

# **REQUEST FOR PROPOSALS**

## **Harvard Medical School – Seoul National University Hospital – Seoul National University College of Medicine**

### **Collaborative Research Program**

**Updated August 26, 2024**

#### **I. Key Dates**

Release date: Monday, July 29, 2024

(Optional) Letter of Interest deadline: Monday, August 12, 2024

Proposal deadline: Friday, September 13, 2024

Anticipated funding start date: Tuesday, October 1, 2024

#### **II. Overview and Goals**

Harvard Medical School (HMS), Seoul National University Hospital (SNUH), and Seoul National University College of Medicine (SNUCM) have formed a new program to establish collaborative relationships in biomedical research involving HMS and SNUH/SNUCM. The goals of the program are (i) to generate new knowledge that advances human health and biomedical science worldwide and (ii) to share the expert knowledge and experience of HMS in educating outstanding research personnel in biomedical science. This current round of funding will support 4-8 projects at a level of up to \$250,000 in total costs per year for up to two years to HMS-based Principal Investigators (PIs) and their teams. The program requires the selected HMS PIs to support at least one full-time trainee from SNUH and/or SNUCM labs. Each project will represent a collaboration between the lead PI at HMS and a PI at SNUH/SNUCM, and collaborating labs at SNUH and SNUCM will receive up to 100,000,000 KRW per year for up to two years from a separate funding source in Korea. Collaborating investigators from HMS, Harvard T.H. Chan School of Public Health, Harvard-affiliated hospitals, and the Massachusetts Institute of Technology can participate as co-investigators.

As noted above, each project must include the training of at least one SNUH/SNUCM trainee in Massachusetts. SNUH and SNUCM will recruit a pool of exceptional physician scientists, postdoctoral fellows, and graduate students as potential trainees. The training of selected members of this trainee pool in HMS labs will enable SNUH and SNUCM to expand their biomedical workforce and enhance their capability to train research scientists, thus enhancing an innovative, cutting-edge biomedical research environment in Korea.

Lead PIs and U.S.-based collaborating teams will visit with SNUH/SNUCM PIs and scientists through in-person conferences and workshops (rotating between Korea and the U.S.) and through virtual meetings so that scientists from the participating institutions may exchange ideas about research best practices. Research collaborations supported by the HMS-SNUH-SNUCM program are expected to lead to novel joint publications, ultimately contributing to improvements in health and well-being worldwide, fulfilling the participating institutions' missions.

Research projects at the frontier of basic and translational sciences that involve cutting-edge approaches with high impact on global biomedical and health problems will be encouraged. Clinical research will not be considered as a main focus of this program, unless there is a compelling justification as determined by the program's joint faculty committee and steering committee. Emphasis shall be given to research on disease areas that will significantly impact global health needs, such as the following:

- Neuro-immunological and neurological diseases
- Immunological, autoimmune, and inflammatory diseases
- Cancer and cardiovascular diseases
- Rare genetic diseases

### **III. Program Details and Eligibility Criteria**

The HMS-SNUH-SNUCM program will fund projects performed in the laboratories of HMS PIs in collaboration with SNUH and/or SNUCM PIs. Funding recommendations will be made by the program's joint faculty committee and approved by the program's steering committee. With appropriate governance, oversight, and regulatory approvals, the research endeavors associated with this collaboration may encompass the exchange of human samples, other research materials, and data between the participating institutions, both acquired prior to and during the collaboration periods.

Projects involving de-identified human samples will necessitate non-human subject determination by the Institutional Review Board (IRB) of HMS. It is crucial to note that the projects will not involve any human subjects within the United States healthcare system unless pre-approved by the joint faculty committee, the program steering committee, and the HMS IRB.

Data and research materials may include, but are not limited to, the examples below.

- Data obtained from and research samples for multi-omics approaches, such as genomics, proteomics, transcriptomics, and metabolomics.
- Biomaterials, small molecules, or devices.
- Data science analytics that involves biomedical data.

#### Applicants Eligible for Funding

Assistant professors, associate professors, and professors who have a primary appointment in an HMS preclinical department and whose research program is located on the HMS quadrangle are eligible to apply for funding as Lead PI. The pre-clinical departments include Biological Chemistry and Molecular Pharmacology, Biomedical Informatics, Cell Biology, Genetics, Global Health and Social Medicine, Health Care Policy, Immunology, Microbiology, Neurobiology, Stem Cell and Regenerative Biology, and Systems Biology.

### HMS Lead PI and SNUH/SNUCM PI

Letters of Interest (see below) will be used to identify Lead PIs at HMS and PIs at SNUH/SNUCM with similar research aims who are interested in collaborative opportunities. The HMS and SNUH/SNUCM Scientific Directors may help to facilitate communications among PIs at both sites who express interest in applying (see page 8, Inquiries).

### Collaborating Co-PIs

Collaborations are permitted with HMS Quad investigators and/or investigators at the Harvard T.H. Chan School of Public Health, Harvard-affiliated hospitals, and MIT.

## **IV. Award Amount**

Projects will be funded at a level of up to \$250,000 total costs per year for up to two (2) years to Lead PIs and their U.S.-based teams. This includes salary and fringe support for at least one SNUH/SNUCM trainee in the HMS lab for up to two years. Separate funding at a level of up to 100,000,000 KRW per year for up to two (2) years will be provided to SNUH/SNUCM-based PIs from a distinct funding source in Korea. Indirect costs up to 38% based on total direct costs (TDC) may be included within the application budget for collaborating Harvard-affiliated hospitals and MIT. Lead PIs and Co-PIs with primary appointments at Harvard should include only direct costs in their budget. The period of performance is anticipated to start on October 1, 2024.

## **V. Application Information**

### Letter of Interest

Instructions for the optional letter of interest are provided in **Appendix A**. Letters should be submitted as .pdf files to the Office for Research Initiatives and Global Programs at [ResearchInitiatives@hms.harvard.edu](mailto:ResearchInitiatives@hms.harvard.edu). Please use the subject line “HMS-SNUH-SNUCM Letter of Interest: [Lead PI Last Name].”

### Proposal

Instructions for proposals are provided in **Appendix B**. Proposals should be submitted as .pdf files via the Harvard Medical School Internal Awards online submission system: <https://forms.hms.harvard.edu/f/hms-snuh-snucm>.

## **VI. Allowable and Unallowable Costs**

### Allowable Costs

#### PI Effort

- Salary support for Lead PIs and, if applicable, U.S.-based collaborating institution Co-PIs (maximum 10% effort per PI/Co-PI)

- SNUH/SNUCM PIs and related lab costs will be addressed via the separate fund in Korea

#### Trainees

- Lead PI labs are required to host at least one trainee from SNUH's/SNUCM's labs during the grant funding period, such as a physician scientist, postdoctoral fellow, or graduate student.
- SNUH/SNUCM PIs are expected to assist the trainee selection process by recommending to the Lead PIs a small number of SNUH/SNUCM trainees from SNUH/SNUCM labs.
- Trainees from SNUH/SNUCM must be vetted and approved by the Lead PI and meet all relevant requirements for a visiting appointment, including any visa requirements, before they participate in lab-based research.
- Trainees who are postdoctoral fellows will receive salaried visiting postdoctoral fellow appointments. An amount at least equivalent to a first-year postdoctoral fellow's salary (depending on seniority level of the visiting trainee) at HMS must be included in the budget to compensate the visiting trainee. The HMS postdoc compensation scale is described here: <https://postdoc.hms.harvard.edu/guidelines#Salary-Stipend>
- Fringe benefits must be budgeted for postdoctoral fellows. Postdocs must hold postdoctoral status at SNUH or SNUCM, have a PhD, MD, or equivalent degree, and be involved in independent research.
- Trainees who are graduate students will receive either salaried or stipend visiting graduate student appointments. Health insurance coverage meeting visa requirements must be budgeted for graduate students. More information can be found here: <https://www.hio.harvard.edu/health-care-scholars>. Graduate students must fulfill all Harvard visiting student requirements.

#### Lab Personnel, Equipment, and Supplies

- Salary support for research/lab technicians or other trainees to support the project
- Lab supplies and/or animal costs
- Limited equipment (maximum 10% of total award budget or \$25,000)

#### Travel

- Travel costs for HMS and Collaborating Institution Team Members, if any, for in-person meetings/collaboration and other program-related travel. Travel to Korea to meet with collaborators is required as part of the research collaboration and is anticipated at no more than once per year in addition to symposium travel. Meetings with Korean-based collaborators may be held adjacent to the annual symposium in lieu of a separate trip.

#### Indirect Costs

- Up to 38% indirect costs is allowed for Co-PIs external to Harvard. Any indirect costs must be included within the maximum award amount.

#### Unallowable Costs

- Travel to/from the annual symposium for the Lead PI and one additional researcher or trainee intimately involved in the collaborative research project will be funded separately from the research awards. The first symposium will be held in Seoul in 2025.

- HMS will issue a subaward agreement to each collaborating Co-PI at an affiliated hospital or MIT.
- Indirect costs are limited to non-Harvard collaborating institutions. Harvard indirect costs will be applied separately.

## **VII. Intellectual Property**

If any applicant or other individual (except for any individual enrolled as a full-time student at Harvard) employed by an HMS-affiliated institution or MIT creates intellectual property through work on a project funded by this RFP, the employing institution will own his or her interest in that intellectual property in accordance with the institution's intellectual property policy; provided that as a condition of the Award to any researchers employed by an HMS-affiliated institution or MIT, under the Award agreement the applicant and the applicable institution shall agree to grant Harvard a fully-paid up worldwide non-exclusive license under such HMS-affiliated institution's interests in such intellectual property to meet the requirements of the HMS and SNUH/SNUCM agreement.

In the event that intellectual property is developed by affiliate or MIT researchers and owned by affiliate institutions or MIT, licensing revenue generated by such institutions will be shared with Harvard on terms to be specified in the award agreement and in accordance with the terms of the HMS and SNUH/SNUCM agreement. Any reference to HMS in the following intellectual property terms of the HMS and SNUH/SNUCM agreement shall apply to the affiliate institution or MIT:

### **1. INTELLECTUAL PROPERTY.**

#### **1.1 Definitions**

“HMS Invention” shall mean any Invention for which each of the inventors are HMS Team Members.

“HMS Patent Rights” shall mean any patents and patent applications that claim any HMS Invention, in each case solely to the extent the claims are directed to the subject matter of such HMS Invention.

“HMS Team Members” shall mean each HMS Principal Investigator and those technicians, scientists and/or other individuals working on behalf of HMS under the supervision of each such HMS PI under the applicable statement of work.

“Invention” shall mean any patentable invention that is conceived and reduced to practice in the performance of the applicable statement of work during the period of performance.

“Joint Invention” shall mean any Invention for which the inventors include at least one member of two or more Parties hereto.

“Joint Patent Rights” shall mean any patents and patent applications that claim any Joint Invention, in each case solely to the extent the claims are directed to the subject matter of such Joint Invention.

“SNUCM Invention” shall mean any Invention for which each of the inventors are SNUCM Team Members.

“SNUCM Patent Rights” shall mean any patents and patent applications that claim any SNUCM Invention, in each case solely to the extent the claims are directed to the subject matter of such SNUCM Invention.

“SNUCM Team Members” shall mean each SNUCM Principal Investigator and those technicians, scientists and/or other individuals working on behalf of SNUCM under the supervision of each such SNUCM PI under the applicable statement of work.

“SNUH Invention” shall mean any Invention for which each of the inventors are SNUH Team Members.

“SNUH Patent Rights” shall mean any patents and patent applications that claim any SNUH Invention, in each case solely to the extent the claims are directed to the subject matter of such SNUH Invention.

“SNUH Team Members” shall mean each SNUH Principal Investigator and those technicians, scientists and/or other individuals working on behalf of SNUH under the supervision of each such SNUH PI under the applicable statement of work.

1.2 Inventorship. Inventorship of Inventions shall be determined in accordance with United States patent law.

1.3 Ownership. The entire right, title and interest in and to all SNUH Inventions shall be owned solely by SNUH. The entire right, title and interest in and to all HMS Inventions shall be owned solely by HMS. The entire right, title and interest in and to all SNUCM Inventions shall be owned solely by SNUCM. The entire right, title and interest in and to all Joint Inventions shall be owned jointly by each Party for which at least one inventor from such Party contributed to the Invention. Subject to Section 1.5.2 (Joint Inventions), each Party sharing ownership in a Joint Invention shall have the full right to grant licenses under its interest in Joint Patent Rights, and shall provide notice to the other(s) of such license grants. Unless otherwise set forth in a written agreement signed by the applicable co-owners of any Joint Patent Rights, if either HMS or SNUH and/or SNUCM, as applicable, licenses the Joint Patent Rights for any commercial purpose, HMS and SNUH and/or SNUCM shall share with the other(s) the licensing proceeds received as a result of such commercial license (“Gross Revenue”) in the following manner:

- a. Where HMS exploits the Joint Patent Rights, HMS shall pay to SNUH and/or SNUCM fifty percent (50%) of the Gross Revenue received by HMS; and
- b. Where SNUH and/or SNUCM exploits the Joint Patent Rights, SNUH and/or SNUCM shall pay to HMS fifty percent (50%) of the Gross Revenue received by SNUH and/or SNUCM.

1.4 Disclosure. HMS shall notify SNUH and SNUCM, promptly and in writing, of any Invention with respect to which Harvard's Office of Technology Development has received a written invention disclosure form and (in the case of HMS Inventions and Joint Inventions) filed a patent application; provided, however, that HMS may elect to notify SNUH and SNUCM prior to filing. SNUH and SNUCM shall notify HMS, promptly and in writing, of any Invention of which it becomes aware and (in the case of SNUH and SNUCM Inventions) for which it has filed a patent application; provided, however, that SNUH or SNUCM may elect to notify HMS prior to filing. Each Party (a) shall treat as Confidential Information of the other Party the contents of any notice provided to it under this section that discloses an Invention owned solely by the other Party and (b) shall treat as Confidential Information of the Parties jointly the contents of any notice provided to it under this section that discloses a Joint Invention until publication of such Joint Invention (except that patent filings in accordance with Section 1.5.2 shall be permitted).

#### 1.5 Patent Filing and Prosecution.

1.5.1. Sole Inventions. SNUH shall be responsible, at its sole expense and discretion, for the preparation, filing, prosecution and maintenance of SNUH Patent Rights. SNUCM shall be responsible, at its sole expense and discretion, for the preparation, filing, prosecution and maintenance of SNUCM Patent Rights. HMS shall be responsible, at its sole expense and discretion, for the preparation, filing, prosecution and maintenance of HMS Patent Rights.

1.5.2. Joint Inventions. SNUH, SNUCM, and/or HMS, as applicable, agree to negotiate in good faith an Inter-Institutional Agreement regarding the Parties' respective responsibilities for the preparation, filing, prosecution and maintenance of any Joint Patent Rights.

1.6 No License or Grant of Rights. Nothing in this Agreement shall be construed to confer any ownership interest, license or other rights upon a Party by implication, estoppel or otherwise as to any technology, intellectual property rights, products or biological materials of the other Party or any other entity.

### **VIII. Review Process and Criteria**

Completed applications submitted by the specified deadline will be reviewed for merit and feasibility. Proposals will be assessed on a competitive basis in a fair and impartial manner based on the criteria set forth below. Funding decisions will be made by the program steering committee based on recommendations from the joint faculty committee.

- Project significance
- Capacity of investigator(s) and lab to complete the project
- Degree of collaboration with SNUH/SNUCM PI
- Innovation and potential for impact on health problems of global importance
- Appropriateness of the budget and feasibility of the research plan
- Opportunities for trainee development
- Environment for new trainees and quality of proposed trainee experience
- Commitment to supporting early-career investigators

**Inquiries**

For questions regarding this RFP, please contact the following members of the Joint Faculty Committee:

- Dr. Jun Huh (HMS) at [jun\\_huh@hms.harvard.edu](mailto:jun_huh@hms.harvard.edu)
- Dr. Ho-Young Lee (SNUCM) at [md1004@snu.ac.kr](mailto:md1004@snu.ac.kr)
- Dr. Seung-Pyo Lee (SNUH) at [sproll1@snu.ac.kr](mailto:sproll1@snu.ac.kr)

Please submit questions related to the proposal submission system and similar details to [ResearchInitiatives@hms.harvard.edu](mailto:ResearchInitiatives@hms.harvard.edu)



## Appendix A: Instructions for Letter of Interest (Optional)

**Submission:** Letters of interest must be received by 11:59 p.m. Eastern Time on Monday, August 12, 2024, as a single .pdf file. Letters should be submitted as an attachment via email to the Office for Research Initiatives and Global Programs at [ResearchInitiatives@hms.harvard.edu](mailto:ResearchInitiatives@hms.harvard.edu). Please use the subject line “HMS-SNUH-SNUCM Letter of Interest: [Lead PI Last Name].”

### Cover Page

- Proposal Title
- Lead PI [Last Name, First Name, Email, HMS Department, Institution]
- Massachusetts-based Co-PIs if applicable [Last Name, First Name, Email, Department, Institution]
- SNUH/SNUCM PI (if known)
- Estimated Total Amount to be Requested

### Proposal Overview

- Disease area
- Brief description of proposed research (no more than ½ page). All text material must be in a readable font (Arial 11 point), and margins must be 0.5 inches.

## Appendix B: Proposal Template

**Proposal submission deadline: Friday, September 13, 2024 at 11:59 p.m. ET**

**Submission:** Proposals must be received by 11:59 p.m. Eastern Time on Friday, September 13, 2024, as a single PDF file. Applications should be submitted via the Harvard Medical School online submission system: <https://forms.hms.harvard.edu/f/hms-snuh-snuem>.

The single PDF should include the following sections in order:

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- Lead PI Cover Page (see below)
- Statement of Intent or other document completed and signed by Institutional Official (only required for Co-PIs at Harvard-affiliated hospitals and MIT)
- Signed institutional letter of support from SNUH or SNUCM stating that the institution supports the proposed research collaboration between the Lead PI at HMS and the SNUH/SNUCM PI
- Proposal – **5 page limit** including figures and tables. All text material must be in a readable font (Arial 11 point), and margins must be 0.5 inches, and contain the following sections:
  - Background
  - Objective and aims
  - Preliminary data (not required)
  - Research strategy
  - Pitfalls and alternative strategies
  - Training and mentoring plan for new trainees
  - Timeline
- References in a readable font (Arial 11 point; not included in the 5 page limit)
- If IRB approval, IACUC approval, or both are required and have not been obtained, please indicate the status of, and the plans for obtaining, approval. Funds will not be released without assurance that the necessary IRB and IACUC approvals will be obtained prior to initiation of the covered activities.
- Please indicate if data or materials will be exchanged during the project and provide a description, if available.
- Biosketches of Lead PI, Co-PI(s), and any other Key Personnel
- Budget (PHS 398 Page 4, Page 5, Checklist) and budget justification for Lead PI institution
- Budget (PHS 398 Page 4, Page 5, Checklist) and budget justification for Massachusetts-based collaborator institution, if any

Cover Page (not included in page limit)

2024 HMS-SNUH-SNUCM Collaborative Research Awards

Submission Cover Page

Lead PI Information	
PI Name (last, first)	
PI Institution and Department	
PI Email	
Korean Trainee Name(s) (if known)	
Project Title	
Period of Performance	October 1, 2024 – (enter end date)

SNUH/SNUCM PI Information	
PI Name (last, first)	
PI Institution and Department	
PI Email	

Massachusetts-based Co-PI Information	
PI Name (last, first)	
PI Institution and Department	
PI Email	

YEAR 1 BUDGET	Direct Costs	PI Institution Indirect Costs*	Total Costs
Lead PI at HMS**	\$		
Massachusetts-based Co-PI			
Total Amount for HMS PI & Massachusetts-based Co-PIs			
SNUH/SNUCM PI and Korean-based Collaborators	KRW		

YEAR 2 BUDGET	Direct Costs	PI Institution Indirect Costs*	Total Costs
Lead PI at HMS**	\$		
Massachusetts-based Co-PI			
Total Amount for HMS PI & Massachusetts-based Co-PI			
SNUH/SNUCM PI and Korean-based Collaborators	KRW		

<b>TOTAL BUDGET</b>	<b>Direct Costs (all years)</b>	<b>PI Institution Indirect Costs* (all years)</b>	<b>Total Costs</b>
<b>Lead PI at HMS**</b>	\$		
<b>Massachusetts-based Co-PI</b>			
<b>Total Amount for HMS PI &amp; Massachusetts-based Co-PI</b>			
<b>SNUH/SNUCM PI and Korean- based Collaborators</b>	KRW		

\*Indirect costs may be requested for non-Harvard institutions at a maximum rate of 38% on a total direct cost basis.

\*\*Include the cost of Korean trainees who will be working in the U.S.

**Abstract (1/2 page)**