combining KETs for disruptive healthcare, Patrick Boisseau CEA-LETI, France
14.00 - 14.15	Surface Modification for Point-of-Care Devices Wout Knobben, Surfex	Model Independent Approach for the Analysis of GIXR Data from Thin Films Igor Makhotkin, MESA+	Human Gut-on-a-Chip as a Model for Bioavailability and Biotransformation Studies Hans Bouwmeester, RIKILT	This workshop is identical to the workshop of Tuesday afternoon, with a complementary focus on 3D Manufacturing and Nanomaterials for Energy Storage.	2017 Strategic Research Agenda for Electronic Components and Systems on MNBS, Renzo dal Molin, Cairdac, Italy
14.15 - 14.30	Digital Surface Modifications for Microfluidics and Biosensor Applications Alquin Stevens, InnoPhysics BV	Protection and Functionalization of Particles Through Scalable Atomic Layer Deposition Bart van Limpt, Delft IMP	Curved Micro-engineered Membranes for Alveolar On-chip Models Danielle Baptista, MERL Institute		MNBS Funding opportunities H2020- Nikolaos Kattavenos, European Commission AIOTI WG Wearables, tbc
14.30 - 14.45	A Versatile X-Y Architecture Using Stretchable Microfluidic for Quantitative Multi-step Assays Nicolas Verplanck, CEA-LETI, France	X-ray methods for the Characterization of Layered Structures Joachim F. Woitok, PANalytical	Fabrication of an Organ-on-Chip Membrane Scaffold with Integrated Conducting Polymer Sensors Pieter Kapel, Technical University of Delft		Internet of Food and Farm 2020, Cor Verdouw, Wageningen UR
14.45 - 15.00	Modular Platform Using Standardized Microfluidic Building Blocks for Effective Microfluidic Prototyping William César, Fluidigent, France	Recent Advances in Large Area Pulsed Laser Deposition: epitaxial growth of complex oxides on silicon Rik Groenen, Twente Solid State	A Human Microvessel-on-a-Chip Platform to Assess Circulating Factors Associated With Microvascular Destabilization Thomas Hankemeier, Leiden University		Summary of InSSight Workshop results, Panel Discussion and Closing Notes
15.00 - 15.30 Break / exhibition / poster session - Grote Zaal					
Afternoon Keynote Session and Closure of the Day (15.30 - 16.45)					
ROOM:	Effectenbeurszaal				
Chair	Ronny van 't Oever, Micronit Microtechnologies and Chairman of the Board of MinacNed				
15.30 - 16.00	Roadmapping Innovations by Technology Assessment and Predictive Analytics Ashok Vaseashta, New Jersey City University, USA				
16.00 - 16.30	The Urgent Need for Improved Human Relevant In Vitro Models: are organs-on-a-chip a solution? Lorna Ewart, AstraZeneca, UK				
16.30 - 16.45	Announcement Poster of the Year Award 2017 and Closing				
16.45 - 18.00	Drinks / exhibition / poster session - Grote Zaal				

Sense of Contact | Dec. 13 • 2017
Co-located with the International MicroNanoConference in the Beurs van Berlage