

**PHYSICAL COLLOQUIUM
INVITATION**

Monday, 10.12.2018, 4.15 p.m., W2-1-148

speaks

Prof. Mag. Dr. Dr .h. c. Niyazi Serdar Sariçiftçi

Linz Institute for Organic Solar Cells (LIOS), Physical Chemistry,

Johannes Kepler University Linz, Austria

about

**“Organic and bio-organic devices for solar energy conversion and
CO₂ recycling”**

Organic electronic devices are maturing from the academic research into the industrial development, entering the markets. In order to account for a sustainable future, the application of biodegradable and biocompatible systems for organic optoelectronics are needed. The use of cheap electronic devices in a large scale will introduce a “consumable electronics” into the market of “consumer electronics”. Therefore environmentally friendly materials are important to use. This is a next great challenge to material science in organic electronics. New developments of bio-inspired and/or bio-origin, bio-compatible materials are interesting. Such materials can also be used to interface the biological and biomedical research with the organic electronics field.

Last but not least the conversion of CO₂ to methane (or other synthetic fuels) using solar energy is an important step to make an efficient, large scale energy storage. At the same time this will make a cyclic and sustainable CO₂ economy. We report organic as well as bio-organic catalysts which can be used in photo-electro-catalytic conversion devices. Such bio-catalysts can be enzymes as well as living bacteria immobilized on electrodes. Selectivity of such bio-catalysts is very high and combined with the room temperature operation of such bio-electro-catalytic systems makes them industrially highly attractive.

All interested persons are cordially invited.

Sgd. Prof. Dr. Manuela Schiek