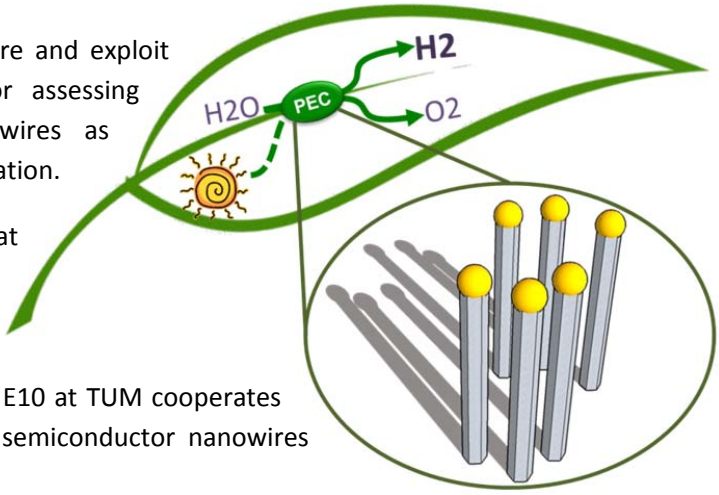
Master Thesis on Nano-Photo-Electrochemistry

Nano-electrochemistry is an emerging field in materials science, which will be exploited towards the development of new methods for renewable energy harvesting and an increased understanding of engineered nanoscopic materials for solar fuel generation, such as hydrogen.

Local electrochemical probing down to the nanometer scale is now possible and opens new gateways for the direct correlation between material properties and photo-electrochemical activity in semiconductor nanostructures.



The main focus of this project is to explore and exploit nano-photoelectrochemical techniques for assessing the properties of semiconductor nanowires as building blocks for efficient solar fuel generation.

The experimental work is to be performed at the Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland, in the group of Dr. E. Alarcon and Prof. Dr. A. Fontcuberta-i-Morral with whom our chair E10 at TUM cooperates concerning multi-functional properties of semiconductor nanowires and related hybrid structures.

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