



University
of Basel

Department of
Biomedical Engineering



Selected research topics in Biomedical Engineering:

The Future of Personalized Medicine: 3D Printing and Patient-Specific Technologies

Location: Biozentrum, Spitalstrasse 41, Basel, Seminar Room U1.197

Date & Time: Monday 13.05.2024 13:15 – 15:00

High-resolution 3D printing technology: from electrospinning to melt electrowriting

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Abstract

Melt electrowriting (MEW) is an advanced additive manufacturing (AM) technology, that enables the printing of high-resolution tissue engineering scaffolds. Traditional extrusion-based AM technologies like bioprinting and fused deposition modeling create constructs with fiber diameters over 300 μm due to the phenomenon of die swell, which can be eliminated after introducing a high-voltage field, known as electrospinning. The MEW combines the strengths of the electrospinning and AM, being capable of producing highly ordered and high-precision scaffolds. To date, MEW has printed over 40 different materials and poly(caprolactone) is the most widely used polymer for its high printing stability and biodegradable feature. This talk will introduce the cutting edge of the MEW and show the MEW work in my lab.