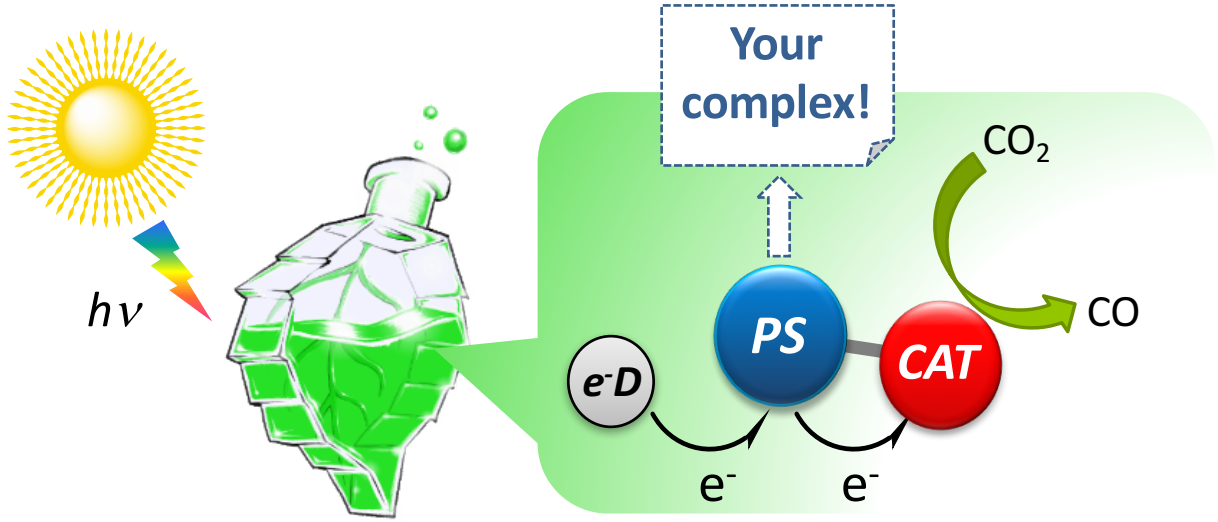
New photosensitizers based on earth-abundant metal complexes.

Starting date: August 2018 or later
Suitable for: Master thesis

Solar chemical generation is a philosopher´s stone of many researchers nowadays. Important milestones have been recently achieved on artificial photosynthesis, nevertheless investigation of efficient and robust photosensitizers has to be still pursued.[1] In terms of applicability, these photosensitizers should be easily available and cost-effective. [2]



Your project:

- Synthesis and characteriaztion of functionalized chelating ligands;
- Synthesis of new photosensitizers / photocatalysts based on organometallic complex(es);
- Structural characterization;
- Photophysical / electrochemical characterization;
- Photocatalytic reduction of CO_2.

[1] (a) Armaroli, N.; Balzani,V.; *Chem. Eur. J.,* **2016**, 22, 32-57 ; (b) Berardi, S.; Drouet, S.; Francàs, L.; Gimbert-Surinach, C.; Guttentag, M.; Richmond, C.; Stoll, T.; Llobet, L.; *Chem. Soc. Rev.* **2014**, *43*, 7501-7519.
[2] (a) Heberle, M.; Tschierlei, S.; Rockstroh, N.; Ringenberg, M.; Frey, W.; Junge, H.; Beller, M.; Lochbrunner, S.; Karnahl, M.; *Chem Eur. J.* **2017**, *23*, 312–319; (b) C. Bizzarri et al. *In preparation*