

SCIENTIFIC PROGRAM PER DAY

SATURDAY, NOVEMBER 7, 2015

Opzooamer kamer
13.00 - 15.00

EDITORIAL BOARD MEETING – invitation only

Opzooamer kamer
15.00 - 17.00

ISBF BOARD MEETING – invitation only

Entrance
16.00 - 18.00

REGISTRATION

Aula
17.30 - 17.45

WELCOME & OPENING

Aula
17.45 - 18.30

PL1.1 PLENARY SESSION: **ORGANOIDS**
PLENARY LECTURE: **Lgr5 Stem Cell-based organoids in human disease**
Prof. Hans Clevers, Hubrecht Institute, Utrecht, Netherlands

Aula
18.30 - 19.15

PL2.1 PLENARY SESSION: **BIOMIMETICS**
PLENARY LECTURE: **Biofabricating the interface between biology and electronics**
Prof. Gregory Payne, University of Maryland, College Park, USA

Senaatzaal, Zaal 1636,
Belle van Zuylen,
Maskeradezaal
19.15 - 20.30

WELCOME RECEPTION & POSTER VIEWING

SUNDAY, NOVEMBER 8, 2015

Aula
09.00 - 09.45

PL3.1 PLENARY SESSION: **Bottom up approaches**
Moderator: **Dr. Roman Truckenmüller**, Maastricht University, Maastricht, Netherlands
PLENARY LECTURE: **Cellular building blocks for 3D tissue fabrication**
Prof. Sohji Takeuchi, University of Tokyo, Tokyo, Japan

Senaatzaal, Zaal 1636
09.45 - 10.15

COFFEE BREAK

Kanunnikenzaal
10.15 - 11.45

FREE PAPER SESSION 1:
Scaffold free biofabrication approaches
Moderators: **Prof. Gabor Forgacs**, University of Missouri, Columbia, USA & **Prof. Koichi Nakayama**, Saga University, Saga, Japan

Aula
10.15 - 11.45

FREE PAPER SESSION 2:
Scaffold-based approaches I
Moderators: **Prof. Brian Derby**, University of Manchester, Manchester, United Kingdom & **Dr. Ferry Melchels**, Heriot-Watt University, Edinburgh, Scotland

10.15 - 10.45

KL1.1 KEYNOTE LECTURE: Development of Scaffold-free 3D Tissue & Organ Fabrication by Bio-3D Printer
Prof. Koichi Nakayama, Saga University, Saga, Japan

10.15 - 10.45

KL2.1 KEYNOTE LECTURE: Biomaterials for biofabrication
Dr. Ferry Melchels, Heriot-Watt University, Edinburgh, Scotland

10.45

F1.1 Optimizing Cell Viability In Droplet-Based Cell Deposition
Dr. Claas Willem Visser, University of Twente, Enschede, Netherlands

10.45

F2.1 Biofabrication of anatomically shaped implants for regeneration of the rabbit humeral head
Dr. Jetze Visser, University Medical Center Utrecht, Utrecht, Netherlands

F1.2 High-Throughput Engineering Of Single Cell Microniches With Tunable Size And Elasticity
Mr. Tom Kamperman, University of Twente, Enschede, Netherlands

F2.2 Bioprintable hydrogels for vascularized bone constructs
Drs. Loek Loozen, University Medical Center Utrecht, Utrecht, Netherlands

F1.3 3D Direct Cell Bioprinting of Cells for Tissue Engineering
Prof. Bahattin Koc, Sabanci University, Istanbul, Turkey

F2.3 Tissue spheroids engaged into microcaffolds (lockyballs) as a promising bottom-up strategy in biofabrication and bioprinting
Dr. Rodrigo Rezende, Center for Information Technology Renato Archer, Campinas, Brazil

F1.4 Biofabrication of hair follicle using micro-fabricated PDMS spheroids chips
Ms. Chisa Yoshimura, Yokohama National University, Yokohama, Japan

F2.4 Development of polymer/hydrogel scaffold using hybrid bioprinting system
Dr. JunHee Lee, Korea Institute of Machinery & Materials, Daejeon, South Korea

F1.5 Cell sheet engineering of the glomerular capillary wall
Dr. Rachel Saunders, University of Manchester, Manchester, United Kingdom

F2.5 Biofabrication of scaffolds for middle ear repair
Dr. Carlos Mota, Maastricht University, Maastricht, Netherlands

Senaatzaal, Zaal 1636
11.45-13.00

LUNCH BREAK/EXHIBITION/POSTER VIEWING

Kanunnikenzaal
12.00-13.00

Lunch Symposium Brightlands – InSciTe

Welcome to InSciTe

Dr. Danielle Curfs, InSciTe

XS-GRAFT: the engineering of vascular access grafts

Dr. Patricia Y.W. Dankers, TU/e

SynCart

Dr. Rene van Donkelaar, TU/e

The Ocular Coil Drug delivery Comfort trial

Dr. Aylvin Dias, Eyegle BV

Aula
13.15-14.00

PL4.1 PLENARY SESSION: **Biomimetics**

Moderator: **Prof. Dr. Lorenzo Moroni**, Maastricht University, Maastricht, Netherlands

PLENARY LECTURE: **Direct tissue engineering approaches for regenerative biology and medicine**

Prof. Suwan Jayasinghe, University College London, London, United Kingdom

<p>Aula 14.15-15.45</p>	<p>FREE PAPER SESSION 3: Engineered tissues and organs I Moderators: <i>Prof. Vladimir Mironov, 3D Bioprinting Solutions, Moscow, Russia & Prof. William Shu, Heriot-Watt University, Edinburgh, Scotland</i></p>	<p>Kanunnikenzaal 14.15-15.45</p>	<p>FREE PAPER SESSION 4: New Technologies Moderators: <i>Dr. Arnold Gillner, Fraunhofer-Institut für Lasertechnik ILT, Aachen, Germany & Dr. Tim Woodfield, University of Otago Christchurch, Christchurch, New Zealand</i></p>
<p>14.15-14.45</p>	<p>KL3.1 KEYNOTE LECTURE: Bioprinting of Mouse Thyroid Gland <i>Prof. Vladimir Mironov, 3D Bioprinting Solutions, Moscow, Russia</i></p>	<p>14.15-14.45</p>	<p>KL4.1 KEYNOTE LECTURE: 3D-Biofabrication by Laser Cell Printing and Ultra High Resolution Additive Manufacturing <i>Dr. Arnold Gillner, Fraunhofer-Institut für Lasertechnik ILT, Aachen, Germany</i></p>
<p>14.45</p>	<p>F3.1 Bioprinting de novo cartilage with extracellular matrix-based bioink <i>Mr. Matti Kesti, ETH Zurich, Zurich, Switzerland</i></p>	<p>14.45</p>	<p>F4.1 Additive manufacturing of scaffolds with sub-micron filaments via melt electro-spinning writing <i>Mr. Gernot Hochleitner, University of Würzburg, Würzburg, Germany</i></p>
	<p>F3.2 Computational-informed design and biofabrication of 3D spatially patterned constructs for bone tissue engineering <i>Dr. Aurélie Carlier, KU Leuven, Leuven, Belgium</i></p>		<p>F4.2 Versus picosecond pulses for laser-induced forward transfer of biomaterials <i>Dr. Raphaël Devillard, INSERM, Bordeaux, France</i></p>
	<p>F3.3 Rapid Formation of the Bone Marrow-like Tissue <i>Dr. Nobuhiko Kojima, Yokohama City University, Yokohama, Japan</i></p>		<p>F4.3 Bioprinting of Encapsulated Pancreatic Islets <i>Mr. Dirk Jan Cornelissen, Heriot-Watt University, Edinburgh, United Kingdom</i></p>

	<p>F3.4 Patterning of tissue spheroids biofabricated from human fibroblasts on the surface of electrospun polyurethane matrix using 3D bioprinter Prof. Vladimir Mironov, 3D Bioprinting Solutions, Moscow, Russia</p>	<p>F4.4 Innovative biofabrication of 3D conductive scaffolds for cardiac tissue modelling Prof. Giovanni Vozzi, Research Center E. Piaggio; University of Pisa, Pisa, Italy</p>
	<p>F3.5 3D plotting of a biphasic scaffold consisting of a calcium phosphate cement and a growth factor loaded hydrogel blend Mr. Tilman Ahlfeld, Technische Universität Dresden, Dresden, Germany</p>	<p>F4.5 Assessment of electromagnetic device for label-free magnetic cell assembly Dr. Yoshtiaki Akiyama, Shinshu University, Matsumoto, Japan</p>
<p>Senaatzaal, Zaal 1636, Courtyard 15.45 - 16.15</p> <p style="text-align: center;">COFFEE BREAK</p>		
<p>Aula 16.15 - 17.45</p>	<p>FREE PAPER SESSION 5: Engineered tissues and organs II Moderators: Prof. Wei Sun, Drexel University, Philadelphia, USA & Prof. James Yoo, Wake Forest Institute for Regenerative Medicine, Winston-Salem, USA</p>	<p>Kanunnikenzaal 16.15 - 17.45</p> <p>FREE PAPER SESSION 6: Scaffold based II Moderators: Prof. Michael Gelinsky, TU Dresden, Dresden, Germany & Dr. Paul Wieringa, MERLN; University of Maastricht, Netherlands</p>
<p>16.15 - 16.45</p>	<p>KL5.1 KEYNOTE LECTURE: Bioprinted Engineered Tissues for Translational Applications Prof. James Yoo, Wake Forest Institute for Regenerative Medicine, Winston-Salem, USA</p>	<p>16.15 - 16.45</p> <p>KL6.1 KEYNOTE LECTURE: Novel approaches to bioprinting by means of multi-channel 3D plotting Prof. Michael Gelinsky, TU Dresden, Dresden, Germany</p>
<p>16.45</p>	<p>F5.1 Prevention of apoptosis in epithelial-cell-spheroids Ms. Wakako Motoyama, Yokohama City University, Yokohama, Japan</p>	<p>16.45</p> <p>F6.1 Kinetics of tissue spheroids spreading on synthetic fluorescent electrospun matrices Prof. Vladimir Mironov, 3D Bioprinting Solutions, Moscow, Russia</p>

F5.2 Bioprinting of human pluripotent stem cells and their directed differentiation for the generation of 3D liver-like micro-tissues
Dr. Alan Faulkner-Jones, Heriot-Watt University, Edinburgh, United Kingdom

F6.2 Bioprinted soft tissue models for compound testing
Dr. Markus Rimann, Zurich University of Applied Sciences, Wädenswil, Switzerland

F5.3 Design and fabrication of a biomimetic oriented scaffold with multi-branch network for myocardial tissue engineering.
Mr. Yongcong Fang, Tsinghua University, Beijing, China

F6.3 Layer-by-Layer Microfabrication of Cellularized Poly (lactic acid) Constructs for Bone Tissue Engineering
Miss. Vera Guduric, Inserm U1026 Biotis, Bordeaux, France

F5.4 Challenges in biofabrication of alginate based matrices for bone tissue regeneration: aspects of degradation and application of co-culture
Dr. Rainer Detsch, Institute of Biomaterials, Erlangen, Germany

F6.4 Scaffolds surface modification via irradiation laser treatment
Prof. Wojciech Swieszkowski, Warsaw University of Technology, Warsaw, Poland

F5.5 A comparison of different hydrogels for 3D bioprinting of hybrid mechanically reinforced constructs for cartilage tissue engineering
Ms. Susan Critchley, Trinity College, Dublin, Ireland

F6.5 Computational Design of Biotransportation Network for Biofabrication
Prof. Qing Li, University of Sydney, Sydney, Australia

Aula
18.00-19.00

ISBF GENERAL ASSEMBLY

Senaatzaal, Zaal 1636,
 Belle van Zuylen,
 Maskeradezaal
19.00 - 20.00

POSTER VIEWING & DRINKS

20.00 - late

YOUNG SCIENTIST EVENT (sponsored by ISBF)

MONDAY, NOVEMBER 9, 2015

Aula
08.45 - 09.30

PL5.1 PLENARY SESSION : Clinical Translation
Moderator: **Prof. Daniel Saris**, *University Medical Center Utrecht, Utrecht, Netherlands*
PLENARY LECTURE: **Cartilage engineering research and its application**
Prof. Yilin Cao, *Shanghai 9th People's Hospital, Shanghai, China*

Senaatzaal, Zaal 1636
09.30 - 10.00

COFFEE BREAK

Kanunnikenzaal
10.00 - 11.30

FREE PAPER SESSION 7:
New Materials I
Moderators: **Dr. Debby Gawlitta**,
*University Medical Center Utrecht,
Utrecht, Netherlands & Prof. Jürgen
Groll*, *University of Würzburg,
Würzburg, Germany*

Aula
10.00 - 11.30

FREE PAPER SESSION 8:
Scaffold-based approaches III
Moderators: **Prof. Peter Dubruel**,
*University of Ghent, Ghent, Belgium &
Prof. Qing Li*, *University of Sydney,
Sydney, Australia*

10.00 - 10.30

KL7.1 KEYNOTE LECTURE: (Supra-)Molecular Strategies towards Printable Hydrogels
Prof. Jürgen Groll, *University of Würzburg, Würzburg, Germany*

10.00 - 10.30

KL8.1 KEYNOTE LECTURE: (Bio)polymers as elegant tools for scaffold-based 3D printing: case-study of PCL and gelatin
Prof. Peter Dubruel, *University of Ghent, Ghent, Belgium*

10.30

F7.1 3D Bioprinting of human chondrocytes and induced pluripotent stem cells in nanocellulose bioink for customized cartilage tissue engineering
Dr. Daniel Hägg, *Chalmers University of Technology, Göteborg, Sweden*

10.30

F8.1 3D hydrogel scaffolds for cartilage tissue engineering
Ms. Alicja Kosik, *Warsaw University of Technology, Warsaw, Poland*

F7.2 Bioprinting of mechanically strong cell-laden fibres
Dr. Jing Yang, *University of Nottingham, Nottingham, United Kingdom*

F8.2 A novel method using 3D printing to maintain implant shape for ear cartilage reconstruction
Drs. Dafydd Owen Visscher, *VUmc, Amsterdam, Netherlands*

F7.3 3D plotting of cell-laden alginate/methyl-cellulose blends – a simple and versatile method for diverse bioprinting approaches
Dr. Anja Lode, Technische Universität Dresden, Dresden, Germany

F7.4 Cell encapsulation for bio-ink formulation
Mr. Ricardo Ribeiro, Newcastle University, Newcastle Upon Tyne, United Kingdom

F7.5 Biodegradable Thermoplastic Elastomers for use in Biofabrication
Miss. Aysun Güney, University of Twente, Enschede, Netherlands

F8.3 Reinforced gelatin hydrogels for cartilage repair: from in vitro testing to implantation in the equine knee joint
Dr. Jetze Visser, University Medical Center Utrecht, Utrecht, Netherlands

F8.4 Biofabrication of reinforced 3D-constructs using pre-cross-linked two-component hydrogels
Mr. Maarten Blokzijl, University Medical Center Utrecht, Utrecht, Netherlands

F8.5 Biofabrication of tissue engineered cartilage constructs via an automated 3D micro-tissue assembly system
Dr. Tim Woodfield, University of Otago Christchurch, Christchurch, New Zealand

Senaatzaal, Zaal 1636
11.30 - 13.00

LUNCH BREAK/EXHIBITION/POSTER VIEWING

Kanunnikenzaal
12.00 - 13.00

Lunch Symposium HydroZONES

Moderators: **Prof. Jos Malda, University Medical Center Utrecht, Utrecht, Netherlands & Prof. Jürgen Groll, University of Würzburg, Würzburg, Germany**
Introduction to HydroZONES: **Prof. Jürgen Groll, University of Würzburg, Würzburg, Germany**

LS1.1 Rheology: an attractive tool to predict 3D-printability of thermo-sensitive hydrogels

Miss. Anna Abbadessa, Utrecht University, Utrecht, Netherlands

LS1.2 Bioink reinforcement using gels based on amphiphilic triblock copolymers

Mr. Maarten Blokzijl, University Medical Center Utrecht, Utrecht, Netherlands

LS1.3 Bioinks for cartilage biofabrication based on thermo-sensitive polymer combined with polysaccharides

Ms. Vivian Mouser, University Medical Center Utrecht, Utrecht, Netherlands

<p>Kanunnikenzaal 13.15 - 14.45</p>	<p>FREE PAPER SESSION 9: Bioinspired biofabrication Moderators: <i>Dr. Roman Truckenmüller, Maastricht University, Maastricht, Netherlands & Prof. Tao Xu, Tsinghua University, Beijing, China</i></p>	<p>Aula 13.15 - 14.45</p>	<p>FREE PAPER SESSION 10: In vitro models I Moderator: <i>Dr. Carlos Mota, Maastricht University, Maastricht, Netherlands & Prof. Paul Dalton, University of Würzburg, Würzburg, Germany</i></p>
<p>13.15 - 13.45</p>	<p>KL9.1 KEYNOTE LECTURE: Technology and biomedical applications of advanced microwell arrays – from 3D cell culture to bottom-up tissue engineering <i>Dr. Roman Truckenmüller, Maastricht University, Maastricht, Netherlands</i></p>	<p>13.15 - 13.45</p>	<p>KL10.1 KEYNOTE LECTURE: Building three-dimensional tissue models: an overview <i>Dr. Jacqueline Alblas, University Medical Center Utrecht, Utrecht, Netherlands</i></p>
<p>13.45</p>	<p>F9.1 Fabrication of scaffold mimicking the architecture of articular cartilage using direct-write electrospinning <i>Mr. Honglin Chen, MERLN Institute for Technology-Inspired Regenerative Medicine; Maastricht University, Maastricht, Netherlands</i></p>	<p>13.45</p>	<p>F10.1 A 3D bioprinted bone marrow niche to study normal hematopoiesis and bone-residing malignancies <i>Ms. Maaïke Braham, University Medical Center Utrecht, Utrecht, Netherlands</i></p>
	<p>F9.2 3D Bioprinting of Branched Artery Model With Live Cells <i>Prof. Bahattin Koc, Sabanci University, Istanbul, Turkey</i></p>		<p>F10.2 Open-air Chamber Inkjet head for stable ejection of cell suspensions <i>Mr. Manabu Seo, RICOH Company LTD., Yokohama, Japan</i></p>
	<p>F9.3 Controlled assembly of engineered micro-objects and bone marrow stromal cells as a bottom-up tissue engineering approach <i>Ms. Anne Leferink, Maastricht University, Maastricht, Netherlands</i></p>		<p>F10.3 Three-dimensional bioprinting of embryonic stem cells <i>Mr. Liliang Ouyang, Tsinghua University, Beijing, China</i></p>

	<p>F9.4 Investigation on the influence of laser wavelength and pulse duration on the laser-induced forward transfer of cells Dr. Lothar Koch, Laser Zentrum Hannover e.V., Hannover, Germany</p>		<p>F10.4 Combining bioprinting and microcarrier technology for osteochondral tissue engineering Dr. Riccardo Levato, University Medical Center Utrecht, Utrecht, Netherlands</p>
	<p>F9.5 Muscle-neuron co-culture on poly (lactic acid) ultra-thin films for biohybrid actuation Mr. Lorenzo Vannozzi, The BioRobotics Institute, Pontedera, Italy</p>		<p>F10.5 Cardiac fibroblast laden gelatin methacrylate hydrogels: a mimicry for cardiac fibrosis? Drs. Janine Deddens, University Medical Center Utrecht, Utrecht, Netherlands</p>
<p>Senaatzaal, Zaal 1636 14.45 - 15.15</p>		<p>COFFEE BREAK</p>	
<p>Kanunnikenzaal 15.15 - 16.45</p>	<p>FREE PAPER SESSION 11: New materials II Moderators: Mr. Giovanni Vozzi, University of Pisa, Pisa, Italy & Prof. Marcy Zenobi-Wong, ETH Zürich, Zürich, Switzerland</p>	<p>Aula 15.15 - 16.45</p>	<p>FREE PAPER SESSION 12: In vitro models II Moderators: Dr. Jaqueline Alblas, University Medical Center Utrecht, Utrecht, Netherlands & Dr. Carlos Mota, Maastricht University, Maastricht, Netherlands</p>
	<p>F11.1 Cell-loaded spider silk hydrogels as novel inks for biofabrication Mr. Tomasz Jüngst, University of Würzburg, Würzburg, Germany</p>		<p>F12.1 Micro and meso-scale human vascularized organ-specific models to study cancer cell extravasation Dr. Matteo Moretti, IRCCS Galeazzi Orthopedic Institute, Milan, Italy</p>
	<p>F11.2 The crosslinking of hyaluronan controlled by photochemically removable protecting groups Mr. Tomáš Bobula, Contipro Pharma, Dolní Dobrouč, Czech Republic</p>		<p>F12.2 3D bioprinting-based in vitro biofabrication and in vivo regeneration of adipose tissue, liver and embryonic tissues Prof. dr. Rui Yao, Tsinghua University, Beijing, China</p>

<p>F11.3 Hydroxyapatite containing inks for 3D bone bioprinting Mr. Michael Muller, Eidgenössische Technische Hochschule Zürich, Zürich, Switzerland</p>	<p>F12.3 Multimaterial Tandem Electrospinning for Spatially Modulated Neural Guidance Dr. Paul Wieringa, MERLN, University of Maastricht, Maastricht, Netherlands</p>
<p>F11.4 Mapping the biofabrication window of gelatin methacrylamide and gellan gum hybrid hydrogels Ms. Vivian Mouser, University Medical Center Utrecht, Utrecht, Netherlands</p>	<p>F12.4 Epicardial application of cardiac progenitor cells in a 3D-printed gelatin/hyaluronic acid patch preserves cardiac function after myocardial infarction Dr. Dries Feyen, University Medical Center Utrecht, Utrecht, Netherlands</p>
<p>F11.5 Crosslinked Poly(trimethylene carbonate) Structures with Icarin-loaded Poly (ϵ-caprolactone) Microspheres prepared by Stereolithography Mr. Mike Geven, University of Twente, Enschede, Netherlands</p>	<p>F12.5 Developing an in vitro oviduct model: Post-printing treatment of tubular transwell constructs influences oviduct epithelial cell survival Mr. Heiko Henning, Utrecht University - Faculty of Veterinary Medicine, Utrecht, Netherlands</p>
<p>F11.6 3D Powder Printing of Magnesium Phosphate Bone Cements with Strontium Substitution Mrs. Susanne Meininger, University of Würzburg, Würzburg, Germany</p>	<p>F12.6 Epithelial-to-Mesenchymal Transition in the in vitro cervical tumor model established by three-dimensional printing of HeLa cells Prof. dr. Rui Yao, Tsinghua University, Beijing, China</p>
<p>F11.7 Novel cross linked gelatin microspheres for cell and drug delivery to be used in bioprinting process Prof. Silvia Fare', INSTM Local Unit; Politecnico di Milano, Milano, Italy</p>	<p>F12.7 Finding the Balance between Oxygen Inhibition and Cell Viability in Biofabrication of Photopolymerised Hydrogels Dr. Khoon Lim, University of Otago, Christchurch, New Zealand</p>

Aula
16.45 - 17.45

Closing ceremony, awards and presentation Biofabrication 2016

Paushuize
20.00 - 23.00

CONFERENCE DINNER