

| | | |
|---------------|---|----------------------------|
| 08:00 - 09:00 | Registration and Coffee | <i>Röntgen</i> |
| 09:00 - 09:10 | Welcome | <i>Einstein Auditorium</i> |
| 09:10 - 09:50 | Keynote: Exploring the Future of Image-guided Surgery with Smart Catheters Ron Kroon, PhD | <i>Einstein Auditorium</i> |
| 09:50 - 10:20 | Invited: Prehistory of IVUS 1971 - 1989 and Beyond Prof. Klaas Bom | <i>Einstein Auditorium</i> |

10:30 - 12:00
Session 1 *Einstein Auditorium*
The next generation smart catheters

| | | | |
|-------|--|-------------------------|------------|
| 10:30 | A Front-End ASIC with In-Probe Digitization for 3-D Forward-Looking Intravascular Ultrasound Imaging | Mingliang Tan | TU Delft |
| 10:45 | Compressive Forward-Looking 3D Intravascular Ultrasound Imaging Using a Single Element Transducer | Jovana Janjic | Erasmus MC |
| 11:00 | RF ablation catheter for photoacoustic lesion monitoring | Sophinese Iskander-Rizk | Erasmus MC |
| 11:15 | Heartbeat OCT disposable catheter with distal micro-motor | Leonardo Cecchetti | Erasmus MC |
| 11:30 | Improving bladder cancer diagnostics with an Optical Coherence Tomography imaging catheter | Arjan Groenevelt | Scinvivo |

10:30 - 12:00
Session 2 *Ernst*
INCITE / InForMed pitch presentations

| | | | |
|-------|---|--------------------------------|-----------------------------|
| 10:30 | Micro-fabrication of medical devices for Europe: Introduction to the INCITE and InForMed projects | Sieger Swaving | Philips Innovation Services |
| 10:45 | Speed presentations to pitch the project achievements | INCITE & InForMed demo leaders | European consortium |
| 11:30 | Meet the experts: Visit the INCITE/InForMed Poster exhibition | INCITE & InForMed demo leaders | European consortium |

| | | |
|---------------|--|----------------------------|
| 12:00 - 13:00 | Lunch | <i>Röntgen</i> |
| 13:00 - 13:40 | Keynote: FFR - 'less is more' - from Innovative Theory to Golden Standard Dr. Pim Tonino | <i>Einstein Auditorium</i> |

13:50
14:20
Invited: CMUT - from Research to Product *Einstein Auditorium*
Dr. Peter Dirksen

14:20 - 16:00
Session 3 *Einstein Auditorium*
The MEMS Ultrasound Revolution

| | | | |
|-------|--|-------------------|------------------|
| 14:20 | Electrical and Acoustic Characterization of Scandium Aluminum Nitride PMUTs | Panu J. Koppinen | VTT |
| 14:35 | First ever solid state cMUT IVUS catheter through Flex-to-Rigid integration | Vincent Henneken | Philips Research |
| 14:50 | Computationally efficient finite element modelling of periodic ultrasound arrays | Ronald Kampinga | Reden |
| 15:05 | Electrifying Frequency-Tunable Ultrasound Catheters with Light | Martin Pekar | Philips Research |
| 15:20 | Ultrathin MEMS pressure sensor and readout ASIC | Jaakko Saarilahti | VTT |
| 15:35 | Catheter integration for two flexible circuit based cardiovascular applications | Frank Stam | Tyndall |

13:50 - 16:00
Session 4 *Ernst*
Innovation in micro-fabricated medical devices

| | | | |
|-------|--|---------------------|-----------------------------------|
| 13:50 | Bridging the Valley of Death for Microfabricated Medical Devices | Ronald Dekker | TU Delft |
| 14:00 | Thinking Together, Working Together, Investing Together | Bert de Colvenaer | ECSEL JU |
| 14:20 | Sharing to Reduce Economic Risks | Maurits Butter | TNO |
| 14:40 | The Philips MEMS Foundry – a European Pilot Line for Medical Devices | Robbert v.d. Waal | PlnS |
| 15:00 | Design and Development of SureStim | Hubert Martens | Salvia |
| 15:20 | PhD+, from Lab to Fab | Paul de Wit | TU Delft |
| 15:35 | UBORA: Euro-African Open Biomedical Engineering e- Platform | Andrés Díaz Lantada | Universidad Politécnica de Madrid |

| | | |
|---------------|---|--------------------------------------|
| 16:00 - 16:15 | Coffee | <i>Röntgen</i> |
| 16:15 - 17:30 | Visit of the InForMed Pilot Line for Micro-fabricated Medical Devices (limited places) | <i>High Tech Campus / Greenhouse</i> |
| 18:00 - 20:00 | Reception | <i>Philips Museum</i> |

08:30 - 09:00 **Registration and Coffee** Röntgen

09:00 - 09:10 **Welcome** Einstein Auditorium

09:10 - 09:40 **Keynote: Miniaturized Neural Implants: Design, Development and Reliability**
Prof. Thomas Stieglitz Einstein Auditorium

09:50 **Invited: Life Sciences Go Digital**
10:20 Prof. Liesbet Lagae Einstein Auditorium

10:20 -12:00
Session 5
Smart Body Patches Einstein Auditorium

| | | | |
|-------|--|---------------------|------------------|
| 10:20 | DermaTrax: Development of a Bluetooth-enabled Wound Dressing with onboard Temperature and Moisture sensing | Suzanne O'Callaghan | Tyndall |
| 10:35 | Smart Textiles for Health Monitoring | Marcin Meyer | KOB |
| 10:50 | Human Health Monitoring by Micro Gas Detectors | Johan Klootwijk | Philips Research |
| 11:05 | Breaking Barriers: Wearable Micro Transdermal Interface Platforms (MicroTIPs) for Transdermal Delivery and Diagnostics | Conor O'Mahony | Tyndall |
| 11:20 | Microneedle-based ECG Monitoring | Andrea Bocchino | Tyndall |
| 11:40 | Hybrid Printed Electronics in Health patches: the perfect match! | Frank Everaerts | Holst Centre |

09:50 **Invited: Soft Bioelectronic Interfaces**
10:20 Prof. Stéphanie P. Lacour Ernst

10:20 -12:00
Session 6
Bioelectronics Ernst

| | | | |
|-------|---|--------------------|----------------------|
| 10:20 | Deep brain stimulation and sensing | Luc van Immerseel | Nexeon Medsystems |
| 10:40 | Advancing bioelectronics development | Rory Murphy | Intelligent Implants |
| 11:00 | Flexible implantable ultrathin chip encapsulation (FITEP) to fabricate neural CMOS-based probes for intra-fascicular implantation | Maaïke Op de Beeck | IMEC |
| 11:15 | Miniaturized Electrodes and Catheter Tips with Integrated Functional Components based on LCP Substrates | Eckardt Bihler | Dyconex |
| 11:30 | Generic platform for the miniaturization of bioelectronics implants | Marta Kluba | TU Delft |
| 11:45 | Ultra-Low-Noise Signal-Recording Amplifier/MUX ASIC | Reza Lotfi | TU Delft |

12:00 - 13:00 **Lunch** Röntgen

13:00 - 13:40 **Keynote: From Lab on Chip to Organ on Chip**
Prof. Albert van den Berg Einstein Auditorium

Invited: hDMT Organ-on-Chip Consortium: Joining forces for the future in Europe
13:50 Dr. Janny van den Eijnden-van Raaij Einstein Auditorium

14:20 -16:00
Session 7
Organ-on-Chip Einstein Auditorium

| | | | |
|-------|--|-----------------|-----------|
| 14:20 | Heart-in-a-Dish: Preclinical Drug Screening for Cardiotoxicity | Berend van Meer | Leiden MC |
| 14:35 | Heart-on-a-chip: a high-throughput, multimodal cardiotoxicity screening platform | Thomas Pauwelyn | IMEC |
| 14:50 | Cystostretch: A Multi-Well Plate Heart-on-Chip Device | Nikolas Gaio | TU Delft |
| 15:05 | Skin-on-chip: integration of skin tissue and microsystems engineering | Lambert Bergers | TU Delft |
| 15:20 | MEMS-Electronics Integration: A Smart Temperature Sensor for an Organ-on-a-chip Platform | Ronaldo Ponte | TU Delft |
| 15:35 | New polymer fabrication strategy for integrated microfluidic systems | Paola Fanzio | TU Delft |

13:50 -16:00
Session 8
Robotics and miscellaneous Ernst

| | | | |
|-------|--|----------------------|-------------------------------|
| 13:50 | Force feedback and tactile sensing for Robin Heart Surgical Robot | Péter Fürjes | Hungarian Academy of Sciences |
| 14:05 | Safe Puncture Tool for Retinal Vein Cannulation | Mohamed Zanaty | EPFL |
| 14:20 | Modeling the behavior of guidewire inside the vascular system and comparing the trajectory and the applied forces | Hoda Sharei Amarghan | TU Delft |
| 14:35 | Automated Visualization of Steep Needles in 3D Ultrasound | Arash Pourtaherian | TU Eindhoven |
| 14:50 | Automatic online layer separation for vessel enhancement in X-ray angiograms for percutaneous coronary interventions | Hua Ma | Erasmus MC |
| 15:05 | New concept silicon microgripper: fabrication and biocompatibility assessment | Alvise Bagolini | FBK |
| 15:20 | Proximal Audio Measurement and Analysis - Information Enhancement for Interventional Device Guidance | Alfredo Illanes | University Magdeburg |

16:00 - 16:15 **Closure** Einstein Auditorium

16:15 - 17:30 **Drinks & Snacks** Röntgen