**Link:** <https://solar-power-tech.com/e-posters/dsc_eposter_12/>

**Abstract**

Dyes for dye-sensitized solar cells (DSSC) are commonly constructed with a donor-π-acceptor architecture giving a push-pull effect. The “Hagfeldt donor”, consisting of a triarylamine core with four bulky alkyl chains attached, has been incorporated in many successful DSSC dyes[1-4]. The donor is characterized by its bulky propeller-shape that is efficient at blocking recombination of electrons at the TiO2/electrolyte interface. This property is highly desired when using Cu+/Cu2+-based electrolytes, as they undergo fast electron transfer with electrons in the semiconductor[5].

We have designed and synthesized a model dye for investigating the effect of the 3-dimensional structure of the triarylamine donor on DSSC performance. The model dye incorporates two ether-linkages in the triphenylamine moiety, resulting in a double phenoxazine structure, giving a more planar donor structure. The two novel dyes are **TPA** and **POZPOZ**. The poster will present optical properties of the dyes as well as photovoltaic performance of DSSCs sensitized by **TPA** and **POZPOZ**, to evaluate this novel donor design.