Solar-Driven Chemistry 2021/2022: International call for applications in chemistry and process engineering

https://www.dfg.de/foerderung/info_wissenschaft/internationaler_bezug/info_wissenschaft_21_66/index.html

Deadline: 29.10.2021 | Programme calls

SolarDriven Chemistry is a network initiated by the German Research Foundation (DFG) with research funding agencies from Finland, France, Germany, Poland, Switzerland and Turkey. Its subject is basic research on the photochemical conversion of small, abundant molecules such as carbon dioxide, water or nitrogen into more valuable, storable chemicals using solar radiation.

Subject of this call for proposals is fundamental research in all subfields relevant to the photochemical conversion of small, abundant molecules such as carbon dioxide, water, or nitrogen into more valuable, storable chemicals using solar radiation. Proposals should focus on photochemical processes (reactions) and on solving fundamental problems. Typical (but not exclusive) examples include preparative, physicochemical, analytical, and theoretical work (always related to the general theme of the call) on:

- research on light conversion/collection and charge separation issues, catalyst, electrode, membrane, etc. materials
- materials science and development (including high-throughput calculations, "materials by design" approaches, advanced characterization and in situ/operando measurement methods) to study performance, stability, and sustainability as applied to small molecule photochemical conversion
- exploration of fundamental mechanisms of catalysis, including bioinspired, enzymatic, molecular, and inorganic catalysis (understanding, designing, and benchmarking selective, fast, energy-efficient, stable, and O2/toxin-tolerant catalysts) and light collection when the focus is on photochemical conversion of small molecules
- heterogeneous photoelectrochemistry/photocatalysis (including surface-limited molecular systems)
- photo-(electro-)catalytic water splitting
- photochemical or photoelectrochemical CO2 reduction (e.g. including combined CO2 capture and conversion)
- development of new photoactive systems as far as they are related to the topic of the general call
- reaction engineering, photoreactor design, and related multiscale multiphysics approaches
- molecular model systems capable of direct conversion, e.g., for mechanistic studies
- photocatalytic conversion of organic substrates using O2, H2O, and CO2 without a sacrificial electron donor/acceptor

Researchers eligible for funding from any of the participating funding agencies may apply jointly under this call. Joint proposals may be submitted by at least two and up to four partners eligible for funding from funding agencies in at least two and up to four different countries participating in this call. Each applicant may participate in only one proposal under this call.

The submission and review process is two-stage and includes pre-proposals and full proposals. The DFG acts as the secretariat of the call, therefore all project outlines and full proposals must be submitted via the DFG submission system elan. All pre-proposals must be submitted no later than Friday, October 29, 2021. Successful applicants from the pre-proposal phase will be invited around the beginning of February 2022 to submit their full proposals by May 2, 2022 at the latest. Joint projects will be funded for up to three years (either 24 or 36 months), beginning no later than early 2023.

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Countries / organization: Türkiye, Germany, Finland, France, Poland, Switzerland

Topic: Energy, Funding, Basic Research, Physical/Chemical Technologies

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