



Program

28th Annual Meeting, 21 & 22 November 2019

at

“De Werelt congress center”, Westhofflaan 2, 6741 KH Lunteren

Thursday, 21st November

09.15 – 09.45	Registration and coffee (Foyer)
09.45 – 10.00	Welcome (Afrika room)

10.00 – 11.50 (8+2 min)	Oral Presentations (Afrika room) Chair: Mylène de Ruijter, UMC Utrecht
01	Injectable, Self-Healing Mesoporous Silica Nanocomposite Hydrogels with Improved Mechanical Properties <u>A. Zengin</u> , MERLN Institute, Maastricht University
02	Tailoring the Properties of Poly(1,3-Trimethylene Carbonate) Networks to Study Cardiomyocyte Contraction Behavior <u>I.E. Allijn</u> , Biomaterials Science and Technology, University of Twente, Enschede
03	Recycling culture medium for enhanced cellular interactions in <i>in vitro</i> bone models <u>M.A.M. Vis</u> , Biomedical Engineering, Eindhoven University of Technology
04	Investigation of the angiogenic properties of Cartilage Oligomeric Matrix Protein in the context of bone tissue engineering <u>E. Andrés Sastre</u> , Oral and Maxillofacial Surgery, Erasmus MC, Rotterdam
05	RGD-Functionalized Supported Lipid Bilayers Modulate Pre-Osteoblast Adherence and Promote Osteogenic Differentiation <u>J.F.M. Verstappen</u> , Oral Cell Biology, Academic Centre for Dentistry Amsterdam
06	Effect of glucose concentration on osteogenic differentiation in vitro in a defined serum substitute medium <u>S. Ansari</u> , Biomedical Engineering, Eindhoven University of Technology
07	Physical Cues Promote TGF-β Sensitivity in Mesenchymal Stem Cells <u>S. Vermeulen</u> , MERLN Institute, Maastricht University
08	High-speed biofabrication of complex tissue structures through novel volumetric bioprinting approach <u>P.N. Bernal</u> , Orthopaedics, UMC Utrecht

09	Additive Manufacturing and Surface Biofunctionalization of Self-Defending Bone Implants <u>I.A.J. van Hengel</u> , Biomechanical Engineering, Delft University of Technology
10 (20 min)	Electrospinning and its use in research applications <u>T. Hayes</u> , Bionica, Bath, UK

12.00 – 13.00	Lunch (dining hall)
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13.00 – 14.30 (25+5 min)	Clinical FOCUS symposium (Afrika room) Chair: Patrick van Rijn, UMC Groningen
Invited Speaker 1	The peritoneal cavity and biomaterials; friends or foes? Prof. Harry van Goor, MD, PhD Dept. Of Surgery, Radboudumc Nijmegen
Invited Speaker 2	Wearable artificial kidney, dream or reality? Karin Gerritsen, MD, PhD Dept. of Nephrology and Hypertension, UMC Utrecht
Invited Speaker 3	Shining light on fluorescence imaging guided surgery: a translational platform Prof. Go van Dam, MD, PhD Dept of Surgery, UMC Groningen

14.30 – 15.00	Coffee Break (foyer)
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15.00 – 16.40 (8+2 min)	Oral Presentations (Afrika room) Chair: Jasia King, MERLN Institute, Maastricht
11	Supramolecular Hydrogels For Kidney Organoid Development <u>J.F. van Sprang</u> , Biomedical Engineering, Eindhoven University of Technology
12	Microscale Substrate Curvature Regulates Spatiotemporal Organization of Preosteoblasts <u>S.J.P. Callens</u> , Biomechanical Engineering, Delft University of Technology
13	Progenitor cells are present in the mature human meniscus <u>J.V. van Korpershoek</u> , Orthopaedics, UMC Utrecht
14	Controllable Four Axis Fused Deposition Modeling System for Tubular Hollow Organ Regeneration <u>K.A.G.T. van Kampen</u> , MERLN Institute, Maastricht University
15	Mesenchymal Stromal Cells and Endothelial Cells Synergistically promote each other in Osteogenic Differentiation and in developing Vascular Networks <u>E.E.A. Cramer</u> , Biomedical Engineering, Eindhoven University of Technology
16	Tough and biocompatible hybrid networks prepared from synthetic polymers and gelatin <u>J. Liang</u> , Biomaterials Science and Technology, University of Twente, Enschede
17	A biomimetic load-bearing cartilage implant: a proof of concept demonstration <u>G.H. Schuringa</u> , Biomedical Engineering, Eindhoven University of Technology

18	Complexation-induced shrinking of 3D-printed hydrogel constructs C.C.L. Schuurmans, Pharmaceutics and Pharmacology, Utrecht University
19	Quantification of extracellular matrix proteins of COPD vs. control by mass spectrometry D.J. Hof, Biochemistry, Radboudumc, Nijmegen
20	TLR9 agonist as an immune-modulatory agent for enhancing osteogenesis P.K. Khokhani, Orthopaedics, UMC Utrecht

16.40 – 17.00	<i>Coffee Break (foyer)</i>
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17.00 – 17.15	<i>Best Thesis Award presentation (Amerika room)</i>
17.15 – 18.25	<i>NBTE members Annual Meeting with drinks</i>

18.30 – 20.30	<i>Dinner (dining hall)</i>
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20.30 – 21.30	<p style="text-align: center;">Invited lecture (Afrika room)</p> <p style="text-align: center;"><i>Title: Supramolecular strategies to turn biomolecules into functional materials and devices</i></p> <div style="text-align: center;">  </div> <p style="text-align: center;">Prof. Alvaro Mata, BSc, MSc, DEng</p> <p style="text-align: center;">Professor in Biomedical Engineering & Biomaterials School of Pharmacy, Division of Regenerative Medicine and Cellular Therapies Dept. of Chemical and Environmental Engineering University of Nottingham University Park</p>
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21.30 –	<i>Party time!</i>
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Friday, 22nd November

09.00 – 09.40	<p>Invited lecture Controlled Release Society (Afrika room)</p> <p><i>Title: Delivery of mRNA with Lipid Nanoparticles</i></p>  <p>Prof. Raymond Schiffelers, PhD</p> <p>Professor of Nanomedicine University Medical Center Utrecht</p>
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09.40 – 10.00	Coffee Break (foyer)
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10.00 – 11.00 (8+2 min)	<p>Oral Presentations (Afrika room) Chair: Xian Cheng, Radboudumc Nijmegen</p>
21	<p>Creation of inorganic bioactive nanoparticle composites for bone regenerative applications P. Sutthavas, MERLN Institute, Maastricht University</p>
22	<p>Poly-Aspartic Acid Improves Mineralization of Silk Fibroin Scaffolds for Bone Tissue Engineering B.W.M. de Wildt, Biomedical Engineering, Eindhoven University of Technology</p>
23	<p>Modulation of Cells Behavior by 3D Printed Submicron Patterns M. Nouri-Goushki, Biomechanical Engineering, Delft University of Technology</p>
24	<p>Enzymatically cross-linked gelatin hydrogels for vascularized bone tissue engineering L. De Silva, Oral and Maxillofacial Surgery, UMC Utrecht</p>
25	<p>Towards mechanical regulation of renal tubule formation: The influence of substrate stiffness on the polarization of mature renal epithelial cells. M.J. Hagelaars, Soft Tissue Engineering and Mechanobiology, Eindhoven University of Technology</p>
26	<p>The Influence of Processing Parameters on the Properties of Gelatin Nanoparticles N. Hassani Besheli, Regenerative Biomaterials, Radboudumc, Nijmegen</p>

11.00 – 12.30	Poster session with drinks (Amerika room)
P1	K.W.J. Verhorstert , Obstetrics and Gynecology, Amsterdam UMC
P2	D. Keskin , Biomedical Engineering, UMC Groningen
P3+P4	S. Anand , MERLN, Maastricht University
P5	T.A.B. van der Boon , Biomedical Engineering, UMC Groningen
P6	W. Cao , Oral Cell Biology, ACTA, Amsterdam
P7	S.M.J. de Jong , Biomed. Engineering, Technical University Eindhoven
P8	M. Eischen-Loges , MERLN, Maastricht University
P9	M. Li , ACTA, Amsterdam
P10	M. Mihajlovic , Pharmaceutical Sciences, Utrecht University
P11+P12	R. Narcisi , Orthopaedics, Erasmus MC, Rotterdam
P13	F. Abinzano , Orthopaedics, UMC Utrecht
P14	A. Dede Eren , Biomedical Engineering, Technical University Eindhoven
P15	M. Puricelli , LifeTech Group, Eindhoven
P16	D. Rana , Biomedical Engineering, University of Twente, Enschede
P17	L. Rijns , Biomedical Engineering, Technical University Eindhoven
P18	G. Sahin , MERLN, Maastricht University
P19	M.J. Sanchez-Fernandez , Regen. Biomaterials, Radboudumc, Nijmegen
P20	P.K. Sudarsanam , Biomed. Eng., Technical University Eindhoven
P21	D.L. van der Ven , Biomol. Nanotech., University of Twente, Enschede
P22	A.F. Vrehan , Biomedical Engineering, Technical University Eindhoven
P23	L. Wei , Oral implantology, ACTA, Amsterdam
P24	M.G. Fois , MERLN, Maastricht University
P25	C.A.M Jacobs. , Ortho. Biomechanics, Technical University Eindhoven
P26	C. Karakaya , Biomedical Engineering, Technical University Eindhoven
P27	M.G.J. Schmitz , Biomed. Engineering, Technical University Eindhoven
P28	U. Tuvshindorj , MERLN, Maastricht University
P29	M. Wang , ACTA, Amsterdam
P30	M. van Erk , Dept. Of Surgery, Radboudumc, Nijmegen
P31	V. Vignali , Biomedical Engineering, UMC Groningen
P32	M. van Vijven , Biomedical Engineering, Technical University Eindhoven
P33	X. Cheng , Biomaterials, Radboudumc, Nijmegen
P34	M. de Ruijter , Orthopaedics, UMC Utrecht
P35	T. Kamperman , Develop. BioEng., University of Twente, Enschede
P36	J. King , MERLN, Maastricht University
P37	S.E. Koch , Biomedical Engineering, Technical University Eindhoven
P38	J. Li , Regenerative Biomaterials, Radboudumc, Nijmegen
P39	L. Ge , Biomedical Engineering, UMC Groningen
P40	A. Malheiro , MERLN, Maastricht University
P41	K. Ning , Regenerative Biomaterials, Radboudumc, Nijmegen
P42	R.H.W. de Vries , MERLN, Maastricht University
P43	M. Schumacher , MERLN, Maastricht University
P44	L. Yang , Biomedical Engineering, UMC Groningen
P45	G. Zu , Biomedical Engineering, UMC Groningen
P46	M. van Mourik , Biomedical Engineering, Technical University Eindhoven
P47	D. Ma , Oral biochemistry, ACTA, Amsterdam
P48	A.H.A. Damen , Biomedical Engineering, Technical University Eindhoven
P49	Y. Alaoui Selsouli , MERLN, Maastricht University
P50	B.J. de Kort , Biomedichal Engineering, Technical University Eindhoven
P51	Z. Guler , Amsterdam UMC
P52	D.M. Ibrahim , Biomedical Engineering, Technical University Eindhoven
P53	S.J.A. Remmers , Biomed. Engineering, Technical University Eindhoven
P54	C. Tomasina , MERLN, Maastricht University
P55	B. van Loo , Develop. BioEngineering, University of Twente, Enschede
P56	T.J.A.G. Münker , ACTA, Amsterdam

P57	M.J. Ainsworth , Orthopaedics, UMC Utrecht
P58	D. Mostert , Soft TE and Mechanobiol., University of Twente, Enschede
P59	N.R. Rahmani , Orthopaedics, UMC Utrecht
P60	L. Cecotto , Orthopaedics, UMC Utrecht
P61	P. Diloksumpan , Equine Sciences, Utrecht University
P62	J. Zhang , Biomechanical Engineering, University of Twente, Enschede

12.30 – 13.30	Lunch (dining hall)
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13.30 – 14.20 (8+2 min)	Oral Presentations (Afrika room) Chair: Aysegul Dede, TU Eindhoven
27	Angiogenic potential of tissue engineered cartilage from human mesenchymal stem cells is modulated by Indian Hedgehog and Serpin E1 <u>Y. Nossin</u> , Otorhinolaryngology, Erasmus MC, Rotterdam
28	Osteoclast- and Macrophage-derived Extracellular Vesicles restore Mineralization of EV-depleted Osteoblast Precursor Cells <u>J.F.A. Husch</u> , Regenerative Biomaterials, Randboudumc, Nijmegen
29	Protein Micropatterning on 2.5D Substrates: An Approach to Investigate Cellular Behavior in Multi-Cue Environments <u>C. van der Putten</u> , Biomedical Engineering, Eindhoven University of Technology
30	Matrix-free Culture of Intestinal Organoids in 3D Microwell Arrays <u>P. Kakni</u> , MERLN Institute, Maastricht University
31	3D-Bioprinted Mini-Brain: A Glioblastoma Model to Study Cellular Interactions and Therapeutics <u>M.A. Heinrich</u> , Biomaterials Science and Technology, University of Twente, Enschede

14.20 – 14.50	Coffee break (foyer)
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14.50 – 15.40 (8+2 min)	Oral Presentations (Afrika room) Chair: Liangliang Yang, UMC Groningen
32	3D printed gelatin methacrylate hydrogel with microparticles loaded with a dual antibiotic delivery system <u>C.M. Guarach Pérez</u> , Medical Microbiology, Amsterdam UMC
33	Progenitors from healthy and osteoarthritic human cartilage show potential for cartilage tissue engineering <u>M. Rijkers</u> , Orthopaedics, UMC Utrecht
34	An Ex Vivo Human Osteochondral Explant Culture System for Osteoarthritis Treatment Evaluation <u>M.W.A. Kleuskens</u> , Biomedical Engineering, Eindhoven University of Technology
35	An on-chip platform to study tendon regeneration <u>F. Giacomini</u> , MERLN Institute, University of Maastricht
36	Virtual angiogenesis: mathematical and multiphysics approach for directed tissue engineering <u>P. Padmanaban</u> , Biomechanical Engineering, University of Twente, Enschede

15.40	Announcement of the chair, poster and presentation awards
16.00	Closure of the meeting