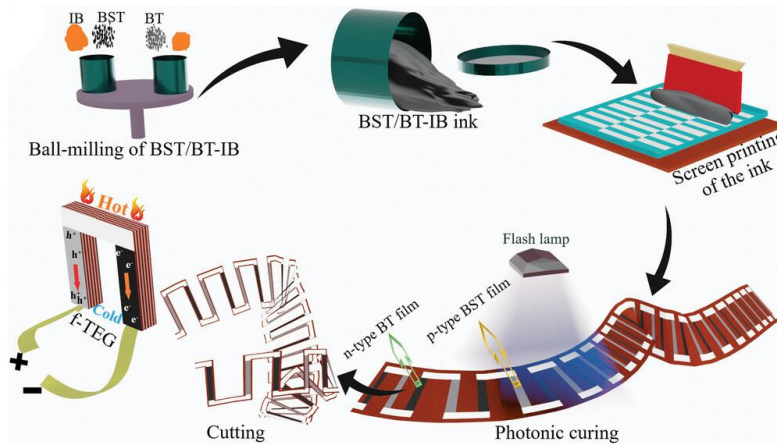


Date: 25.01.2024

HIWI position

Novel Inks for 3D Printed Micro-Thermoelectric Devices



Micro-thermoelectric devices (μ -TED) are capable of generating electricity from waste heat or using electricity to generate local cooling, becoming a promising solution for sustainable energy harvesting and efficient thermal management. Our research group focuses on 3D printing and has made breakthroughs in large-scale manufacturing of low-cost shape-versatile printed μ -TEDs. To move forward, we need to further increase power density by developing novel inks and reduce contact resistances.

Job description

- Experimentally explore conductive inorganic binders, such as Ag-Se, to optimize the ink formulation and modify the morphological connectivity for higher mobility
- Experimentally explore screen-printable electrode materials, such as MXenes, and modify the surface state by sputtering process to achieve low contact resistance
- Contract valid until the end of 2024 with 40 hours per month

Qualification

- Master student with academic background in Materials Science, Semiconductor Physics, Chemistry, or Electronics
- Candidates with strong interest in energy materials, 3D printing technology, and material synthesis experiments
- Experience with numerical modelling would be a plus (such as COMSOL)

Application

Send your application with CV to qihao.zhang@kit.edu

The KIT attaches great importance to the professional equality of women and men. We would therefore be particularly pleased to receive applications from women. Severely handicapped applicants will be given preferential consideration if they are suitably qualified.

Area of research

Printed thermoelectrics

Type of work

Experimental

Field of studies

Materials Science, Physics and Chemistry

Starting date

As soon as possible

Contact person

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