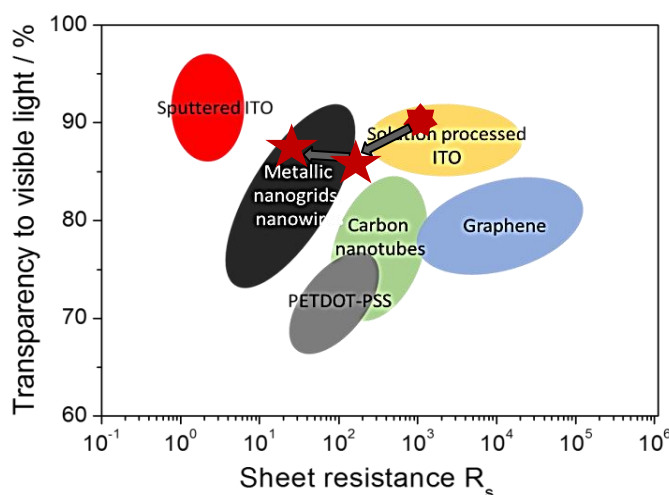
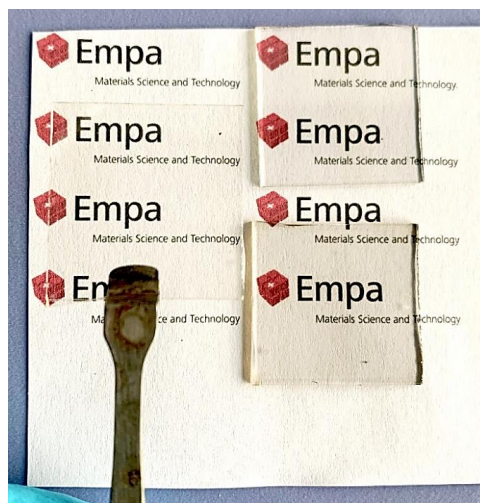


# Low temperature processed transparent conductive oxide inks for printable electronics

Transparent conductive oxides (TCOs), with a unique combination of high electrical conductivity and optical transparency, have been widely used in solar cells, flat panel display technologies and energy efficient windows. With the fast development of flexible electronics, low temperature process-able TCO inks are highly demanded. However, the performance of currently developed TCO inks still need to be improved.

In this project, TCO inks will be prepared based on nanoparticles, and a series of light annealing methods (such as tunable UV, Photonic annealing, microwave heating) will be employed to improve electrical conductivity and optical transparency of deposited layers. The prepared nanoparticles and resulted layers will be characterized with methods such as X-ray diffraction (XRD), dynamic light scattering (DLS), scanning electron microscopy (SEM) and opto-electrical measurements like UV-VIS, Hall, I-V and others.

We are looking for students in the field of Chemistry/Materials Science/Physics/Electrical Engineering willing to work in a motivated, multi-disciplinary team performing innovative science in the field of printable electronics. The ideal candidate is dedicated to lab based as well as analytical instrumental based work with a strong focus to applied research.



**Duration:** 1.5-6 months (Bachelor thesis, Semester project or Master thesis)

**Starting date:** anytime

**Required skills:** basic chemistry knowledge and experience in the lab environment

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