



BSF Call for Proposals in a Joint NSF-BSF Program with the Integrative Organismal System Division (IOS) - EDGE Track

The U.S.-Israel Science Foundation (BSF) is pleased to announce the opening of the second round of applications in a joint funding program: Enabling Discovery through Genomic Tools (EDGE) track in the Integrative Organismal System Division (IOS) in the Biological Sciences Directorate (BIO) of the U.S. National Science Foundation (NSF).

The Terms of this program are as follows:

General:

1. This NSF-BSF program is not a “special” program with the NSF setting aside money for potential grants. Rather, it is an integral part of the regular NSF programs in this discipline, with no “special” funds. Clear understanding of it by the U.S. partner is essential before embarking on proposal writing.

Synopsis of Program:

IOS recognizes that a lack of functional genomic tools, approaches, and associated infrastructure in emerging model organisms is a significant impediment to progress in a wide array of basic research fields focused on the structure and function of organisms and to the advancement of our understanding of the relationship between genomes and phenomes -- a grand challenge in biology. Therefore, a new track, “Enabling Discovery through Genomic Tools” (EDGE), is incorporated in this solicitation to help overcome these obstacles.

Researchers addressing important questions in organismal biology are using a wide array of organisms because their unique features make them especially well-suited to address many fundamental questions in biology. Moreover, support for research on diverse organisms is essential to developing strong inferences about the principles or rules governing the interaction between genomes and phenomes. Although lower costs now make it possible for many PIs to obtain genome and transcriptome sequences, these researchers are frequently blocked from testing hypotheses about cause-and-effect mechanisms because they lack tools to manipulate their systems' genomes.

Consequently, investigations often come to a standstill at the stage of correlation (e.g., transcriptomic studies in which gene expression is correlated with experimental and/or environmental conditions), rather than proceeding to testing of causal relationships between genes, genomes and phenotypes. IOS recognizes that establishing causal relationships is essential to understanding the genomes to phenomes relationship.

To address these constraints, EDGE will support projects from individual investigators, small groups of collaborators, or larger collaborative teams who aim to develop functional genomic tools and infrastructure for manipulating genes in diverse organisms. EDGE-supported investigators are expected to rapidly disseminate their tools and train other researchers in their use, thereby catalyzing a broad-scale improvement in the community's capacity to test mechanistic hypotheses. Examples of relevant tools, approaches, and infrastructure include, but are not limited to:

- Innovative approaches for establishing gene function
- Development and testing of transformation approaches
- Expansion of the use of gene editing, knock-out, and overexpression approaches in diverse organisms
- Development of approaches and establishment of conditions for maintaining organisms to test and manipulate genetic function.

PIs may use taxonomic, question-based, and/or technology-based strategies to develop tools that will be used by larger communities of researchers. Projects may include instrumentation development in the context of developing functional genomic tools to enable emerging model organisms but should not be exclusively limited to instrumentation development. Tools, approaches, and infrastructure that will have significant catalytic effect in enabling large numbers of PIs to overcome bottlenecks in testing function will receive priority. EDGE proposals must include training and rapid dissemination plans, as well as a rationale for support that is based on an assessment of current impediments and the potential impact of proposed projects on the relevant research communities. PIs are encouraged to bring together novel combinations of expertise to achieve the greatest impact of the proposed tools and infrastructure.

A full description of the program can be found in the IOS solicitation on the NSF website. It is strongly advised for all potentials applicants (including Israelis) to read the document carefully:

<http://www.nsf.gov/pubs/2016/nsf16505/nsf16505.htm?org=NSF>

- 2. Unlike in the IOS traditional core program, this track will use only full proposal stage. However, the U.S. PI must submit a letter of intent for the proposal to be considered.**

3. Applications must be written jointly by an Israeli and a U.S. scientist from a U.S. research institution.
4. The NSF accepts applications only from U.S. scientist and submission to the NSF should be made by the U.S. PI alone (the Israeli does not appear as a formal co-PI on the application). However, in the collaborative applications, the role of the Israeli partner(s) must be described. **Furthermore, it should be clearly explained why the contribution of the Israeli PI to the research project is important/essential.**
5. If awarded a grant, the Israeli scientist will receive a grant from the BSF, while the US scientist will receive a grant from the NSF.
6. The size of the BSF grant to the Israelis is expected to be up to \$80,000/year for the duration of the grant, subject to the availability of funds. BSF will follow the decision by the U.S. funding agency regarding the length of the project.
7. The program is expected to be held annually.
8. We have put together a presentation with tips for Israeli scientists who wish to submit to the NSF-BSF. You can download the presentation [here](#).

Eligibility:

1. All regulations regarding eligibility of the BSF (for the Israeli PI) or the NSF (for the U.S. PI) will apply to this program.
2. **Each Israeli scientist is allowed to submit only a single proposal. Moreover, a scientist who has any pending NSF-BSF application, or has any active NSF-BSF grant that is not in its last year, is not allowed to submit an application to this program.**
3. Israeli scientists will be allowed to submit both to an NSF-BSF program and the regular BSF program, including similar applications. In the event that they are awarded a grant in both programs, they will be funded in both, unless the research application is mostly similar, in which case only their NSF-BSF program will be funded.
4. In case of similar NSF-BSF and regular BSF applications, in which the NSF evaluation was not completed by the time the regular BSF awards are made, the BSF will defer its decision regarding a possible grant to this application, until the NSF-BSF awards are announced.

Evaluation:

1. Proposals will be evaluated by the NSF, using its [criteria](#). The BSF will create a small screening panel to quickly examine the role of the Israelis in the applications, and ascertain that it is meaningful, and that they have the knowhow and facilities to perform their part in the research. This panel will also advise the BSF regarding the budget requests, but will not evaluate the scientific merit of the applications. However, Israelis may possibly take part in the NSF evaluation process as panel members and/or external reviewers.
2. BSF is likely to fund any Israeli whose partner in this program is funded by the NSF, subject to the eligibility constraints, availability of funds, and advice of the screening panel.
3. NSF uses a conventional peer review system with expert panels and ad-hoc (external) reviews for full proposals. However, unlike the practice in Israel, panel members serve in an advisory capacity, and final decisions lie with the program directors and their management. These post-panel officials may introduce additional considerations, such as whether the research topic already has support from the US government, whether support from other NSF programs may be sought, etc.
4. Israeli applicants are advised that they should pay particular attention to the NSF evaluation criteria, http://nsf.gov/bfa/dias/policy/merit_review/, which may include issues such as broad impact, data management, etc. That are either missing in BSF/ISF applications, or have a greatly different meaning (particularly the term 'broad impact'). **Failure to appropriately refer to such topics by the U.S. partner may be detrimental to the proposal, and has been also known to result in early rejection.**

Submission:

The proposals will be submitted to the program twice.

The U.S. scientist (only) will submit to the NSF using its regulations (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg) and submission system (<https://www.fastlane.nsf.gov/>). **The US PI submission to the NSF MUST include the BIOGRAPHY (in the NSF format) and BUDGET (in the BSF format) of the Israeli partner as part of the auxiliary material.**

The Israeli scientist (only) will submit to the BSF, also providing the US scientist information, according to its regulations and submission system:



<http://www.bsf.org.il/ElectronicSubmission/GatewayFormsAndGuidelines.aspx?PageId=7&innerTextID=0%20>

Please note that the BSF has tried to simplify the submission for the Israeli, and it only includes the PDF that was produced by the NSF system, with some additional administrative data.

Timetable:

Letter of intent by the US PI is due by April 28, 2017. By the same date, The Israeli Scientist has to open a proposal file, registering on the BSF system.

The full proposals should be submitted to the BSF no later than 5 pm (Israel time) on June 12, 2017 (NSF deadline is June 7, 2017).

Applicants are requested to acquaint themselves with the BSF regulation for this NSF-BSF program before they submit applications. The forms and regulations can be downloaded from the BSF website (www.bsf.org.il) under 'Guidelines and Forms'.

Questions regarding the applicability of the proposed research for this program should be directed by the US partner to the program officer at the NSF.

Other questions regarding this special NSF-BSF program can be discussed with the BSF management by mail or phone (972-2-5828239): Dr. Rachel (Heni) Haring (heni@bsf.org.il ext. 110) or Ms. Yael Dressler (yael@bsf.org.il ext. 103). Questions regarding the online application system should be directed to Ms. Orli Rozencwajg (orli@bsf.org.il ext. 109).