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Binational Science Foundation

# Instructions and Related BSF Regulations for Online Submission of **Pre-proposals** **for the Cross-Disciplinary Research** **towards Climate Solutions** Program

## BSF 2022

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Deadline for investigators and research authorities to submit pre-proposals in the Cross-Disciplinary Research Towards Climate Solutions program: April 3, 2022

**No Paper Copies are needed.**

Last updated: February – 2022



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## 1. Introduction:

Climate change is without a doubt the most pressing issue of our time. With the clock running out on global CO<sub>2</sub> and other greenhouse gas emissions, humanity struggles to contain global temperature rise at no more than 2 °C as compared to preindustrial levels. Present day we experience climate change everywhere and there is a clear need for action. The US-Israel Binational Science Foundation (BSF) contends that real world climate solutions will not emerge from a single discipline. The design and successful execution of true solutions requires transformative concepts that run across disciplines with attributes like discovery, application, engineering, implementation, behavioral change and societal acceptance. With these ingredients at the basis of successful development of novel technologies and approaches, they can drive political will and new policies towards mitigating climate change.

The US-Israel BSF aims to make a positive contribution to the development of **climate solutions through cross-disciplinary, collaborative research projects** between the two countries. This initiative envisages a bi-annual call for cross-disciplinary proposals that advance the conceptualization, development and/or implementation of climate solutions. The new initiative will focus on how aspects of climate related processes can be offset by novel technologies, regulations, policy etc. Examples of such processes are:

1. **Atmosphere** (e.g. carbon dioxide capture, methane emissions, hurricane preparedness, climate change, extreme weather etc.)
2. **Earth** (salt intrusion; rivers, estuaries and marshlands; coastal erosion; droughts; arid ecosystems; alternative energy sources (wind, solar); deforestation etc.)
3. **Ocean** (alternative energy sources (tidal, wave); coral bleaching; biodiversity and biogeography; food web structures; ocean acidification etc.)



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## 2. Collaborative Research:

**Applications must involve active collaboration between scientists of both countries.** Therefore, prior to submission of applications, prospective applicants must complete the collaborative arrangements necessary for the submission of a joint proposal.

Research collaboration between Israeli and American scientists is seen by the BSF as a fundamental requirement. A joint research program must be presented in the form of a single, coordinated application, in which the roles and tasks of the respective partners are clearly defined. Each application should have at least two, and no more than six, principal investigators.

Collaboration should involve joint planning of research and evaluation of results, and may take the form of:

- Joint research activities where interdependent projects of a single program are conducted in different laboratories and may involve shared funding or complimentary sources of funding.
- Provision of research facilities, materials, equipment and/or services to cooperating scientists.
- Exchange of personnel.

**Although not mandatory, the BSF expects that if the research leads to publications, they will be authored jointly by the Israeli and American PIs, expressing the collaborative nature of the work.**

**The BSF also expects that the PIs from both countries will jointly develop the application, particularly the research plan. When it is apparent that this was not the case, it is considered to indicate a lack of collaboration and it lowers the chances of the application to be funded.**



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**Prior Collaboration between the PIs is *not* a prerequisite, and the establishment of new research teams is welcomed by the BSF.**

### 3. Eligibility

Israeli and American principal investigators must have obtained a PhD, MD or an equivalent degree, and must be **faculty members or the equivalent** of the submitting institutions. Graduate students or postgraduate fellows are **not** eligible to submit applications.

Scientists who wish to apply for grants must submit their applications through a legal entity. The BSF accepts research applications from **non-profit** organizations only, including institutions of higher learning, government research institutions and hospitals. Although applications cannot be submitted by **for-profit** or industrial organizations, one of the principal investigators may be affiliated with such an organization. However, the research performed by the investigator affiliated with a for-profit organization will not be funded by the BSF.

**It is allowed to hold simultaneously a regular BSF grant or an NSF-BSF grant, as well as a grant from this program. Therefore, an investigator may submit in the same year both an application to any of these grant programs, as well as a Climate Solutions application. However, BSF will not award two grants to research programs that have significant overlap in their objective and research plan.**

Prior to formal submission, BSF staff welcomes the opportunity to discuss the concept and research plan of the application and provide further guidance where needed.



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In keeping with an amendment, signed on 28 October 2020, to the original agreement between the U.S. and Israeli governments, the Foundation sponsors US-Israel collaborative research with participation by PIs from all Israeli academic institutions, including research carried out in geographic areas that came under the administration of the Government of Israel after June 5, 1967.

#### 4. Selection Process:

The applications in this program will undergo a review and selection process different from the conventional one practiced by the BSF in its regular grant program.

1. A cross-disciplinary science panel consisting of 3 Israeli and 3 American experts and leaders in their respective fields, is formed. Panel members will be tasked with the evaluation of pre-proposals during the first panel meeting, and select the ones that will be invited to submit a full proposal.
2. The next task of the panel members is to assign external reviewers for each of the full applications for which they are responsible. Each application is assigned to 2 panel members.
3. BSF staff will seek a minimum of four external reviews (stemming from different disciplines) for each application and, as much as possible, reviews will cover the various disciplinary aspect of the proposed study.
4. After the external reviews are received, panel members will prepare a review summary for each proposal and add their own recommendations. BSF staff performs compliance checks of all reviews and summaries, closely following the process.
5. The panel will convene for second meeting during which full proposals are evaluated, resulting in award/decline recommendations that will certified by the BSF Board of Governors.
6. The final decision for funding lies with the BSF Board of Governors.

Award/decline decision, along with copies of the external reviews and panel summaries, will be made available to the PIs.



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## 5. General Information:

### 5.1 Required Information for the Pre-Proposal:

BSF invites 5-page preproposals of cross-disciplinary, US-Israel collaborative studies that develop transformative concepts and ideas towards climate solutions. These ideas/concepts address the impacts of climate change on the natural environment as well as on human populations, their distributions and economic activities.

Preproposals that do not describe a collaboration across at least two major disciplines will be returned without review. Definitions of key principles of this Call for Proposals:

- **Transformative research** is driven by ideas that have the potential to radically change our understanding of a central scientific concept (in this case climate change), leading to new applications, technologies and/or policies.
- **Cross-disciplinary** refers to major disciplines, for example Physics, Engineering and Economics. Another example could be Atmospheric Science, Environmental Policy and Psychology.
- **Climate solutions** refer to novel technologies, approaches and/or policies that incorporate contributions from said major disciplines and have the potential to make a significant contribution to climate change mitigation.

**Applications should be written in English.**

**Applications not meeting BSF instruction below will not be accepted.**

**All applications must be submitted through the BSF website, and follow the instructions in Section 6 below.**



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#### Submission Dates

- The BSF website will be open for submission of pre-proposals starting March 1, 2022.
- Pre-proposals in the Climate Solution grant program should be approved by both Principal Investigators and their Research Authorities on April 3, 2022, no later than 5 PM Israel time (10 AM Eastern Standard Time).
- Announcement of the applications that are selected for submission of full proposals is expected by 1 June 2022.
- Full proposals will be submitted online, no later than Aug. 1, 2022.
- Final award/decline decisions are expected by 1 December 2022.

#### Submission of Hardcopies

**No paper copies are required.**

## 6. Submission of a Pre-Proposals

In order to submit a pre-proposal, all the submitting investigators must be registered in the BSF system. (See [User Manual](#))

The first investigator who opens a pre-proposal will be referred to as the Initiator and the application will be submitted to the BSF through their research authority. The initiator has certain privileges over the other investigators during the submission process, although all investigators are considered by the BSF to be Principal Investigators (PIs).

Information supplied in BSF proposals comes from two main sources: (1) Information that the investigators enter on the BSF website forms and (2) documents that are uploaded through the website in their original format (allowed formats are: .doc, .docx or .pdf)



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**Each pre-proposal requires the following information to be entered through the website:**

- Cover page
- Collaborating investigators
- Curriculum vitae of the Israeli and U.S. principal investigators
- Signatures and approvals

**Each application requires the uploading of the following documents:**

- The research plan (should include: short scientific background and definition of the climate challenge to be addressed; description of the transformative idea/concept that will lead to a climate solution; objectives; workplan, distribution of tasks, timeline and expected milestones, mode of collaboration, up to 10 references, tentative budget + justification)
- List of 10 most relevant publications of the Israeli and U.S. principal investigators (uploaded as a separate file for each investigator)

## 6.1 Cover Page

Information that needs to be entered in the online form for the cover page:

- Full titles
- Keywords - Applicants are requested to list up to 10 keywords that best describe the proposed research. First key words should denote the disciplines on which the proposal focuses.
- Number of years of the proposed project (3 or 4 years).

## 6.2 Curriculum Vitae

The curriculum vitae of each principal investigator must be filled out on line on the appropriate web form. Information must include a brief professional biography, specifying academic background and research experience.





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The list of relevant publications (up to 10) of the Israeli and U.S. principal investigators is uploaded separately on the same web page.

### 6.3 The research plan (submitted as a single file)

**The BSF web site accepts the following formats: Word (.doc, .docx), and .pdf. The size of each file should be less than 3MB. The document layout should be in A4-format with margins set at no less than 2 centimeters (0.8 inches). Font (Times New Roman, Arial or Calibri) with font size 12, and line spacing set at a minimum of 1.5 (single line spacing is not permitted). Non-compliance with these rules is likely to result in rejection without review.**

The research plan must include the following:

- Proposal (**maximum 5 pages, including budget and references**)
  - Background (what is the challenge, or the problem to be solved in a cross-disciplinary manner. What is the expected impact)
  - Work plan (including brief description of strategy, methodology, preliminary results and expected milestones)
  - Rationale and originality of the proposed work (what are the new and breakthrough element(s) in the proposed work)
  - Nature of the collaboration.
  - Tentative budget + justification
  - Up to 10 relevant references

### 6.4 Approvals of Submission

Submission requires the online approval of all PIs, and of the Research Authority of only the initiating investigator. **Please note that the Initiator is the last PI to approve the submission. Their approval automatically transfers the pre-proposal to the Research Authority, the approval of which submits the application to the BSF.**



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## 6.5 Research Authority Online Approval

**The only Research Authority that has to approve the submission of a pre-proposal is that of the Initiating Principal Investigator. The option of online approval by the Research Authority is available only if a designated person is registered and selected as administrator in the BSF system. This person needs to be registered as an active user.** (See relevant sections in the [User Manual](#)).

Please note that the approval can technically be done only after the application has been approved by all the PIs. The proposal can be approved by Research Authority Administrators any time before the deadline.

The application can be "unlocked" for revisions by the Initiator's Administrator before final approval and online submission by the Research Authority. If changes are required after the application was submitted, then the BSF office must be contacted before the submission deadline.

## 7. Submission of the Full Application

Submission of a full application is limited to those scientists who submitted a pre-proposal to the program, and were notified by the BSF that they are invited to submit a full application. Obviously, the full application has to expand on the ideas that were described in the pre-proposal and not deviate from them in a significant manner.

**Detailed information for the submission of full proposals will be published on the BSF website at a later date.**