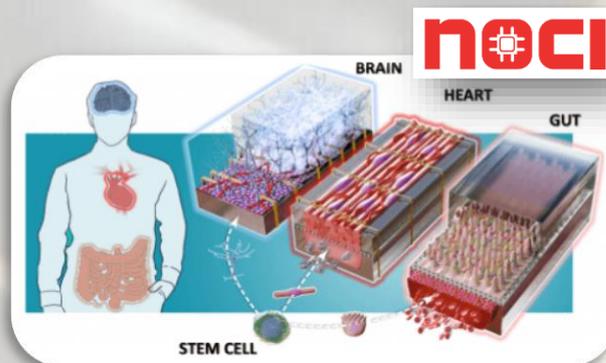




Electronic Components, Technology and Materials (ECTM)
Department of Microelectronics, Delft University of Technology

Open PhD and PD positions in Organs-on-Chip technology

Within the **Netherlands Organ-on-Chip Initiative (NOCI)** funded by NWO, the **ECTM** group at **TU Delft** is looking for enthusiastic & motivated researchers to develop innovative wafer-scale microfabrication technologies for **advanced silicon- and biodegradable technology-based Organs-on-Chip (OoC)**.



OoC systems are **microfluidic cell culture devices that recapitulate *in vivo*-like microenvironments** to support the expression of properties and functions of human tissues and organs. Such microphysiological systems represent more realistic models than existing *in vitro* cell cultures, which should enhance pre-clinical screening of the effect of drugs and other compounds on the human body. In the past five years, the ECTM research within the NOCI consortium has introduced significant technological innovations in geometry, actuation, sensing and readout for OoC. Our grand, multi-disciplinary challenge is building on top of the knowledge and expertise matured so far to **bring OoC technology to the next level**. This will be achieved by devising novel materials, actuation and sensing solutions to stimulate and monitor organ properties in wafer-scale microfabricated platforms.

The positions will entail the technological development and integration of:

1. Perfused microfluidic environment with transient properties for organoids (PhD)
2. Biodegradable magnetic polymer-based actuators for tissue stimulation (PhD)
3. Polymer scaffolds and chemical gradients for gut microenvironment (PhD)
4. Three-dimensional microelectrode arrays for tissue monitoring (PD)

Candidates with strong experience and interest in micro/nanofabrication, materials engineering and bioengineering are encouraged to apply or enquire further by contacting Dr. Mastrangeli (m.mastrangeli@tudelft.nl) and Dr. Boutry (C.M.F.Viellard-Boutry@tudelft.nl).

A Master degree in electronic or biomedical engineering, material science or related fields, as well as fluency with English, are required to apply for these positions.

Applications should include the candidate's curriculum vitae, motivation letter and list of potential references.

