



Daniel Heath

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Advanced biomaterials: Blood
compatibility, stem cell expansion,
antimicrobials and beyond

Thursday, 27th October 2022
at 9:00 am

On site:

Seminarraum B1.72

DWI – Leibniz-Institut für Interaktive Materialien

Forckenbeckstraße 50, 52074 Aachen

Zoom:

<https://rwth.zoom.us/j/94116853726?pwd=RUpxUFp2dDgwTWh6VGhMbHRFVnl1dz09>

Meeting-ID: 941 1685 3726

Kenncode: 618817

Host: Jacopo Di Russo

Contact: me3t@ukaachen.de

Abstract: Biomaterials are critical toward the development of successful biomedical devices, tissue engineering scaffolds, and organ on a chip models. In this talk, we will discuss the design, fabrication, and utilization of biomaterials for two specific applications: blood contacting biomedical devices and substrates for improved expansion of mesenchymal stem cell.

In particular, we will describe methods of producing fully defined polymeric materials that promote endothelialization and the development of extracellular matrix-derived materials that help maintain the stem cell potency and phenotype during expansion.

Time permitting, we will also discuss novel selenium-based nanomaterials with antimicrobial properties to fight drug resistant bacteria.



Bio: Daniel Heath received his PhD in Chemical and Biomolecular Engineering in 2010 from The Ohio State University where he worked on the development of novel biomaterials for small diameter vascular graft applications.

He then held postdoctoral positions at the Singapore-MIT Alliance for Research and Technology (SMART) Centre and at MIT where he focused on developing micropatterned cell culture substrates for *in situ* and high throughput clonal analysis of rare cell populations.

He began as a Lecturer at University of Melbourne in 2014 where he has continued to focus on themes related to cardiovascular biomaterials and mesenchymal stromal cells.