The Charles A. Dana Foundation Announces the 2016
David Mahoney Neuroimaging Program
REQUEST FOR PROPOSALS
Using Brain and Immune Imaging Innovations to Improve Human Health

PLEASE FORWARD TO ALL APPROPRIATE
DEPARTMENT CHAIRS AND SPONSORED RESEARCH OFFICES

Application Deadline: Thursday, February 18th, 2016 at 3pm EST

The Dana Foundation’s neuroimaging research program focuses on improving human brain and brain-immune functioning to promote health, and prevent and treat disease. Funds support pilot-testing by investigators, who are early in their research careers, to enable them to pursue promising, high-risk, and innovative ideas that have a direct clinical application. The pilot data are anticipated to help increase competitiveness for seeking larger-scale support from other funders. Grant amounts for each study may be up to $200,000 total, payable over three years. Applicants will be informed within eight weeks of the preliminary proposal deadline on whether they are invited to prepare full proposals. The first awards will be announced in September 2016. Subsequent award announcements will be made in December 2016.

The Program is designed to enable investigators to obtain pilot data more quickly than is possible through other funding processes. Please note that this will be The Dana Foundation’s only proposal solicitation process this year, and selection will be extremely competitive, with fewer than 10 percent of preliminary proposals ultimately resulting in funding. Below is a description of the program and application process.

This program, like all other Dana-supported research, is designed to improve human health. Investigations need to be applicable to human brain or brain-immune functioning or malfunctioning. To be considered for funding, submitted proposals should focus on imaging in patients or patient tissues, and healthy volunteers.

Applications for animal model studies of brain conditions or injuries will be considered only if they relate directly to humans but cannot yet feasibly be undertaken in humans, and are anticipated to be translated into human research following the three-year grant period. Such studies include research on:

1) normal brain anatomy and physiology in the animal model that can help to better understand the roles of cells and networks in specific cognitive functions and how these are altered by disease or injury; and
2) animal models of human diseases, either through transgenic methods or through naturally occurring or induced disease states that are directly related to the human condition. Specific criteria for animal model studies are listed in the section on Eligibility.

Previously funded studies under this Program have focused primarily on:

1) understanding normal brain functioning, how it is altered by disease or injury, and how it recovers or repairs;  
2) assessing and improving diagnostic and therapeutic approaches; and  
3) refining and advancing imaging technologies to address specific clinical questions.

In addition to these three general areas of continued interest, it is becoming increasingly apparent that neurodegenerative diseases, such as Alzheimer’s and Parkinson’s disease, and mental illnesses such as schizophrenia and depression start long before they are clinically evident. The Foundation, therefore, encourages studies that seek to understand developmental processes of disease, surrogate measures of early disease existence, and measures of disease progression.

The Foundation invites each institution to submit one preliminary application (see eligibility), using either or both:

- **Physiological and Structural imaging** - anatomical imaging of white or gray matter and measures of physiological functioning. These proposed studies should focus on patient-oriented clinical research;
- **Cellular/molecular imaging** - biochemical actions of specific brain cells, or their interactions with immune cells, which have direct clinical relevance to human health and disease. These studies may involve human tissues or animal models. Applications can involve the study of cells within neural circuits, using a combination of imaging and single cell electrical recording, if the techniques have already been developed.
Eligibility:

Each U.S. medical school dean, and the presidents of the few selected biomedical research institutions that have been invited by letter, may nominate one applicant. The applicant may use either physiological/structural or cellular imaging or both. To be considered under this Program, the application must be countersigned by the medical school dean or invited biomedical institute’s president.

Investigators at institutions that are affiliated with a medical school are eligible to apply only through their affiliated medical school, by submitting an application to the medical school dean. Previous applicants are eligible to reapply through their dean’s office (or biomedical research institutes’ presidents’ offices). Projects involving collaborations with NIH intramural researchers or industry scientists are acceptable.

Support is focused on faculty researchers who have demonstrated the potential for independent research careers who are at the assistant professor level, or in the first few years of their associate professor appointments. Post-doctoral fellows are not eligible to apply. Applications from junior investigators that are an extension of the work of a senior mentor, particularly if from the same institution, are discouraged.

**Funding of up to $200,000 payable over three years is provided for proposed neuroimaging studies undertaken by promising early career investigators who have not yet been awarded more than one independent research grant (R01 from the NIH or equivalent from another Federal agency).**

The Foundation does not provide support for indirect costs. However, up to 10 percent of the total grant award may be used to purchase equipment for the study. The balance is to be used to meet direct research costs. Research that can be supported through clinical income should not be submitted. Studies should be designed to obtain meaningful data within the grant award period of up to three years.

**All applicants please note:**

- All proposals that seek to develop new imaging techniques or assays, or modify existing ones to address clinical questions—whether in structural/physiological or cellular/molecular imaging—**must provide preliminary evidence of feasibility and evidence of the investigator’s experience in using the technology.** Proposals seeking support without such preliminary evidence will not be considered.
- Investigators proposing patient-oriented studies should provide preliminary evidence that the required number of participants—patients and controls—are available at involved research institution(s).
- For all proposals that do not propose to undertake studies in humans or human tissue, the direct relevance to human health and functioning needs to be explicitly stated. These proposed studies will only be considered if they are designed to:
  1) pose a specific question concerning the disease process that is directly related to known aspects of brain pathology seen in the human;
  2) alter a factor in a healthy animal for which there is some evidence of the factor’s involvement in a human disease process (as opposed to altering a factor in a healthy animal to see if the result resembles a human brain disease); and
  3) be translated into studies in the human following the three-year grant period.
- Certain areas are not appropriate for consideration:
  1) Ideas for which you do not have preliminary data;
  2) Instrument development without initial evidence of feasibility and clinical applicability.
- Descriptions of all previously funded studies are available at: [http://www.dana.org/grants/imaging/](http://www.dana.org/grants/imaging/)
Applying:

Once selected by the Dean or President, the applicant should register an account and submit a preliminary application in its entirety via the Foundation’s online proposal website\(^1\), \url{http://www.dana.org/grantee2016}. Please note that the registration period will begin February 8 and end on February 18 at 3pm EST. APPLICATIONS WILL NOT BE ACCEPTED PRIOR TO FEBRUARY 8. The applicant must complete all requested information at the site and upload the necessary documentation to be able to submit the preliminary proposal.

The proposal should formatted using 11-point font, 0.5 inch margins in all directions with numbered pages. Applications using a smaller font size will not be reviewed. Appendix D images have specific requirements, which are specified below.

Please prepare a single PDF document for online submission in accordance with the following directions:

1) **Cover Page:**
   a. Principal Investigator information:
      i. Project title;
      ii. Principal investigator(s) name(s) and degree(s);
      iii. Title(s);
      iv. Phone and fax numbers;
      v. E-mail; and
      vi. Street address(es).
   b. Indicate the imaging category (structural/physiological or cellular/molecular, or a combination of both) and, specify the imaging technique(s) to be used (such as fMRI, two-photon, etc.).
   c. In addition, please be ready to include the names and full contact information of the sponsored research officer and the school Dean or institution President endorsing the application.

2) **Dean’s Letter:** A letter from the school Dean or institutional President endorsing the application on behalf of the institution.

3) The following five sections should total no more than two pages (including figures).
   a. Section I: A clearly and succinctly stated hypothesis.
   b. Section II: The aims of the proposed research project. What disease(s), disorder(s) or injuries would be better understood, diagnosed, or treated? Or, what normal brain function or brain-immune interaction would be better understood? Or, what imaging technology would be refined and for what specific purposes? Such technology development or modification aims need to be accompanied by initial evidence of the project’s feasibility.
   c. Section III: The research significance and potential clinical application(s) of the research.
   d. Section IV: The methods. Please clearly describe the research design and specify tests and analyses proposed to develop the pilot data. *If enrollment of human participants is planned, please provide preliminary evidence that the number required can be recruited from the participating institution(s).*
   e. Section V: The qualifications of the primary investigator(s) for undertaking the proposed research. What facilities and resources at the applicant institution(s) would be used in the research? Please provide evidence that required technologies would be available for this project.

4) **Appendix A:** A list of all active grants and pending proposals by the applicant(s). *Please include an abstract that specifies the aims for any existing or pending grants from these sources of support that are related to, or could potentially overlap with, the proposed Dana study.*

5) **Appendix B:** Please provide a standard NIH four-page format CV for the primary investigator(s).

6) **Appendix C:** You may include up to two additional pages to list relevant references.

\(^1\) Please note that users may save their online application, and return to it at any time during the February 8-18 submission period. Instructions for registration and application submission will be posted prior to the submission period.
7) Appendix D: Optional: High resolution photographs that support the methodology proposed. See requirements below:

Appendix D Image Requirements for Online Submission

Please note that adequate figure and image resolution is essential to the review process. Please submit only TIFF, or JPEG files. Color images should be in RGB (millions of colors), 8 bits per channel. Please upload images individually, in the order they are cited in the proposal. Image file names should reflect the image label found in the proposal. Please refer to the following table and checklist before uploading your images:

Table 1: Summary of Image Requirements

<table>
<thead>
<tr>
<th>Image Type</th>
<th>Description</th>
<th>Minimum Resolution</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line art</td>
<td>A black and white image composed of lines and/or text. No shaded areas.</td>
<td>900-1200 dpi</td>
<td>TIFF, JPEG</td>
</tr>
<tr>
<td>Halftone (photographs)</td>
<td>Photographic images with no text or thin lines.</td>
<td>300-600 dpi, or higher if possible</td>
<td>TIFF, JPEG</td>
</tr>
<tr>
<td>Combination</td>
<td>Halftone images (photographs) containing thin lines and/or text.</td>
<td>600-900 dpi</td>
<td>TIFF, JPEG</td>
</tr>
</tbody>
</table>

Before submitting images, please ask yourself the following:
- Is my image in the appropriate format (TIFF, or JPEG)?
- Does my image meet the minimum resolution requirements?
- Is my color image in RGB, 8 bits per channel?
- Am I submitting a full sized image?
- Is my image cropped to reduce unnecessary white space?
- Does the image file name reflect how the image is labeled in my proposal?

Please note: At this time, do not send a budget, or any other supporting documents.
Proposal Review and Notification of Grant Awards:

Preliminary proposals received by the February 18, 2016, 3pm EST deadline will be reviewed for further consideration. Late submissions will not be considered. Applicants will be informed within approximately eight weeks from the preliminary proposal submission deadline on whether or not they are being invited to prepare full proposals.

Grants will be awarded on a “rolling” basis, with the first group of approved studies to be announced in September 2016 and the second group to be announced in December 2016.

Please refer to the FAQ’s section of the Dana Foundation website www.dana.org/grants for any questions you may have regarding the proposal process.

For questions and assistance about the online application process please contact:

    Program Officer Kevin Aguirre by telephone at 1-212-401-1653, or via email at kaguirre@dana.org

    Or

    Grants Intern Kenzie Novak by telephone at 1-212-401-1691, or via email at knovak@dana.org

Staff is unable to respond to inquiries regarding application content.

The Dana Foundation, founded in 1950, is a private philanthropic foundation with major program interests in science, health, and education. This RFP and other information about the Foundation's programs may be found on our web site at www.dana.org.