

**HiWi / Master Thesis***Mechanical / electrical engineering, Microsystems engineering, Physics***Robotic Automation for Hybrid 3D Printing**

Be part of our research group in developing cutting edge multi-material (polymer and metal) 3D printing technology!

**Your Tasks**

Being part of a team working on multi-material 3D printing of hybrid polymer and electronic devices (based on our patented StarJet technology) for microfluidic applications and microelectronics with wide range of possibilities.

- Designing, optimizing and printing 3D electronics with our cutting edge technologies in multi-material (polymer & metal) 3D printing systems
- Hardware and SW development of robotic automation platform such as controlling FDM polymer extruder, molten metal printer, integrating pick & place robot
- Integration of in-line process control such as stroboscopic camera and corresponding control software
- Development of web-based plugin for controlling the multi-material printing
- Option to develop an intelligent additive manufacturing artificial intelligence (AI)-based inline control approach

**Our offer to you**

- An attractive workplace for a student working at a modern, excellently equipped research institute that is close to industry
- Excellent support for you working in a dynamic, flexible team
- Flexible working hours
- Partial refund of travel expenses when using public transport of the ÖPNV (public transport system)

**Contact: Daniel Straubinger / Dr. Zhe Shu**

Laboratory for MEMS Applications  
Georges-Koehler-Allee 103, EG (Anbau)  
D-79110 Freiburg  
Phone: [+49 761 203-73235](tel:+4976120373235)  
E-Mail: [daniel.straubinger@hahn-schickard.de](mailto:daniel.straubinger@hahn-schickard.de);  
[Zhe.Shu@imte.uni-freiburg.de](mailto:Zhe.Shu@imte.uni-freiburg.de)

**Your Profile**

- Good communication skills in English and/or German, motivation to learn something new each day
- University degree in engineering in the field of embedded systems, computer science, electrical engineering, mechatronics, or comparable with above-average success.
- Knowledge of programming languages C/C++, Python. Knowledge of microcontrollers, web development (Javascript) is a plus.
- Knowledge of CAD SW (e.g. Solidworks, Fusion 360)
- Knowledge of microelectronics, PCB design and development (e.g. STM32, Altium/Autodesk Eagle)
- Knowledge of 3D Printing, Marlin, G-code, would be a plus

**Your application**

- Send us your interest and documents (motivational letter, CV, certificates/transcript of records) via email or contact us for further details

