United States – Israel
Binational Science Foundation

# CALL FOR PROPOSALS IN A JOINT NSF-BSF PROGRAM IN Integrative Strategies for Understanding Neural and Cognitive Systems (NCS)

**The U.S. – Israel Binational Science Foundation (BSF) is accepting applications in joint funding programs in Integrative Strategies for Understanding Neural and Cognitive Systems (NCS), with the Biological Science Directorate; Computer and Information Science and Engineering; Engineering and the Social, Behavioral and Economic Sciences of the U.S. National Science Foundation (NSF).**

## Synopsis of the NCS Program:

The complexities of brain and behavior pose fundamental questions in many areas of science and engineering, drawing intense interest across a broad spectrum of disciplinary perspectives while eluding explanation by any one of them. Rapid advances within and across disciplines are leading to an increasingly interwoven fabric of theories, models, empirical methods and findings, and educational approaches, opening new opportunities to understand complex aspects of neural and cognitive systems through integrative multidisciplinary approaches.

This program calls for innovative, convergent, boundary-crossing proposals that can best capture those opportunities and map out new research frontiers. NSF seeks proposals that pursue high-value scientific and technical risks by transcending the perspectives and approaches typical of disciplinary research efforts. This cross-directorate program is one element of NSF's participation in the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative (https://www.nsf.gov/brain/). NSF envisions a connected portfolio of transformative, integrative projects that create synergistic links across investigators and communities, yielding novel ways of tackling the challenges of understanding the brain in action and in context.
The program focuses on four aspects of neural and cognitive systems that are current targets of converging interdisciplinary interests. NCS projects must advance the foundations of one or more of these focus areas, as described further within the solicitation:

1. Neuroengineering and Brain-Inspired Concepts and Designs
2. Individuality and Variation
3. Cognitive and Neural Processes in Realistic, Complex Environments
4. Data-Intensive Neuroscience and Cognitive Science

Proposals must address both risk and reward: high-risk, high-payoff approaches are expected. Proposals must also go beyond the scope of any NSF core program, or they will not be considered responsive to this solicitation.

NCS will consider two classes of proposals. **FOUNDATIONS** awards will support high-risk, high-payoff projects that advance the foundations of one or more NCS focus areas. **FRONTIERS** awards (FY2021 and FY2023 competitions only) will support ambitious, highly integrative, interdisciplinary projects that advance and connect multiple integrative research threads to tackle challenges that would be intractable without a high level of collaboration and coordination.

For a full program description please read the NSF solicitation here: https://www.nsf.gov/pubs/2021/nsf21517/nsf21517.htm?org=NSF

The terms of participation in 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 "extra" funds. Clear understanding of this on part of the U.S. partner is essential before embarking on proposal writing.**

**2. Prior to submission, the U.S. applicant should contact the appropriate NSF program manager to discuss the research focus of the international project.**

3. Applications must be submitted jointly by an Israeli, and an U.S. scientist from a U.S. research institution.

4. The NSF accepts applications only from U.S. scientists. Submission to the NSF should be made by the U.S. PI alone, but they have to note in the research title on the cover page that it is an "NSF-BSF Application" (the Israeli does not appear as a formal co-PI on the application). In the submission by the US PI, 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 U.S. scientist will receive a grant from the NSF, while the Israeli scientist will receive a grant from the BSF.

6. The size of the BSF grant to the Israeli is expected to be up to $80,000/year for experimental programs and up to $55,000/year for theoretical or computer based research, **subject to the availability of funds**. If more than a single Israeli group is involved in the research, the budget may be increased by up to 50%.

7. BSF will follow the decision by the U.S. funding agency regarding the length of the project.

8. A call for proposals in this program will be announced annually.

9. We have put together a short presentation with tips for Israeli PIs who are interested in submitting an NSF-BSF proposal. We advise that you read it carefully before starting to look for a partner. You can download it here

## Eligibility

- **U.S. scientists** that apply with an Israeli colleague to the NSF are subject to the NSF rules only**.**
- **Israeli scientists without an active NSF-BSF grant** can submit **up to two** NSF-BSF applications per year. At least one of the applications must be to an NSF-BSF program **with no deadline**.
- **Israeli scientists with an active NSF-BSF grant** are allowed to submit **one** additional research proposal to the NSF-BSF program, provided that either the grant or the new submission is to an NSF-BSF program **with no deadline**. Otherwise, a submission is allowed only in the last year of the active grant.
- Israeli scientists can hold **no more than two** NSF-BSF awards at any point in time**.**
- **Both US and Israeli scientists** can simultaneously submit research proposals to the NSF-BSF program and the traditional BSF program. In the event that proposals are recommended for funding in both programs, they will each be awarded, unless there is significant overlap in the scientific question and research objectives (to the sole distinction of the BSF office). In the latter case BSF will only fund the application under the NSF-BSF program.
- In case of **similar or overlapping applications to both NSF-BSF and traditional BSF programs**, where the BSF proposal is recommended for funding but evaluation of the NSF- BSF application has not yet been completed, the BSF will defer its funding decision until the NSF-BSF awards for that program are announced.

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## 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.

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 managers and their management. These post-panel officials may introduce additional considerations, such as whether the research topic already has support from the U.S. 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 broader impact, data management, etc., that are either missing in BSF and ISF applications, or have a greatly different meaning (particularly the term 'broader impact'). **Failure to appropriately refer to such topics by the U.S. partner may be detrimental to the proposal, in the worst case leading to rejection without review.**

## Submission

Proposals will be submitted to the program twice:

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

The Israeli scientist (only) will submit the same proposal to the BSF, including information for the U.S. scientist(s), according to its regulations and submission system: find here.

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# Timetable

The NSF deadline is February 15, 2021. After successful submission at NSF, proposals need to be submitted to the BSF on February 21, 2021 no later than 5 pm (Israel time).

*Applicants are requested to acquaint themselves with the BSF regulations before they submit an application. In particular, they should acquaint themselves with the special document that describes the changes in the submission process from the regular (core) BSF program. The forms and regulations can be downloaded from the BSF website (https://www.bsf.org.il/funding-opportunities/nsf-bsf-joint-research-grants/the-programs/).*

**Questions regarding the applicability of the proposed research for this program should be directed by the U.S. partner to the program officer at the NSF**. **BSF will not respond to such inquiries**. Other questions regarding this special BSF-NSF 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).