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MÜNCHEN

DR. TAYEBEH AMERI  
DEPARTMENT CHEMIE



## PhD Position

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### Topic: Hybrid Organic-Inorganic Photovoltaics / Photodetectors

In order to widen the range of applications of organic electronics into photovoltaics and particularly photosensing, combination of both organic and inorganic electronic systems is a promising strategy. Hybrid systems possess the unique properties of both organic and inorganic semiconductors. It is thus of significant interest to develop printed hybrid electronic devices for use in modern applications. In this project, we will focus on various strategies to control distribution of the inorganic QDs within the organic host matrix and preserving its initial nanomorphology / transport properties upon adding inorganic QDs, leading to high performance hybrid optoelectronic devices such as photovoltaics and photodetectors.

#### Your Tasks:

- Synthesis of the inorganic QDs.
- Investigation of organic-inorganic hetero-interface and junction properties.
- Fundamental investigation of microstructure and charge transport dynamics.
- Device design and interfaces engineering.
- Investigation of the device stability and lifetime and detailed study of the degradation processes.

#### Your Profile / Interest:

- Motivated, independent, reliable, and accurate
- Quantum dots' synthesis
- Processing and fabrication of solution-processable thin film devices
- Optical and electrical characterization
- Good command of English in speech and writing

#### Condition:

50% TV-L E13, Available from February 2018

Please send your application with Curriculum Vitae, certificates of school and degree certificates for academic degree, motivational letter, a short summary of previous scientific work and ideally with contact information for two references as a pdf-file to [tayebeh.ameri@lmu.de](mailto:tayebeh.ameri@lmu.de).