

**Master / Bachelor student***Physics, mechanical / electronic engineering, textile engineering***Metal Printing on Textiles for Smart Textile Applications**

Non-contact metal printing is a very promising technology in industrial 4.0 to integrate various printed functionalities onto flexible and wearable electronics. The StarJet technology allows for the direct printing of molten tin alloys (solder) as free flying micro droplets and metal jets. Based on this technology, a printing system for 3D prototyping and for microelectronic applications for research was developed and is successfully utilized in lab. In the meantime, this technology shows high potential to direct printing metal wire structures on flexible substrates such as PET foils and textiles.

The German Institutes of Textile and Fiber Research (DITF) in Denkendorf forms the largest textile research center in Europe with more than 300 scientific and technical staff. The e-textiles division has gained extensive expertise in combinations of textiles with electronics as well as the generation of electronic functions by textiles without conventional electronic parts.

In this collaborative project, you will have a chance to work in both excellence research institutes to explore the high potential of metal 3D printing for smart textiles applications.

You will be working on the following topics:

- Printing parameter optimization on various technical textiles from DITF in IMTEK, Freiburg;
- Characterization of printed structures on technical textiles in DITF in Denkendorf;
- Data analysis and interpretation.

For further information, please do not hesitate to contact us:

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