

Utrecht Summer School: ‘3D Printing and Biofabrication’, July 2023			Program		
		Time	Location	Topic	Speaker
Monday	3-jul	9.30 - 10.00	Hubrecht / RMCU	Check in and coffee	
		10.00 - 10.15	Uppsalalaan 8 Utrecht	Welcome & Course Overview	Jos Malda (UMCU, Netherlands)
		10.15 - 10.40	Room 3: 08.30 – 10.30 Auditorium: 10.30	Student Introductions	Marlena Ksiezarczyk (UMCU, Netherlands)
		10.40 - 11.10		Basics of Additive Manufacturing	Riccardo Levato (Utrecht University, Netherlands)
		11.10 - 11.45		3D printing of metals	Amir Zadpoor (TU Delft, Netherlands)
		11.45 - 12.45		Lunch (Included)	
		12.45 - 13.15		3D technology in modern healthcare	Chien Nguyn (UMCU, Netherlands)
		13.15 - 13.45		UltiMaker, a multidisciplinary company to unlock new applications	Kristel Boere (Ultimaker, Netherlands)
		13.45 - 14.15		Coffee break	
		14.15 - 14.45		Medical 3D Planning and Printing: Optimal Medical Solutions for Better Clinical Outcomes	Arsham Makaryan (Materialie NV, Belgium)
		14.45 - 16.00		Generation of 3D anatomical models using medical data	Arsham Makaryan (Materialie NV, Belgium)
		16.00 - 16.30		Bioprinting hydrogels to engineer functional tissue mimics	Oksana Dudaryeva (UMCU, Netherlands)
		16.30 - 17.30		Explaining assignments	Jos Malda / Riccardo Levato
Tuesday	4-jul	8.15 - 9.00	University of Applied Science		
Workshop 3D Printing		9.00 – 9.30	Location: Padualaan 99	Introduction fablab	Joris van Tubergen
		10.00 - 12.00	Start workshops, choosing 1 out of 3.	1. Getting to know the firmware: introduction to gcode and using it on bioprinting, z-corp) 2. workflow introduction, 3D drawing (tinkercad) & printing 3. Hands-on machinework with different material (porcelain, chocolate, PLA)	1. Gabriel Groesbacher 2. Marry Bassa 3. Joris van Tubergen
		12.00 - 13.00		Lunch with lecture about scanning for prostheses	
		13.00 – 15.30	Start workshops, choosing 1 out of 3.	1. Getting to know the firmware: introduction to gcode and using it on bioprinting, z-corp) 2. workflow introduction, 3D drawing (tinkercad) & printing 3. Hands-on machinework with different material (porcelain, chocolate, PLA)	1. Gabriel Groesbacher 2. Marry Bassa 3. Joris van Tubergen
		15.45 - 17.45	Start workshops, choosing 1 out of 3.	1. Getting to know the firmware: introduction to gcode and using it on bioprinting, z-corp) 2. workflow introduction, 3D drawing (tinkercad) & printing 3. Hands-on machinework with different material (porcelain, chocolate, PLA)	1. Gabriel Groesbacher 2. Marry Bassa 3. Joris van Tubergen
		18.00	End		
Wednesday	5-jul		Hubrecht / RMCU		
Applications of 3D biofabrication		08.30 - 09.00	Uppsalalaan 8 Utrecht	Introduction to Regenerative Medicine & Stem Cells	Bernard Roelen (Utrecht University, Netherlands)
		09.00 - 09.45	Auditorium	From biomedical bioprinting to biotechnology and towards space	Michael Gelinsky (TU Dresden, Germany)
		09.45 - 10.10		Coffee break	
		10.10 - 10.40		Biofabrication for the Underdogs: Creating in vitro models of less appreciated tissues	Paul Wieringa (Uni Maastricht ,Netherlands)
		10.40 - 11.10		Multiphoton Lithography for Biomedical Applications	Aleksandr Ovsianikov (TU Wien, Austria)
		11.10 - 11.45		Microfluidic-assisted biofabrication	Wojtek Swieszkowski (TU Warsaw, Poland)
		11.45 - 13.00		Meet the expert lunch (Included)	
		13.00 - 13.30		Regulatory aspects in biofabrication and medical 3D printing	Hanneke Later Nijland (Genome Lawyers)
		13.30 - 14.00		Organ on-a-chip technologies	Andries van der Meer (Twente University, Netherlands)
		14.00 - 14.25		Electrowriting in tissue engineering	Tomasz Jungst (Wuerzburg University, Germany)
		14.25 - 14.45		Coffee break	
		14.45 - 15.15		Personalized scaffolds for craniomaxillofacial bone and periodontal regeneration	Marco Bottino (University of Michigan, USA)
		15.15 - 15.45		From Melt-Electrowriting to Melt Electrofibrillation	Jurgen Groll (Wuerzburg University, Germany)
		15.45 - 17.00		Work on assignment	
Thursday	6-jul		Hubrecht / RMCU		
Applications of 3D		8.45 - 09.15	Uppsalalaan 8 Room 3	Volumetric Bioprinting for Fabrication of Highly Complex Living Structures	Paulina Nunez Bernal (UMCU, Netherlands)
		09.15 - 9.45		Bioassembly of spheroids	Andrew Daly (NUI Galway, Ireland)
		9.45 - 10.00		Coffee break	
		10.15. 10.50		Printing cartilage	Mylene de Ruijter (UMCU, Netherlands)
		10.50 - 11.15		Adult Stem Cells for Advanced In Vitro Models and Whole Organ Engineering.	Bart Spee (Utrecht University, Netherlands)
		11.15 - 11.45		How to advance myocardial repair - Printing cardiac tissue?	Joost Sluijter (UMCU, Netherlands)
		11.45 - 12.15		Building a (vascularized) proximal tubule	AnneMetje van Genderen (Utrecht University, Netherlands)
		12.00 - 13.00		Lunch (included)	
		13.00 - 14.00		Perspectives in the biofabrication industry	Jasper van Hoorik (BioINX), Fabien Guillemot (Poietis), Mauro Petretta (regenHu)
		14.00 - 17.15		Laboratory tour and 3D bioprinting workshop	
				Station 1 - Extrusion printing	Davide Rubezzi
				Station 2 - Melt Electrowriting	Gabriel Groessbacher
				Station 3 - Volumetric printing and DLP	Sammy Florczak
				Station 4 - LIFT printing	Fabien Guillemot
				Station 5 - Microfluidics and Organ-on-a-chip	Nuria Rodriguez
				Station 6 - Meet the Industry (BioINX, Poietis)	Industry representatives + booth in the green area
		17.15 - 18.00		Work on assignment	
Friday	7-jul	9.00 - 9.30	Hubrecht / RMCU	Key collection	Riccardo Levato
Presentations Assignments Wrap up		9.30 - 10.30	Uppsalalaan 8 Utrecht	Presentations	
		10.30 - 12.00	Room 1: 09.00 - 11.00	Injectable synthetic molecular and colloidal building blocks to overcome challenges in tissue engineering	Laura De Laporte (RWTH Aachen, Germany)
		12.00 - 12.15	Room 3: 11.00	Announcement of award for best presentation	
		12.15 - 12.45		Wrap-up	
		12.45 - 14.00		Class Lunch (included)	