



Kavli Neuroscience Discovery Institute Distinguished Postdoctoral Fellows Program 2022

Submission deadline January 21, 2021

Objective

The goal of the Distinguished Fellows Program is to enable postdoctoral fellows at Johns Hopkins University to pursue cross-disciplinary research in neuroscience, engineering, and data science. The Fellowship will foster discovery-driven neuroscience research aligned with the mission of the Kavli Neuroscience Discovery Institute (Kavli NDI) and will be guided by co-mentorship, drawing upon the expertise of Johns Hopkins faculty to direct innovative, interdisciplinary postdoctoral research projects. The successful fellow will engage in research that reflects the priorities and mission of Kavli NDI and will be co-mentored by two PIs. At least one PI mentor must be a Kavli NDI faculty member and the other a full-time Johns Hopkins faculty member, each with distinct expertise in neuroscience, engineering and/or data science. Awarded Fellows and their PI's will be required to attend monthly Kavli NDI meetings and to participate in various Kavli NDI events throughout the tenure of the award.

Award Information

We invite proposals for funding of up to \$60,000 per year for two years. Second-year funding is contingent on acceptable progress, as described in a progress report due two months prior to the start of the second year. Kavli NDI Postdoctoral funding will be provided as a 12-unit sum (\$60,000 USD) that is equally allocated across a 12-month period. Each installment will be provisional upon demonstration that the team is working cohesively to support the goals of this initiative, as well as the research initially proposed by the Kavli Fellow. Fellows will be required to notify Kavli NDI (kavlindi@jhu.edu) as soon as they are aware of any possible change in plans regarding their fellowship support. Notification at least two months prior to anticipated departure date from Kavli NDI/Johns Hopkins is required, and a final progress report will be required within two months following departure or termination of the fellowship.

Eligibility

The Fellows program is open to full-time JHU postdoctoral fellows (who must be appointed as a JHU postdoctoral fellow prior to award commencement on May 1st, 2022). Fellows must be co-mentored by full-time faculty members at JHU who are eligible to serve as Principal Investigator (PI) and Co-PI. At least one mentor must be an existing Kavli NDI member or submit an application to become a Kavli NDI member (see application requirements in the [Proposal and Submission](#) section) to be reviewed alongside the Fellowship application. Note that PI's applying for Kavli NDI membership must conduct research that aligns with the [mission of Kavli NDI](#).



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The PI and Co-PI must be from distinct disciplines and/or two departments or divisions within Johns Hopkins University, such that together they bridge the fields of neuroscience to engineering and/or data science. We especially encourage applications from the School of Medicine, Whiting School of Engineering, Krieger School of Arts and Sciences, and the Bloomberg School of Public Health.

We support diversity in our community and strongly encourage proposals that will support individuals identifying as women, LGBTQ, underrepresented minorities, and international students.

PROPOSAL PREPARATION AND SUBMISSION

Formatting Requirements

All application materials must be formatted to fit on 8.5 x 11" paper with 1-inch margins, single line spacing, 12-point Arial or Helvetica font. Please adhere to the specified page limit for each section (listed in parentheses below).

Submit applications via [2022 Kavli Postdoc Fellowship APPLY HERE](#).

The application deadline is January 21st, 2022 (11:59 PM, Eastern Standard Time).

Proposal Materials

Proposals should include the following items:

1. *Applicant's Biosketch*, not to exceed five (5) pages, in accordance with NIH guidelines (for formatting assistance see <http://www.ncbi.nlm.nih.gov/sciencv/>).
2. *PI and Co-PI should include:*
 - a. Each PI's Biosketch, not to exceed five (5) pages, in accordance with NIH guidelines (for formatting assistance see <http://www.ncbi.nlm.nih.gov/sciencv/>).
 - b. A brief, 1-page statement summarizing the qualifications and specific expertise that will be contributed to the project, and how these skills will be integrated together for co-mentorship of the applicant throughout the entirety of the Fellowship.
 - c. A 1-page mentorship plan that clearly delineates how the Fellow, PI and Co-PI mentors intend to integrate their research to form a cohesive team at the start of support and throughout the tenure of the project. This section should delineate specific steps the team will take to ensure they are supporting the goal of creating new synergies across disciplines directly between the Fellow, PI's and the other members of their laboratories. This should include, but not be limited to, participation of the Fellow in lab meetings for both laboratories, a description of how often mentees will meet each PI and how each PI will participate in mentorship throughout the fellowship.

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- d. A list of each PI's existing funding for research related to the project, following the NIH format for description of "Other Support".
- e. ****Required only for Fellowship applications that do not include at least one PI that is a current member of Kavli NDI****

Kavli NDI PI Membership Application not to exceed one (1) page, statement summarizing how the PI's body of research, interests, and their engagement would be relevant to the [mission of Kavli NDI](#), why the PI would like to join Kavli NDI, and how they and their Fellow intend to participate in the Kavli NDI group.

Kavli NDI Faculty members are appointed for a 3-year term (renewable upon Steering Committee review) where membership is contingent on participation, attendance, and annual reporting of Kavli related activities, such as meetings, workshops, and seminars, providing research summaries for news posts and updates, reviewing applicants for various initiatives, mentoring Kavli NDI postdoctoral fellows, graduate trainees, and SIP (Summer Internship Program) students. Kavli NDI Faculty, Fellows and Student Members are expected to make every effort to attend events and activities supported by Kavli NDI and encourage their lab members and fellow colleagues to do the same. Kavli NDI members annual report of their participation will be evaluated by the Kavli NDI Steering Committee. Faculty Members that have not participated in the program may lose their appointment at the end of their 3-year term for insufficient participation.

3. **Project Title:** Title reflecting the central concepts of the project, not to exceed 30 words.
4. **Lay Abstract:** Lay description of the project in 300 words or less, written to be conceptually accessible to a non-expert audience, and highlighting the potential impact of the proposed research.
5. **Project Description (5 pages maximum, not including references):** This document must contain the following sections:
 - a. **Background and Specific Aims:** This section should clearly describe the background, the objectives of the project, and the hypotheses or questions addressed. This section should end with a numbered list of the Aims.
 - b. **Approach:** This section should clearly describe the research design, measures, data analysis plan, and any preliminary data.
 - c. **Significance:** This section should briefly describe how the project addresses each of the evaluation criteria listed below. This section should illustrate the importance of the project or describe the critical barrier to progress in brain research and how the project will improve scientific knowledge, technical capability, and/or practice if the Aims are achieved.
 - d. **Project Timeline for Years 1 and 2:** This section should include a brief project timeline (table format preferred) that identifies major project activities and their projected completion dates (e.g., experiment development, data analysis, manuscript submission).



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6. *Detailed Budget Outline for years 1 and 2*: We anticipate that the Kavli NDI award will be used in entirety to support the awarded Postdoctoral Fellow (stipend and fringe). Exceptions may be made for applicants who are awarded additional external fellowships (e.g. NIH, NSF, HFSP etc.). Please use the supplied document 'Budget Proposal' to outline your intended specific use of award funds.
7. *Postdoctoral Fellow Applicant's Letters of Reference (2)*: Two letters of reference (uploaded directly by reference writers to application portal) that address the suitability of the fellow to undertake these studies. Letters must be written by individuals other than the proposed mentors.

8.

APPLICATION REVIEW CRITERIA

Proposals will be evaluated by a team of internal reviewers. Priority will be given to proposals that are strongest in meeting the following criteria, which will be explicitly evaluated in the review process:

- *Innovation*: The project seeks to have a transformative role in neuroscience discovery, encompassing the development of novel strategies, generates innovative tools, and/or establishes facile data management/analysis methods, ultimately contributing to greater understanding of the structure/function of the nervous system.
- *Interdisciplinary*: The project uses multiple theoretical and empirical approaches to neuroscience, and clearly draws on expertise spanning more than one discipline, department, and/or division in the University.
- *Sustainability*: The project is likely to generate preliminary data that could be used to generate continuing support for the research, including grant proposals to federal institutions, private foundations, and/or industrial partners when the grant period is complete.
- *Approach*: The project's design, methods, and analytic plan are well-developed, integrated, and appropriate to the Aims of the proposed project and the research environment with consideration of potential pitfalls and alternative solutions.
- *Strength of PI, Co-PI and Research Team*: The PI's have each demonstrated an ability to carry out and publish high quality research on their own, and as a team the members are uniquely qualified to create new synergies across fields with appropriate content knowledge and methodological practice to carry out all elements of the proposed project.
- *Cohesion of PI, Co-PI and Fellow as a Research Team*: High level of research integration and preparedness to develop/maintain cohesion of the team is delineated clearly from commencement of the award and throughout the tenure of the project.



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APPLICATION TIMELINE



QUESTIONS

Applicants who wish to discuss their project before applying are encouraged to contact members of the steering committee (see below) with the most relevant expertise.

Questions regarding the application process or review timeline should be directed to Dr. Natasha K. Hussain, Scientific Director, Kavli NDI (KavliNDI@jhu.edu).

Kavli NDI Leadership

- Dwight Bergles, Director, Kavli NDI; Professor, Neuroscience, dbergles@jhmi.edu
- Michael Miller, Co-Director, Kavli NDI; Professor and Director, Biomedical Engineering, mim@jhu.edu
- Natasha K. Hussain, Scientific Director, Kavli NDI; Senior Advisor to Vice Provost for Research for One Neuroscience, natasha.hussain@jhmi.edu

Kavli NDI Steering Committee

- Andreas G. Andreou, Professor, Electrical and Computer Engineering, andreou@jhu.edu
- Dwight Bergles, Director, Kavli NDI; Professor, Neuroscience, dbergles@jhmi.edu
- Solange P. Brown, Associate Professor, Neuroscience, spbrown@jhmi.edu
- Randal Burns, Professor, Computer Science, randal@cs.jhu.edu
- Kathleen Cullen, Professor, Biomedical Engineering, kathleen.cullen@jhu.edu
- Richard L. Haganir, Professor and Director, Neuroscience, Psychological and Brain Sciences and rhaganir@jhmi.edu
- Natasha K. Hussain, Scientific Director, Kavli NDI, natasha.hussain@jhmi.edu
- Grace Hwang, Principal Investigator, APL Senior Neuroscientist, grace.hwang@jhuapl.edu
- Patricia Janak, Professor, Psychological and Brain Sciences, Neuroscience, patricia.janak@jhu.edu
- Hey-Kyoung Lee, Professor, Neuroscience, heykyounglee@jhu.edu
- Daeyeol Lee, Professor, Neuroscience, Psychological and Brain Sciences, daeyeol@jhu.edu

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- Michael I. Miller, Co-Director, Kavli NDI; Professor and Director, Biomedical Engineering, mim@jhu.edu
- Daniel O'Connor, Associate Professor, Neuroscience, dan.oconnor@jhmi.edu
- Sridevi V. Sarma, Associate Professor, Biomedical Engineering, ssarma2@jhu.edu
- Joshua T. Vogelstein, Assistant Professor, Center for Imaging Science, jovo@jhu.edu