Bachelor thesis: **Development of automated printing methods using a robot**

Printing technologies to deposit functional films are considered as an enabling technology to manufacture the next generations of optoelectronic devices in lighting (LED`s), energy (photovoltaics), consumer electronics (displays, smartphones) and many other applications. A huge amount of parameters has to be optimized to develop a suitable semiconductor material for such applications. All parameters heavily depend on the synthesis, formulation and deposition conditions. This leads to a large amount of variations that have to be studied empirically. A new research group at iMEET starts to investigate automated and combinatorial methods to accelerate research in the field of printed semiconductors.

Fa. Hamilton Robotics, Fa. Stäubli.

In this work, different methods to deposit films using a robotic liquid handling platform shall be developed. The resulting films shall be characterized (e. g. film thickness, homogeneity, defects,…) and the quality of the films shall be improved for a series of different electronic inks.

Benefits:

-Work with brand-new high-tech robots

-Highly interesting topic at the edge of contemporary research

-Motivated group and pleasant working environment

Qualification:

-Student of Mechanical Engineering, Material Science, Process Engineering, Physics or comparable

-Profound technical knowledge

-Experience in a programming language is beneficial

The thesis can be written in German or English.

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