

Different approaches for CO₂ reduction and valorisation using Solar Energy within the *French Solar Fuels Network*

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The production of Solar Fuels (namely conversion and valorization of CO₂ into valuable molecules using Solar Energy) via photocatalysis, photo-electro-catalysis, artificial photosynthesis or via coupling of processes represents a growing cross-disciplinary scope. It requires gathering experts from materials science, molecular- and bio-chemistry fields through the use of complementary concepts and approaches (nanoscience, bio-inspiration, light harvesting, catalysis, ...) and sharing methodologies and tools (electrochemistry, photochemistry, advanced and coupled characterization methods, modeling and simulation).

The dedicated « French Solar Fuels Network » aims at bringing together and promoting exchanges and collaborations between researchers/groups of complementary expertise, thus allowing the development of innovative processes in the field of CO₂ reduction and valorization.

A survey of the main approaches and achievements within this network will be presented and discussed, illustrated by some examples of studies.