

Technical Assistance Webinar for RFA-AT-21-006, Neural Mechanisms of Force-Based Manipulations: High Priority Research Networks (U24, Clinical Trial Optional)

May 25, 2021

Purpose of the Webinar

On Tuesday, May 25, 2021, the National Institutes of Health (NIH), National Center for Complementary and Integrative Health (NCCIH), and National Institute of Neurological Diseases and Stroke (NINDS), hosted a preapplication webinar to provide information about the funding opportunity announcement (FOA) for Neural Mechanisms of Force-Based Manipulations: High Priority Research Networks (U24, Clinical Trial Optional), [RFA-AT-21-006](#).

Webinar Speakers

- Merav Sabri, Ph.D., Program Director, Basic and Mechanistic Research Branch, Division of Extramural Research, NCCIH
- Jim Gnatd, Ph.D., Program Director, Systems and Computational Neuroscience, Co-Lead BRAIN, Division of Extramural Research, NINDS
- Sonia Nanescu, Ph.D., Scientific Review Specialist, NCCIH
- Anita McRae-Williams, M.A., Outreach Communications Program Manager, Division of Extramural Research, NCCIH (Webinar Moderator)

Background

Dr. Sabri explained that NCCIH and NINDS are cofunding this U24 because of a shared interest to facilitate collaborations and translations between the field of mechanosensation and manual therapies by bringing together clinicians, clinician-scientists, basic research scientists, and engineers to develop resources and advance knowledge on the neural mechanisms and biomechanics of force-based manipulations. The request for applications (RFA) was developed based in part on the discussions of a previous workshop convened in 2019 on [Neurocircuitry of Force-Based Manipulations](#), a high-priority research topic for NCCIH and NINDS.

Forced-based manipulations are passive application of mechanical force to the outside of the body for therapeutic intent. Examples include light touch, pressure, and thrust. The range of applied forces in manipulations is diverse and tissues may respond to different forces.

The objectives of the funding opportunity are to:

- Develop interdisciplinary networks designed to advance research on the neural mechanisms and biomechanics of force-based manipulations

- Propose new, high-impact activities to advance at least one and up to three high-priority areas
- Solicit pilot projects on a high-priority area that will launch subsequent grant applications
- Propose additional activities and produce resources that will serve the field at large (e.g., workshops, databases, systematic reviews, across-network trainee interdisciplinary immersion)

This RFA solicits applications that focus on developing resources to refine and test key concepts that will advance and further support study on the neural mechanisms and biomechanics of force-based manipulations. An application that is a discretely bounded research project is **not** appropriate for the U24 funding mechanism.

Areas of Interest

Dr. Sabri summarized the high-priority topics for this RFA as identified by NCCIH and NINDS:

- Common terminology and metrics to characterize, uniformly define, and quantify the types of mechanical forces applied in various manual therapies
- Develop and validate objective measures of force, stress, strain, stiffness, and the response to force at multiple levels of analysis
- Identify and examine neural and extraneural mechanisms of action involved in force-based manipulations in the context of human participants and/or animal models
- Determine and quantify how external influences such as psychosocial factors, affect/mood, and expectation modulate neural and physiological responses to force-based manipulations
- Identify biomarkers for short- and long-term therapeutic responses to force-based manipulations
- Develop technologies for real-time recording and imaging of cells and deep tissue during force-based manipulations.
- Develop computational mechanistic models of force-based manipulations

Dr. Gnadt described three examples of possible areas of focus that might be relevant to the topics of interest, with special emphasis on approaches using an integrated team of clinicians, clinician-scientists, basic research scientists, and engineers.

Example 1: Studies of cellular, molecular, extraneural, and neural mechanisms of sensory transduction in sensory afferent neurons and fibers and associated tissues.

The first step of force-based interventions is the transduction of the applied force into a neural signal. The applied force is transmitted and modified by elements of nonneuronal

tissues and then converted into receptor potentials in the nerve endings by ion channels that are sensitive to deformation of the neuronal membrane. In myelinated afferents, those graded receptor potentials are converted into firing rates and patterns of action potentials via special sodium channel characteristics at the first node of Ranvier. This first stage of transduction tunes the capture of energy from the applied force to what is sometimes called “labelled lines” or specialized sensations, such as rapidly adapting high-frequency vibration, or flutter, or slowly adapting tonic signals of pressures. Studies of all aspects of these transductions would be relevant.

Example 2: Mechanistic research on the afferent neural pathways for mechanosensory transduction through spinal roots and ganglia and cranial nerves

This involves the next stage of neural processing—when the signals are sent to the brain where perception occurs. Once labelled lines and sensations are created, the specialized lines of signals get transmitted into the brain along different paths and synapses with different properties and target areas in the brain, which sometimes interact in ways not well understood. Determining how to record or manipulate these afferent types is critical to understanding how to use them therapeutically or when the natural responses are compromised. Multicomponent approaches are needed to tie together the fundamental biology and the therapeutic applications.

Example 3: Mechanistic understanding of the neurological basis for the poorly understood psychosocial sense of “social touch”

This example focuses on the perceptual and cognitive aspects of force-based manipulations involving interpersonal touch. The sensory afferent signals are ultimately processed and perceived in various parts of the brain, especially the interaction of the bottom-up sensory signals and the top-down cognitive context at the primary and higher order sensory cortices. It is here that affect comes into play most directly. Depending on the cognitive and social context, touch and manipulation of the joints and the skin can have a positive or negative valence. Moreover, that affect is a result of receiving touch from another person as opposed to an inanimate object or self-touch. It is an open question whether there is a “labeled line” for social touch or if the context of social touch is mediated primarily by the complexities in the central nervous system (CNS). It will take multilevel approaches such as those described in this RFA to ultimately answer these questions. For example, imagine if some form of contextual “placebo effect” could be understood mechanistically, and applied therapeutically.

Examples of Components That Must Be Included in an Application

Dr. Sabri summarized several of the required components for applications.

- Address at least one (and up to three) of the specific areas of interest
 - Specific foci within a priority area must be defined in the application and reflect intent to develop research infrastructure in each area
 - Applications proposing other areas of inquiry will be deemed nonresponsive

- Address the potential impact of the proposed network on force-based manipulations research
- Describe type and focus areas of small-scale pilot projects that will be solicited (e.g., develop data, theoretical frameworks, or empirical methods; or develop novel technologies)
- Provide a formal plan to solicit, review, select/prioritize, and support small-scale pilot projects and to evaluate their progression and outcome in line with network priorities
- Describe the interdisciplinary research team in terms of expertise and relevance to advance research on the study of the neural mechanisms and biomechanics of force-based manipulations
- Describe dissemination activities to share network resources, products, and opportunities with the field at large
- Articulate clear milestones and criteria for evaluating success of dissemination, pilot research, and collaboration efforts

Other activities such as systematic reviews, data resources, and workshop reports should foster the growth and development of research in the priority area(s). Please see the RFA for all required components.

Network Structure

The anticipated structure of the NIH/U24 network will include a steering committee comprised of NIH personnel and each network's Principal Investigators (PI) and co-investigators, as deemed necessary. Each U24 research network will focus on one to three of the high-priority areas and will support small-scale pilot projects. Other activities include systematic reviews, data resources, workshops, and workshop reports to foster the growth and development of research in the priority areas.

Together NCCIH and NINDS expect to support three to four U24 research networks.

Factors That Impact Review

Dr. Nanescu explained that applications that are incomplete, noncompliant, or nonresponsive to the RFA may not be accepted for review. The review criteria will impact how the application is being peer reviewed. The focus of the RFA and the science proposed in the applications will govern the composition of the review panel.

- **Scope of Network Activities:** To be responsive, applications **must** propose network activities in at least one (and up to three) of the five priority areas identified in the Funding Opportunity Scope section of the RFA. Responsiveness will be determined by program staff. Applicants are advised to look for “must,” “need,” and “required activities” when reading through the Scope and Responsiveness Criteria. Specific foci within a priority area **must** be defined and reflect intent to develop research infrastructure in that area. Applications proposing other areas of inquiry will be deemed nonresponsive.

- Network support includes activities designed to bring together leading scientists, clinician-scientists, and clinicians (e.g., chiropractors, physiotherapists/physical therapists, osteopathic physicians, massage therapists) across disciplines and institutions to develop one or more priority areas on the neural mechanisms of force-based manipulations research.
- This program is intended to be flexible to support activities and develop unique resources as necessary to promote innovation in the field at large and to have a substantial impact on the progress and quality of research on the neural mechanisms and biomechanics of force-based manipulations.
- **Required Network Activities** are included in the Responsiveness Criteria:

- **Dissemination:** Applications **must** propose dissemination activities to share network resources, products, and opportunities with the field at large.

These resources can include, but are not limited to, meeting papers/summaries, scientific publications, web resources, tools, or guides to support research or data enhancement; data sets, such as public access “user-friendly” research data to metadata, macrodata, or other aggregations of data to support research; and harmonized versions of existing data or instruments.

- **Pilot Projects:** Applications **must** propose to support small-scale pilot projects to develop data, theoretical frameworks, empirical methods, or the development of novel or high-risk approaches requiring interdisciplinary collaboration.

Network funding for pilot projects **must** either advance broad network goals or support preliminary studies with potential to form the basis for independent research applications consistent with network goals. Applications **must** provide a formal plan to solicit, review, and select/prioritize requests for pilot funding, and to evaluate the pilot study progress and outcomes, in line with network priorities. Applicants **must** describe the type and focus of potential pilot projects that would be solicited.

Descriptions of actual pilot projects should not be included.

- **Collaboration:** Applications **must** budget for study personnel to participate in an annual in-person meeting in the Washington, D.C. area of all funded networks. These meetings will provide opportunities to share advances across networks, promote collaboration, and avoid duplication of efforts.
- **Articulation of Milestones and Progress Evaluation:** Applications **must** articulate clear milestones and criteria for evaluating success of their dissemination, pilot research, and collaboration efforts.

- **Other Considerations**

- Although participating institutions must be included in the application, applicants are strongly encouraged to limit the number of key personnel on network applications to avoid establishing conflicts of interest throughout the emerging field. Instead, describe the types of expertise that will be sought.
- Participation in network activities, including presentation at workshops, serving as faculty on summer institutes, or receiving pilot funding, will not constitute formal collaboration from the perspective of NIH, except for those key personnel listed on the application.
- Applicants **must** propose how network activities will be coordinated across institutions and how the proposed activities will effectively engage with other relevant activities at participating institutions.

Compliance Requirements include:

- **Budget:** May not exceed \$400,000 per year in direct costs excluding any consortium Facilities and Administration (F&A) costs. Applications **must** budget for study personnel to participate in an annual in-person meeting in the Washington, D.C. area of all funded networks. The budget should reflect the actual needs of the proposed project.
- **Project Period:** Up to 5 years. The scope of the proposed project should determine the project period.
- **Eligibility:** Foreign components are allowed, but foreign institutions and non-U.S. components of U.S. organizations are not allowed.
- **Page Limitations:** 1 page for Specific Aims; 12 pages for Research Strategy.
- Consult the RFA (SF424 [R&R] Application Guide) to determine what Appendix material is allowed. Information on the updated appendix policy can be found in [NOT-OD-18-126](#).
- Policies concerning Allowable Post-Submission Materials can be found at [NOT-OD-19-083](#). Due date is 30 calendar days before the peer review meeting date. (Note that information accidentally left out of the application **cannot** be submitted as post-submission material.)
- Special Exceptions to the Post-Submission Materials Policy related to the COVID-19 pandemic (including a one-page submission of preliminary data) can be found at [NOT-OD-20-123](#).

Completeness Requirements include:

- A Resource and Data Sharing Plan **must** be included.
- Considering this is a network, human subjects research might not be involved. Because the RFA is clinical trial optional, if your application includes a clinical trial, you **must** submit a Study Record or Delayed Onset Study Record if applicable for it to be complete.
- The usual criteria of protections for human subjects, inclusion plans, vertebrate animals, and biohazards **must** be included.

Review Criteria

Applications will be scored according to the five standard review criteria (significance, investigator(s), innovation, approach, and environment), plus additional review criteria. The additional criteria specific to this RFA are milestones and the Resources and Data Sharing Plan. Additional language has been added to the five standard review criteria. Reviewers will be asked to address both the specific and standard language. (Slide 29 provides an example of this.) Slide 30 provides an example about the information that applicants are asked to include in the research strategy section of the application and how this matches what reviewers are asked to assess under the Approach criterion.

Other additional review language was added to the scored criteria for this RFA. A few examples include (see Slides 31–33 for detail):

- **Significance:** How well does the proposed project support the advancement of at least one (and up to three) of the five priority areas identified in the Purpose section? How well do the proposed activities and resources to be produced advance the field?
- **Investigator(s):** Has a team of leading scientists across disciplines and institutions been assembled and do they have the expertise needed to advance the field?
- **Innovation:** How will the proposed activities advanced the emerging field and does the application describe why these goals cannot be met through the existing institutional programs or structures?
- **Approach:** How will the dissemination plan allow for sharing of network resources, products, and opportunities with the field at large? Is there an adequate plan to solicit, review, prioritize, and support small-scale pilot project(s)? For data management and statistical analysis, has appropriate consideration been given to utilizing the NINDS Common Data Elements?
- **Environment:** How will network activities be coordinated across institutions and how will they effectively engage with other relevant, already ongoing activities at the participating institutions?
- **Study Timeline:** Specific to applications involving clinical trials.

Additional Review Criteria have been added. Reviewers are, for example, asked to address the following:

- **Milestones:** Are they feasible, well-developed, and quantifiable; and are they appropriate for assessing network progress and for the goals of the network?
- **Resource and Data Plan:** Is it appropriate and adequate for sharing of network resources, products, and opportunities with the field at large.

Review Panel

Applications will be reviewed by a Special Emphasis Panel at NCCIH. Reviewers will be selected based on their specific area of expertise in the target areas of the RFA and the science proposed in the applications. They will be oriented to use the additional review

language and additional review criteria in their assessment. Applicants should keep in mind to address how their application would be impactful considering the goals of RFA-AT-21-006.

Important Dates

Letters of intent (optional but appreciated) are due to Martina Schmidt, Ph.D., Chief, Office of Scientific Review, at NCCIH by **June 14, 2021**. (See Slide 36 for what to include.) The application due date is **July 14, 2021**. The review meeting will be held in November 2021, and the roster will be available 30 days before the meeting. The award decisions will be made in January 2022.

Questions and Answers

The webinar speakers collectively responded to submitted questions. Dr. Schmidt was also available to respond to specific questions.

Q: Can you describe projects in terms of the range of funding, duration, and timeline?

A: It should be based on need. Some networks have workshops/meetings first to figure out the need, then launch a pilot competition based on priorities. Others just aim to stimulate activity and do a broad call every year. Some do or commission internal pilot work based on needs identified by the team, a review, or some analyses of existing data that need to be done before a next step can be taken. It varies.

The teams are being given the discretion to prepare their budgets and justify them appropriately. The goal of the pilot work is that at the end of the 5-year period, the team should be fully prepared to submit an application under the R01 mechanism or another research funding mechanism at NIH. Application budgets may not exceed \$400,000 per year in direct costs excluding any consortium F&A costs and should reflect the actual needs of the proposed project. Up to half of the proposed direct costs may be budgeted for supporting one or more pilot studies. Generally, the pilot funds will be distributed in the form of subcontracts to the third-party researcher's institution.

Pilot projects, typically 1-year in duration, are designed to address specific questions identified by the network. They could be wide-ranging open questions, or they could be very small-scale work, such as a literature review or harmonizing datasets. The nature of the pilot projects depends on the goals of the network and how they are best accomplished. The goal is to develop resources for the field at large (e.g., resources that will strengthen the conduct of research related to the neural mechanisms of force-based manipulations broadly), not just to support specific projects.

Q: Can you provide examples of U24 networks funded in response to similar RFAs?

Here are examples of networks submitted in response to similar RFAs:

- The Biomarker Network: <http://gero.usc.edu/cbph/network/>

- Stress Measurement Network: <https://stresscenter.ucsf.edu/>
- Decision Neuroscience Network: <https://www.decisionneuroaging.network/>

Q: Would understanding the biomechanical impact of various manual therapies, specifically the effect of these therapies (pre- and post-treatment) on muscle and spinal forces induced in patients with low-back pain meet the funding requirement?

A: As long as the focus is on the mechanism of action or the biological basis of how manual therapies/force-based therapies work, this would be within the scope. Note that this is not an announcement for purely research-based projects (e.g., R01 or R21).

Q: Would NCCIH and NINDS each support three to four U24s, or is that the total of expected U24s to be funded?

A: The collective total number of U24s to be funded is three or four.

Q: Are international investigators eligible to apply for pilot grants?

A: Applications cannot be submitted by a non-U.S. institution but that does not preclude international components being involved in the effort. Applicants are encouraged to contact NCCIH or NINDS if animal and clinical research is to be conducted by non-U.S. institutions, as specific guidelines apply. Applicants are encouraged to justify why the expertise of the international component is integral to the application and what it brings to the proposed network.

Q: Will networks including studies with nonmammalian models be considered responsive to this RFA?

A: Yes, any model system, whether nonhuman or human, is acceptable if it can be used to answer the questions put forth in the RFA.

Q: Please elaborate on the additional activities that might be included in an application.

Additional activities could include, for example, a systematic review of existing evidence, an intensive workshop on the subject, a summer institute on building a network, or dissemination and outreach activities.

Q: How many PIs are in a typical network, and can they all be from the same institution?

A: There is no set number of allowable PIs in a network, but each PI should be justified based on what they bring to the network. It is possible that all PIs could be at the same institution as long as the concept of a network is preserved.

Q: Does the network need to be across more than one institution or is across colleges at a single university appropriate?

A: If one institution can clearly create and demonstrate a network then it would be acceptable. Remember, however, that the funding announcement is calling for interdisciplinary collaboration. Ideally, the intellectual leadership of the network would be housed at a couple of institutions, and networks would also include others outside their own institution in their activities. Support at the home institution(s) is also important. This doesn't have to be a massive multi-institution award, but typically, you would not find expertise on all the topic areas at one institution.

Q: What is the preferred balance between research activity expected of the PIs versus from the solicitation projects (external collaborators)?

A: The focus of the U24 is to develop interdisciplinary networks designed to advance research on the neural mechanisms and biomechanics of force-based manipulations. The pilot projects should center on a high-priority area that will launch subsequent grant applications. If the U24 focus is purely research there are other funding mechanisms that can be sought, and potential applicants can contact NCCIH or NINDS to discuss those opportunities.

Q: What is the difference between a U24 and an R01?

A: An R01 is for a research project. It typically only involves the key personnel who are conducting activities to achieve a set of specific scientific aims. The U24 is intended to support a broad research network that, through its activities, will help advance the field at large in key areas of need. The network key personnel and support staff will orchestrate a suite of activities that will likely involve others in the broader field via a range of touchpoints—as participants in workshops, as recipients of pilot funding, as consultants for specific workgroups, as trainees, as users of resources, etc.

Q: How is this U24 different from a more research focused U01?

A: As per the previous question, there is more flexibility in the U24 mechanism to accommodate research networks and advance the science than the more research project-driven U01 mechanism. Emphasis for a U24 should be to benefit a collective set of goals, not the research interests of a specific lab.

Q: What's the difference between a U24 and an R24?

A: The U24 is a cooperative agreement, which means there is substantial involvement of NIH staff to help ensure the initiative meets its milestones and to facilitate collaboration. The R24 is completely coordinated and organized by the PIs.

The R24/U24 mechanism can be used for a variety of purposes, so there is no one size fits all. The difference between R and a U is that a U is a cooperative agreement and involves substantial NIH programmatic involvement with the awardees during the performance of the activities to make sure that the initiative meets the stated goals.

Some R24/U24 projects serve as coordinating centers or resource centers for larger initiatives. Others serve as hubs for innovation in a specified field, serving the broader

scientific community. We are using the U24 mechanism in this latter sense, to foster activities and develop resources that will serve the field at large. The R24/U24 is a flexible mechanism that permits a range of activities and affords the flexibility to respond to emerging needs as the project develops.

Each of our U24s will be a semi-independent hub for innovation in some area of force-based manipulations science. Each will have a Program Director and an NIH Project Scientist. There will be an expectation and a plan for us to coordinate activities across the networks so that there is sharing of information, collaboration as appropriate, and opportunities to benefit from one another's advances and avoid duplication.

Q: In the BRAIN Initiative, there is some focus on impacting the brain using laser or LED light, a developing field. Does this fit the overall goal of this RFA?

A: It could if it would further the goals of what the network is trying to achieve in terms of mechanistic understanding of force-based therapeutics. The BRAIN Initiative does have RFAs for technologies in the brain but does not have RFAs for technologies in the peripheral nervous system so that would be appropriate for this RFA.

Q: We are interested in the muscle-brain axis. Is exploring the mechanisms for how contracting muscles may affect contractility of astrocytes and neurons and thereby affect hippocampal plasticity appropriate?

A: This grant should focus on developing resources and networks of investigators rather than an R01-type application focused on hypotheses with substantial preliminary data. One needs to bring together engineering and biological approaches to understand how the therapeutics work so a network focused on biological mechanisms of how therapeutics work is appropriate. The U24 is not a research project funding mechanism.

Q: Can corporate partners be involved in a network?

A: Small businesses and for-profit organizations (other than small businesses) could be named in the application. Applicants are encouraged to consult with NCCIH or NINDS about the specifics of industry involvement.

Q: As stated, one of the goals of the opportunity is to reward “high impact activities to advance one to three of the high priority areas.” How does NIH evaluate “impact”? How is impact defined?

A: Impact will be determined by the progress and quality of research relevant to force-based manipulations by virtue of the proposed activities. For example, the application must address how the proposed networking activities will advance an emerging field of research relevant to force-based manipulations. The application must propose new high-impact activities that are not feasible with existing resources.

In addition, the application must address plans for dissemination and access to ensure that the network and its products will be appropriately targeted for the highest impact to potential participants. The application must describe how the proposed activities will

have the potential to grow the field substantially through recruitment of new investigators rather than sustaining only the original team. One is to consider, after the funding period is over, whether the network progress is advancing the field to a point where network support is no longer needed for sustained growth. Or, have subsequent independent research applications consistent with network goals emerged based on this work and pilot studies. It is useful to think about what would be impactful for your peers and their research efforts. Reviewers will assess the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the five core review criteria (Significance, Innovation, Investigators, Approach, and Environment) and the additional review criteria (Study Timeline, Milestones, and Resource and Data Sharing Plan).

Q: Priority Areas 1 and 5 seem to overlap: Area 1 includes development and validation of objective measures of forces, etc., whereas Area 5 includes identify/adapt/validate methodologies for applying and quantifying forces. Could you clarify the difference?

A: The first priority area focuses on common terminology and measurement as it relates to forces applied in various manual therapies. Harmonizing terminology and modes of measurement across fields as diverse as engineering, neurobiology, and therapeutic application can be challenging. In contrast, the fifth priority area focuses on technology and methodology that would primarily enable one to perform mechanistic studies of force-based manipulation, for example, looking at the whole circuitry, from tissue to brain (extraneural and neural) as well as incorporating computational models for framework testing.

Q: We envisage a network that has key personnel in critical fields. This will end up with six to nine key personnel. Is that considered too large of a team? Otherwise, how can we establish buy-in from key stakeholders?

A: That is a reasonable number for key personnel. However, applicants are cautioned against including too broad a swathe of personnel in their application as that will then limit the field of those who might review the proposal or later apply for a pilot project. Those who apply for a pilot and are successful could then be incorporated into the network.

Q: Are you allowed to have a “core” for biomarker study?

A: No. While core activities can be described in the application, an actual core cannot be proposed as the funding mechanism does not allow for that. Please note that “biomarkers of force-based manipulations” is one of the specific areas of interest in this RFA.

Q: Can a model system be *in vitro* only?

A: Yes, if one can gain a mechanistic understanding from an *in vitro* system and if one can identify the implications of that for *in vivo* use, especially for therapeutics. The

emphasis should be on multiscale/modality impacts. The *in vitro* system should complement, support, or inform an *in vivo* aspect of the goals.

Q: Will Letters of Support from non-key personnel be allowed in the application as a means to show that the scientific community is eager to see the network be established?

A: Letters of Support should come from key personnel and those who will be directly involved in the project. Letters from those only tangentially related tend to add little to the application and can actually increase the number of conflicts of interest for potential reviewers who would otherwise be best able to determine how much the scientific community would benefit from such networks.

Q: Since the RFA seems to focus on developing the network (rather than the projects), and such pilot projects will not be fully developed, the pilot projects may be reviewed as dependent/contingent on the results of the steering committee or systematic review, etc. Is this “dependence” expected in the U24 mechanism?

A: Awardees will be soliciting proposals for pilot studies and reviewing them together with a committee and then with NIH personnel, since this is a cooperative agreement. Network funding for pilot projects must either advance broad network goals or support preliminary studies with potential to form the basis for independent research applications consistent with network goals. You must provide a formal plan to solicit, review, and select/prioritize requests for pilot funding, and to evaluate the pilot study progress and outcomes, in line with network priorities. Applicants must describe the type and focus of potential pilot projects that would be solicited. Descriptions of actual pilot projects should not be included, however, and are not needed. Applicants can contact NIH staff for further guidance.

Q: Could you please elaborate on the ability to submit video demonstrations of techniques and outcomes?

A: Yes, these are allowable, within defined limits, as post submission materials. In order for them to be accepted for review, please ensure that they are submitted 30 days before the review meeting date. Videos fall within the demo devices and experimental data elements, which refers to the need to show how something functions or occurs over time or demonstrates movements or changes. Applicants must follow the directions in [NOT-OD-12-141](#) for submitting videos to accompany grant applications. According to this policy, the application must be structured at the time of submission to indicate that a video will be submitted subsequently, and the cover letter submitted with the application must include information about the intent to submit a video. Key images/“stills” and a brief description of each video **must** be included within the page limits of the research strategy. Sufficient descriptive information must be provided within the research strategy to understand the information presented in the video, as not all reviewers may be able to access the video, depending on technological constraints. In

terms of the formats allowed for submitting these videos, please refer to [NOT-OD-20-061](#).

Q: There may be many among us who have expertise in one aspect of a potential network (e.g., mechanosensors in muscle) but do not necessarily know others to connect with in order to complete a network. Is there a place where we can indicate our interest to participate and specialty to facilitate the making of a network?

A: This U24 does not “matchmake” per se, so applicants are encouraged to look at the 2019 [Neurocircuitry of Force-Based Manipulations](#) workshop proceedings to see key players in this field. In addition, NIH Reporter can be searched for potential collaborating investigators. Remember that this U24 allows early planning and networking activities to identify and form partnerships. This is a key component of the BRAIN Initiative as well. Reviewers will be charged with evaluating the merit of the network team proposed.

Q: Can pilot studies involve human subjects? What study record information can be included in the application?

A: The solicited pilot studies can involve human subjects according to the network focus and goals. Since you do not know yet what pilot studies will be selected for funding, in the forms you can select the “delayed onset study record” option.

Q: What is the purpose of the annual meeting?

The purpose of the meeting is to exchange ideas across the networks to make sure all groups are on the same page, avoid duplication of effort, and allow for cross-pollination of ideas, so finding good ways to exchange information is important.

The in-person meeting will help build the research community in this field. The field is fairly young, and NIH wants to bring people together who will collaborate.

Q: It was mentioned that all key personnel must budget for travel to the in-person meeting. Does this apply only to PIs or to all key personnel?

A: In some cases, it might be important for key personnel not designated as PIs or co-PIs to attend the meeting. An estimate of the number of those individuals should be included in the budget. These meetings will provide opportunities to share advances across networks, promote collaboration, and avoid duplication of efforts.

Q: Would you expect the meetings to be open only to those involved directly with the grant or a larger type of conference or symposia?

A: The in-person annual meeting will not be open to the public.

ADDITIONAL QUESTION SUBMITTED AFTER THE WEBINAR ENDED

Q: Are any funds devoted specifically to doctoral trainees or early investigators? Or can this opportunity be combined with any of the F-award predoctoral awards?

A: This opportunity cannot be combined with other awards. No new or early-stage investigator preference is associated with this funding mechanism. The PI(s) should be well suited to be the true intellectual leader(s) who will be doing the work and “leading the charge.”

Conclusion

Applicants are encouraged to contact Drs. Sabri and Gnadl for further guidance. Ms. McRae-Williams thanked the webinar panelists and cautioned attendees to send further questions to the contacts listed in the RFA, not to the webinar mailbox, which will not be monitored.