

Additional information to Information for Researchers

NSF-DFG Lead Agency Activity in Electrosynthesis and Electrocatalysis (NSF-DFG EChem)

NSF-DFG 2020

Full call text including specific instructions for applicants from Germany

Recognizing the importance of international collaborations in promoting scientific discoveries, the US National Science Foundation (NSF) and the Deutsche Forschungsgemeinschaft (German Research Foundation, DFG) have signed a Memorandum of Understanding (MoU) on research cooperation. The MoU provides an overarching framework to enhance opportunities for collaborative activities between US and German research communities and sets out the principles by which jointly-supported activities might be developed. To facilitate the support of collaborative work between US researchers and their German counterparts, the Division of Chemistry (CHE) and the Division of Chemical, Bioengineering, Environmental and Transport Systems (CBET) at the NSF and the Divisions of Physics and Chemistry (PC) and Engineering Sciences (ING 1) at the DFG are pleased to announce a Lead Agency Activity in the areas of Electrosynthesis and Electrocatalysis:

Both the NSF and DFG recognize an urgent need to support research focused on discovering and developing new chemical synthesis methods that are both energy efficient and compatible with non-fossil fuel energy sources. We are particularly interested in novel and fundamental electrochemical reactions and studies addressing transformations in organic and polymer synthesis, water splitting reactions (hydrogen/oxygen evolution), and nitrogen reduction (ammonia production). Relevant activities include: mechanistic studies; catalyst design, synthesis, and characterization; computational modelling, theory, and simulation; and experimental tool development. For fundamental engineering science projects, we are interested in studies involving reaction engineering, reactor system design, and component or device scale studies as examples that provide fundamental knowledge supporting scale-up of systems. In addition, fundamental engineering science projects involving alternative (to thermal) activation mechanisms such as microwaves (e.g. microwave assisted catalysis) and low temperature plasmas (e.g. plasma-assisted catalysis) are welcomed.

The goal of this Lead Agency Activity is to reduce current barriers to working internationally by allowing US and German researchers to submit a single collaborative proposal that will undergo a single review process while funding organizations maintain budgetary control over their awards. Proposals eligible to apply for this Lead Agency Activity will need to have a research focus relevant to the topic areas identified above. Proposals of German applicants are accepted in the subject areas 321 - 327 and 403 (please refer to [DFG's subject classification](#)). US researchers should review the CHE and CBET program descriptions for research supported through these NSF divisions/organizations. Proposals are expected to adhere to typical proposal budgets and durations for the relevant programs from which funding is sought.

Proposals will be reviewed by either NSF or DFG as the Lead Agency, depending on where the largest proportion of research lies. Proposals must provide a clear rationale for the need for a US-German

collaboration, including the unique expertise and synergy that the collaborating groups will bring to the project. The result of the review process will be shared among the appropriate divisions (NSF/CHE and/or NSF/CBET, and DFG/PC and/or DFG/ING 1) before making final recommendations.

Expression of Interest (EOI) Submission

Prior to submission, prospective PIs are strongly encouraged to contact appropriate program officers to discuss the suitability of their proposed research. The prospective PIs must discuss within their research team where they feel the largest proportion of research lies and agree on a lead agency (either NSF or DFG). For proposers to be invited to submit a formal proposal, an Expression of Interest (EOI) is required and has to be submitted to the prospective lead agency **no later than July 1, 2020, 5pm local time**.

The EOI should contain:

- An indication of the target program or subject area (321 - 327 and 403) for the proposed topic in the participating divisions at both NSF and DFG. Please note that the PI-indicated target program may not be the only program that will consider the submitted EOI. The submitted EOI may be shared with other interested programs within NSF and DFG;
- Brief description of the proposed research, including a breakdown of the German/US contributions to the research. The document submitted should not exceed 5000 characters, including spaces;
- The names and affiliations of the researchers; and
- Bottom line estimates of total funding to be requested from NSF (including indirect costs) and from DFG. A detailed budget is not required at this time.

If NSF is the lead agency, PIs should email the Expression of Interest (EOI) to NSFDFG@nsf.gov;

If DFG is the lead agency, PIs should email the Expression of Interest (EOI) in a password-protected ZIP file to NSF-DFG-Chemistry@dfg.de. Please submit the corresponding password in a separate email.

The lead agency will share all EOIs received with the non-lead agency in order for both funding organizations to validate whether the proposed research is within the focus relevant to the topic areas of this solicitation and if the institutions meet the funding organization's eligibility requirements (following the regulations for the participating NSF and DFG programs for funding).

Upon confirmation from both funding organizations that the collaborative research proposal is appropriate for the NSF-DFG EChem solicitation, the lead agency will then contact the researchers to inform them that they may submit a full research proposal to the lead agency. In some cases, an alteration of the NSF and/or the DFG budget request, their lead agency role, and/or the target program may be required in the full proposal submission.

Full Proposal Submission

For US researchers or for proposals submitted to NSF as the Lead Agency, please consult the NSF funding website <https://www.nsf.gov/pubs/2020/nsf20578/nsf20578.htm> for additional information. If NSF is the Lead Agency, in parallel to submitting the proposal to NSF, the German Cooperation Partner is required to submit a copy of the proposal to DFG via elan to input the necessary information and forms into the system. A detailed breakdown of funding requested from DFG must be added as a Supplementary Document. In elan the US investigator should be appointed as Cooperation Partner.

If DFG is the lead agency, please follow the instructions below:

- For their joint proposals, PIs and co-PIs must comply with the proposal preparation requirements outlined in the Guidelines for the Research Grants Programme (DFG form 50.01). Proposals within this call must be prepared according to the Proposal Preparation Instructions, DFG form 54.01 and the template for Project Description (DG form 53.01). Please note that for joint proposals, the list of up to ten project-related publications may include papers authored by the German applicant(s) and papers authored by the US applicant(s).
- Full proposals must be submitted via *elan*, the DFG's electronic proposal processing system. After logging in, please use the link "Proposal for a Research Grant" in the Proposal Forms column (Proposal Submission > New Project > Individual Grants Programme > Proposal for a Research Grant). Please select "NSF-DFG EChem" from the list of calls. Applicants to be funded by the DFG are requested to fulfill the eligibility requirements of DFG Research Grants. This includes the duty to cooperate ("Kooperationspflicht") within Germany for members of non-university institutions with permanent positions.
- The proposal must include a description of the full proposed research program and research team, and the total resources for the joint project (that is, the funds requested for both the US and German side). A separate document, the Justification of Resources should include a clear summary and justification of the funds requested from NSF, as well as a detailed breakdown of funding requested from NSF. The latter document will be shared with NSF to verify the allowability of funds requested.
- The US investigators should be included as Cooperation Partners. A Biographical Sketch for each of these individuals should be provided with a format that conforms to the DFG guidelines for publication lists (DFG form 1.91).
- Letter(s) of Collaboration from participating US organization(s) should be included.
- If you are using the *elan* system for the first time, please note that you need to register yourself and your institutional addresses before you are able to submit a proposal. Also, if you are planning to move to a different institution, you need to register the new institutional address beforehand. Please make sure that all applicants for your project (if there is more than one) start their registration no later than September 22, 2020. The registration requests are handled manually by the DFG staff.

The full proposal deadline is September 30, 2020, 5pm local time.

Personal data contained in an applicant's proposal or a proposal submitted by an applicant's institution/organisation and any data collected on the applicant in relation to DFG funding will be transferred, if necessary, to the NSF and reviewers. Note that their base or place of data processing is not located in a member state of the European Union or in another state party to the Agreement on the European Economic Area. This information is transferred as part of the decision-making process on the proposal and in conjunction with implementing the project.

This transfer is permissible as an exception because it is necessary

- for the performance of the funding contract between the applicant and the DFG and for the implementation of pre-contractual measures relating to the proposal (Art. 49 (1) (b) GDPR),
- for the performance of the (employment) contract between an applicant and an applicant's employer or the applicant institution/organisation (Art. 49 (1) (b), (c) GDPR) or

- for the conclusion and/or performance of the funding contract concluded in the interest of the applicant between a third party and/or the applicant's institution/organisation and the DFG (Art. 49 (1) (c) GDPR).

Notification of results

Applicants will be informed in writing of the results of the review and, where applicable, of the subsequent administrative steps according to the respective national regulations. The selection of the projects will be completed by August 2021.

Further information

Guidelines DFG Research Grants Programme (DFG form 50.01):

http://www.dfg.de/formulare/50_01/50_01_en.pdf

DFG's Electronic Proposal Processing System for Applicants – elan:

<https://elan.dfg.de>

Information on submitting proposals to the NSF

<https://www.nsf.gov/pubs/2020/nsf20578/nsf20578.htm>

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