

**CALL FOR PROPOSALS**  
**HSCI NERVOUS SYSTEM DISEASES PROGRAM PILOT GRANTS 2021**  
**BLOOD-BRAIN BARRIER PILOT GRANTS**

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AWARD AMOUNT

**\$100,000 per project (up to two) per year**

POSTED DATE

**Friday, December 4, 2020**

DEADLINE FOR LETTERS OF INTENT

**Tuesday, January 5, 2021 | 5:00 p.m. EST**

LOI STATUS NOTIFICATION

**Friday, January 15, 2021**

APPLICATION DEADLINE

**Monday, February 15, 2021 | 5:00 EST**

ANTICIPATED AWARD DATE

**March 29, 2021**

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The Nervous System Diseases Program of the Harvard Stem Cell Institute (HSCI) invites applications for pilot grants to be awarded for research in 2021.

The health of nervous system tissue is intimately linked to the health of the rest of the body. It is well established that peripheral diseases (e.g., cardiovascular, metabolic) are risk factors for CNS disease, and external influences such as exercise and stress affect CNS function. In addition, it is clear that peripheral tissues are affected in CNS disease. **Brain vasculature** is the key interface between blood-borne factors and the brain. All factors that influence brain function must interact with brain endothelial cells, and these factors must either cross brain vasculature (often using specific transporters) or act on vasculature with indirect effects on the CNS. Therefore, it is important to establish a robust experimental model system of the blood-brain barrier (BBB) model that accurately captures key features of BBB cells *in vivo*.

This program aims to bring together researchers in the HSCI community with interests in the BBB to establish improved human experimental systems for studying its function. In addition to funding of two pilot projects, this program also will establish quarterly meetings of labs interested in BBB biology. Funded researchers agree to participate in these quarterly group meetings to share progress and ideas. Any interested members of the HSCI community are invited to attend these meetings.

This RFA invites applications for projects with a focus on BBB biology that ultimately will aid in the **establishment of improved human systems for studies of the BBB**. Examples of projects within the scope of this RFA include:

- profiling of BBB cells from human or non-human systems
- establishment of improved human iPSC differentiation protocols for BBB cell fates
- approaches for integration of blood vessels into 3D organoid systems
- integration of blood into in vitro model systems
- establishment of improved methods for measuring BBB function

Up to two (2) projects will be funded for at a maximum of \$100,000 each, inclusive of indirect costs. All personnel, including the PI, must commit effort, even if salary is not requested.

HSCI plans to award two (2) grants yet reserves the right not to fund any project. Each project will receive one year of funding.

It is understood that any tool or reagent generated as part of an HSCI Nervous System Diseases Pilot Grant will be available for sharing with the wider HSCI community.

## Eligibility Criteria

These pilot grants are targeted to members of the Harvard community with PI rights at the rank of Instructor or above. Only individuals with PI status in their home institutions, with independent laboratory space and prior independent funding (such as start-up funds or sponsored awards), as verified by a home institution research/finance administrator, are eligible to apply. Priority will be given to excellent projects from PIs not currently funded by HSCI.

You must have HSCI Principal or Affiliated Faculty status before you submit a proposal. To become an HSCI Affiliated Faculty member, simply email your CV with a statement of your research interests to Dr. Jordan Kreidberg at [jordan.kreidberg@childrens.harvard.edu](mailto:jordan.kreidberg@childrens.harvard.edu). The review and approval process may take a few days, so it is advisable to send the email to Dr. Kreidberg as soon as possible.

## Application Process

- A. **Letters of intent** may be completed using the fillable pdf template available at: [https://hsci.harvard.edu/files/hsci/files/n-s-d\\_pilot\\_loi.pdf](https://hsci.harvard.edu/files/hsci/files/n-s-d_pilot_loi.pdf)  
Deadline for submitting the letter of intent is Tuesday, January 5, 2021 | 5:00 p.m. (EST)
- B. **If invited** to submit an application (notification by January 15, 2021), please use the form at: [https://hsci.formstack.com/forms/2021\\_nsd\\_program\\_pilot\\_grant](https://hsci.formstack.com/forms/2021_nsd_program_pilot_grant)

### **1. Project Title**

### **2. PI and institution names**

### **3. Abstract (up to 1/3 page)**

- Brief statement summarizing the key points of the proposal

### **4. Research Proposal (for single PI proposals, max. 3 pages; for multi- investigator proposals, max. 3 pages per sub-project)**

- Background and Rationale
- Specific Aims
- Milestones
- Key risks and plans to mitigate
- References

### **5. Budget**

- [HSCI budget template](#) (NIH format)
- The total project costs may not exceed \$100,000 per year, inclusive of indirect costs, for a period of one year.
- For multi-investigator proposals, total project costs may not exceed \$100,000 per year, inclusive of indirect costs, for a period of one year. Two or more investigators may submit proposals with unequal subproject budgets, and the PI for each subproject must submit a separate budget.
- HSCI caps the amount of indirect costs that can be budgeted for at 20% of total direct costs.

**6. Budget justification/narrative (for single PI proposals, max. 1 page; for multi-investigator proposals, max. 1 page per sub-project; each sub-project must have a separate budget justification)**

- Justify proposed costs at the line-item level of detail
- Include effort committed by all personnel even if salary is not requested (PIs must commit effort)
- Include supplies

**7. Biographical sketch of applicant (standard NIH 5-page format)**

- Include a listing of “other support” for the proposed project, using a 5<sup>th</sup> page if necessary

**8. Letter of institutional support**

- Must include an authorized institutional signature (as determined by applicant’s home institution policies for research proposal submission—usually a central grants office official) as confirmation that the host institution approves the proposed scope and budget. Upload PDF with signature.

**NB:** - Letters of recommendation are not needed

- Papers in press can be included in the references and submitted with the application

**[Submission process](#)**

**SUBMISSION OF ALL APPLICATION MATERIALS BY 5:00 PM (EST) ON MONDAY, FEBRUARY 15, 2021.**

Incomplete applications will not be considered.

**[Review Criteria](#)**

Factors for reviewers’ consideration include: scientific quality, relevance to the [HSCI mission](#), and the project’s potential to open new areas of thought and investigation.

Reviewers will evaluate the proposals primarily for their potential to advance these goals. They will also consider the availability of alternative funding sources and the potential to promote future collaborative research, particularly between institutions. Recommendations from the reviewers will be considered by the HSCI Executive Committee for the final decision.

**[Inquiries](#)**

Scientific/programmatic questions regarding the Nervous System Diseases Program Pilot Grants may be addressed to the Nervous System Diseases Program Chairs, Lee Rubin ([lee\\_rubin@harvard.edu](mailto:lee_rubin@harvard.edu)) and Tracy Young-Pearse ([tyoung@rics.bwh.harvard.edu](mailto:tyoung@rics.bwh.harvard.edu)).

Administrative questions on the Nervous Systems Diseases Program Pilot Grants may be addressed to Robert Perez, Grants Officer, at [robert\\_perez@harvard.edu](mailto:robert_perez@harvard.edu).

Summary timeline

**Letter of Intent due date: Tuesday, January 5, 2021 | 5:00 p.m. (EST)**

Upon invitation | Application due date: Monday, February 15, 2021 | 5:00 PM (EST)

Review outcome notification: Monday, March 1, 2021

Award start date: On or about Monday, March 29, 2021

**Thank you for your interest in HSCI**

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