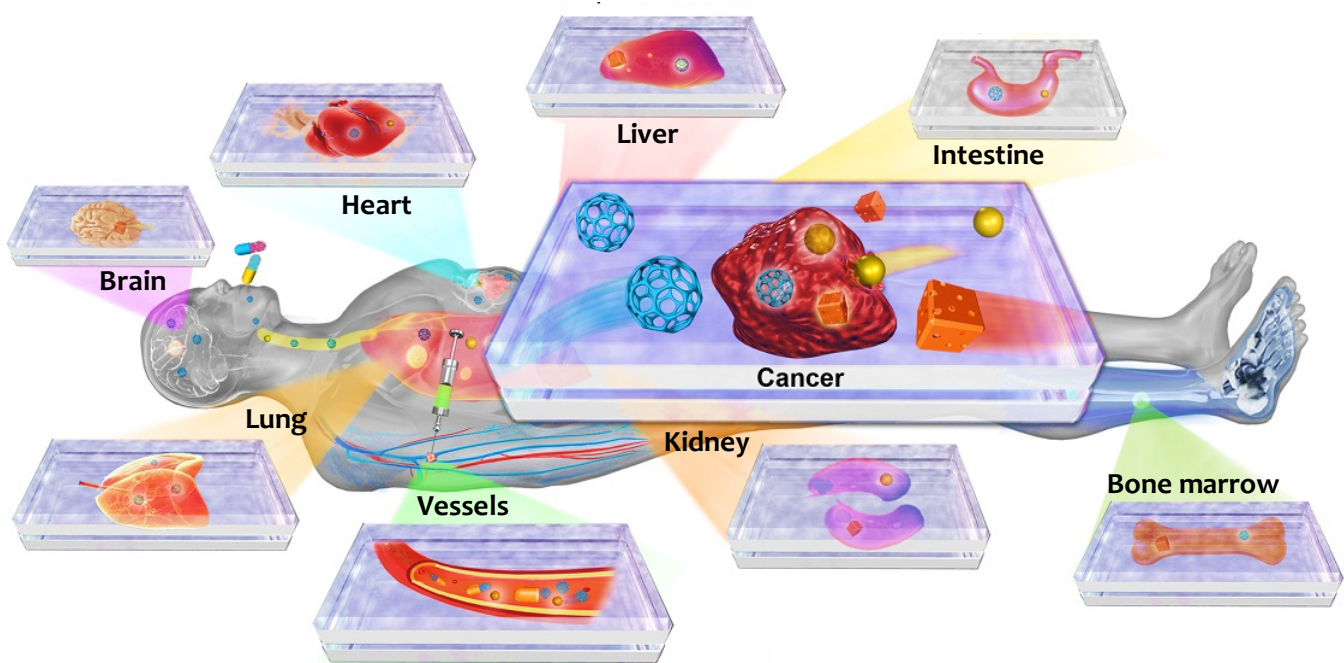


2018 UMCG-hDMT Kick-Off Mini-symposium
on

Organs-on-chip



June 7th 2018
ERIBA Seminar Room
12:30-17:00



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Programme

- 12:30 hDMT: Organs-on-chip consortium in the Netherlands
Janny van Eijnden – van Raaij (hDMT)
- 13:00 Organs-on-a-Chip @ the RUG: A multi-interdisciplinary scene
Sabeth Verpoorte (RUG)
- 13:30 Neurons-on-a-chip, an integrative platform in neurodegeneration
Amalia Dolga (RUG)
- 13:50 NWO Zwaartekracht program NOCI: Towards Celiac disease-on-a-chip
Renée Moerkens (UMCG)
- 14:10 A 3D microfluidic chip model derived from patient iPS cells to study Hereditary Hemorrhagic Telangiectasia
Valeria Orlova (LUMC)
- 14:35 *Tea Break; Pantry ERIBA 3rd floor*
- 15:00 Genome engineering and stem cell services at the UMCG: what can we offer?
Floris Foijer (UMCG)
- 15:20 Blood perfusion of Organs-on-chip
Andries van der Meer (UTwente)
- 15:45 *Short Break*
- 16:00 **Keynote lecture and UMCG Molecular Medicine Seminar**
Emulating human biology: Organs-on-Chips for disease modelling, drug discovery, and personalized medicine
Geraldine Hamilton (EMULATE Inc, Boston, USA)
- 17:00 *Closing*

Organs-on-chip is an emerging technology allowing the modelling of parts of organs in micro-format, starting from induced pluripotent stem (iPS) cells. These platforms provide new ways to study human physiology & metabolism, perform drug discovery experiments, and model human disease. Excitingly, the field is moving into integrating multiple tissue chips in one closed microfluidic circuit, working towards a ‘human-on-a-chip’.

Recently, the UMCG has become a member of the hDMT (human organ and disease model technologies) consortium, which includes most academic centres and multiple industrial partners in the Netherlands. Membership in hDMT allows UMCG scientists to sign up for and participate in general hDMT meetings on organ-on-chip technology and specialist group meetings focusing on specific organs-on-chip. Currently, researchers associated with the hDMT consortium have organized themselves into focus groups around several themes: cancer-, vessels-, heart-, skin-, brain-, and intestine-on-chip. It is expected that other focus areas will be established in the near future given the rapid pace of the field.

During this mini-symposium **Janny van den Eijnden-van Raaij** will discuss what hDMT is and how it can contribute to your research. **Sabeth Verpoorte** (RUG) will give an introductory seminar about organs-on-chip technology. **Amalia Dolga** (RUG), **Renée Moerkens** (UMCG), **Valeria Orlova** (LUMC), and **Andries van der Meer** (UTwente) will present their ongoing research and future plans using on-chip models for neurodegenerative disease, intestinal barrier function, hereditary haemorrhagic telangiectasia, and blood vessel pathophysiology. **Floris Foijer** (UMCG) will discuss how the UMCG iPS/CRISPR facility can help with developing iPS cells that can be differentiated and engineered for organs-on-chip studies. The mini-symposium will close with a keynote lecture by **Geraldine Hamilton**, CSO of EMULATE Inc. (Boston, USA), a company on the forefront of organ-on-chip science.

More information

Symposium

Email: H.H.M.Lauvenberg@umcg.nl or S.Withoff@umcg.nl

hDMT

Email: info@hdmt.technology

Website: <https://www.hdmt.technology/>

Keynote speaker



Geraldine A. Hamilton, Ph.D.

President and Chief Scientific Officer
Emulate, Inc.

Dr. Hamilton is the President and Chief Scientific Officer of Emulate, Inc. Based on their Organs-on-Chips technology platform, the company is developing a new living human system that combines cell biology within micro-engineered environments - for researchers to accurately understand how different diseases, medicines, chemicals and foods will affect human health.

Hamilton's career spans industry, academia and building entrepreneurial companies. Prior to joining Emulate's founding team, she led the development of the Organs-on-Chips technology within the Wyss Institute for Biologically Inspired Engineering at Harvard University. The work on Organs-on-Chips has been published in high-impact scientific journals, curated into New York's Museum of Modern Art (MoMA) and awarded Product Design of the Year 2015 by London's Design Museum.

Hamilton has more than 11 years of experience within the pharmaceutical industry in leadership roles managing drug discovery teams - driving new technologies, applications and product validation. Earlier in her career she was a founding scientist and VP of Scientific Operations for CellzDirect. Hamilton led scientific work and business development to translate the company's innovative technology for cell-based products to broad use across the pharmaceutical industry.

Hamilton earned her Ph.D. in cell biology and toxicology from the University of Hertfordshire (England) in conjunction with GlaxoSmithkline, followed by a post-doctoral research fellowship at the University of North Carolina. Her research career has focused on the development of novel cell-based models and applications for drug safety and efficacy testing. She has co-authored over 40 peer-reviewed publications and numerous patents.

More information

Website: emulatebio.com

