



2013 New Scholar and Senior Scholar Awards in Neuroscience: Neuroscience of Aggressive Behavior

Announcement: Request for Proposals

The Ellison Medical Foundation was established by Lawrence J. Ellison to address critical unmet needs in the funding of basic biomedical research. In particular, the Foundation seeks to provide funding to stimulate innovative, creative research that might not be funded by traditional sources or that has been neglected by existing U.S. research funding programs.

Through a series of focused workshops, the EMF Scientific Advisory Board has sought to identify topics in fundamental Neuroscience research that hold promise for significant scientific progress and yet the research funding to support that progress is inadequate. As a result of this review, the SAB has chosen to initiate a funding program in the Neuroscience of Aggressive Behavior. The goal of this program is to stimulate and nurture innovative research that seeks to gain an understanding of the neurobiological basis of aggression and related behaviors, and of the environmental and genetic factors that contribute to violence and anti-social disorders.

Background: Violence and antisocial aggression place an enormous burden on society. Individual differences in the propensity to exhibit aggression, like other social behaviors and temperaments, involves an intricate mix of innate predisposing factors, environmental influences and the interplay between these forces. A deeper understanding of the interactions between genetic and environmental factors to increase the risk of violent behavior may offer great potential to guide the approaches our criminal justice and public health systems employ to deal with aggression, family violence and antisocial behavioral disorders.

At the same time, aggression is one of the most widespread and characteristic behaviors in the animal kingdom, and it is critical for animal fitness and survival. Animals use aggressive behaviors to defend themselves, secure food and mates, compete for resources, and maintain social hierarchies. Converging lines of evidence indicate that many basic “core” brain mechanisms that regulate social behaviors like aggression have distinct features that are shared across species, and that a common underlying neural architecture may be dedicated for social interactions among members of a species.

The goal of this program is to support innovative, basic neuroscience research that often falls outside the scope of traditional funding sources: such research may include projects involving the application of new concepts or new technologies whose feasibility is not yet proven; projects seeking commonalities among social and anti-social behaviors that might yield new insights into neural mechanisms of aggression and related violent disorders; or projects seeking to

bring together diverse scientific disciplines in the study of aggression and social behaviors.

Specific topics of interest include: molecular, cellular and genetic approaches to identify the fundamental neural circuits that regulate aggression and other social behaviors; studies of the effects of aggression and social interactions on brain and behavior; studies of aggressive and related “pro-social” behaviors in model organisms from invertebrates to lower vertebrates, rodents and non-human primates; functional imaging and cognitive science approaches to define the core mechanisms and neural architecture of aggression in humans; studies to examine the development of aggression and the control of impulsive tendencies in children; and studies to identify the interacting genetic and environmental factors that increase the risk of aggression and anti-social pathologies - or conversely promote resilience to protect from the harmful effects of violence - in humans.

2012 Senior Scholars in “Neuroscience of Aggression and Social Behavior”

David Anderson, PhD

California Institute of Technology

Identification of the neural substrates of genetic and environmental influences on aggression in mice

Cornelia Bargmann, PhD

The Rockefeller University

The effect of social context on decision-making

Kenneth Kendler, MD

Virginia Commonwealth University Medical School

Genetic and environmental risk factors for violent criminal behavior: a Swedish national study

Nirao Shah, MD, PhD

University of California, San Francisco

Dissecting the molecular and neural control of aggression

Lisa Stowers, PhD

Scripps Institute

Sensory-initiated approach to identify, map, and study the relevant neurons in the brain that promote aggression

Eligibility: For the 2013 application cycle, any investigator employed by a US-based 501(c)(3) institutions, colleges or universities is eligible to submit a letter of intent. The program will support collaborations with non-US researchers when appropriate for the goals of the project. Investigators who are in the first three (3) years of their independent research careers will be considered eligible for a **New Scholar** award and will be evaluated separately. All other applicants are eligible for the **Senior Scholar** award (independent of faculty rank or tenure status). For the 2013 competition, nominees must hold regular full time appointments (tenure or non-tenure) on the faculty of the sponsoring institution by June 15, 2013.

To be considered eligible for the New Scholar award, applicants must have been in such an appointment, whether at the sponsoring institution or other institution(s), for no more than three years as of November 15, 2013, i.e. the first appointment having been made no earlier than November 15, 2010. Time spent in clinical internships, post-doctoral training, residencies, or in work toward board certification does not count as part of the three-year limit.

Evaluation: Evaluation will be performed by the Foundation's Neuroscience Initial Review Group and the Scientific Advisory Board. Applicants for the **Senior Scholar** in Neuroscience Award are expected to furnish evidence of substantial prior scientific creativity and productivity, not necessarily targeted to Aggression research heretofore. Applicants for the **New Scholar** in Neuroscience award are expected to demonstrate great promise as potential leaders in fundamental Neuroscience research. The Review Group and Scientific Advisory Board will evaluate the applicant's submission based on scientific contributions to date, the quality of publications, and the importance of the proposed new research to understanding fundamental cognitive and neurobiological mechanisms that influence aggression and related behavior. In the case of New Scholar submissions, reference statements provided by those who know the applicant and his/her work will also be used in the evaluation process.

The Reviewers and Scientific Advisory Board will pay close attention to arguments as to why the work would not qualify for support by established sources such as the NIH. In general, the awards are not designed to supplement ongoing, already funded programs, but to support new research directions that may entail substantial risk.

Examples of such work include, but are not limited to:

- Innovative research that might not fare well in a standard study section environment because of its perceived *novelty, high risk, or unorthodox approach*. In such cases, a New or Senior Scholar Award might be used to collect sufficient preliminary data to validate the concept and justify subsequent support by the major funders or, alternatively, to disprove the hypothesis.
- Proposals in which an established principal investigator seeks to *move into a different research area*, where a New or Senior Scholar Award might be used to establish a track record and prove capability in the new field.
- Proposals in which the principal investigator seeks to devote concentrated effort to a *"non-hypothesis-driven" but important aspect of research*, such as

the development or incorporation of a new technology or observational studies aimed at opening up a new area of research.

It is anticipated that up to 5 New Scholar and 5 Senior Scholar Awards will be made in 2013.

Terms of the Award: Each New Scholar award will be made for up to \$100,000 per year, total costs, for a four year period. Senior Scholar awards will be made for up to \$150,000 direct costs per year, plus full indirect costs at the institution's NIH negotiated rate, for up to four years. Funding for years two, three and four is contingent upon submission of an acceptable progress report.

NOTE: A budget is NOT required at the Letter of Intent stage.

Acceptable uses for award funds include project-related: salaries, other personnel costs, equipment, supplies, resource acquisition and travel. Carry-overs in excess of \$25,000 must be approved by the Ellison Medical Foundation Scholars Program Office. The Ellison Medical Foundation does not permit indirect costs on equipment, even for purchases less than \$5,000.

If selected for funding, awards supporting research involving human subjects, animal subjects, research collaborations with foreign institutions, biosafety issues, or embryonic stem cells the Foundation will require the following documentation before the award start date:

1. Human subjects:

- Copies of the protocol submitted to the Institutional Review Board(s) for this project* and the notification of protocol approval from all relevant IRBs (for funded awards an annual update will be required at the time of the progress report).
- Documentation from the applicant institution that the principal investigator has completed training on the protection of human research participants.

2. Animal subjects:

- A copy of Institutional Animal Care and Use Committee approval for this project* (an annual update will be required at the time of each progress report).

3. Foreign component:

- A letter of agreement from the collaborating foreign institution.

4. Biosafety: Research supported by the Ellison Medical Foundation is expected to conform to the relevant NIH Guidelines for biosafety, including those for handling of hazardous reagents and those for research involving recombinant DNA and gene transfer

<http://www4.od.nih.gov/oba/rac/guidelines/guidelines.html>.

- A copy of Institutional Biosafety Committee approval for this project*.
5. Embryonic Stem Cell Research Committee approval of the protocol for this project* if it involves human embryonic stem cells.

*** Approval for this project means the EMF funded project, not a similar protocol funded by some other entity.**

Instructions for the New or Senior Scholar in Neuroscience Letter of Intent

You must complete the Letter of Intent ONLINE at:

http://www.cybergrants.com/emf/neuro_loi

The Letter of Intent includes the following requirements:

PI Contact Information - Provide your full contact information for correspondence. Include your degree(s) (e.g. M.D., Ph.D.) following Degree(s). Note: if you have a Co-PI, add Co-PI contact information and select "Co-PI" as the contact type. (A Co-PI would be another senior investigator with overall scientific authority for the project.) Contact information for institutional grants financial management is NOT required at this stage.

Project Title – not to exceed 20 words or 200 characters. Spell out scientific notation, Greek letters or symbols.

Abstract - The abstract should provide a succinct summary of the project goals and rationale. Specific aims will be listed in the next section. This section has a 250 word limit. Spell out scientific notation, Greek letters or symbols in this location.

Specific Aims: Please *list* the project's specific aims. Wherever possible, phrase these in the following format: "In order to ..., we will ..." Size limit 250 words / 2000 characters.

Other Institutions - Indicate whether the project will involve substantive interactions with institutions other than your own or that of a Co-PI. Such interactions might include scientific collaboration, sharing of research facilities or equipment, or other activities that would be supported through a subcontract mechanism from your institution and/or that would require project approval (e.g. research involving human subjects, animal subjects, research collaborations with foreign institutions, biosafety issues, or embryonic stem cells) at the other institution.

Letter of Intent File: The following THREE application components must be assembled into a single application file (in PDF format) and uploaded using the online application website. This file **MUST** be named using the following format based on the PI name: "YearNeuro_LastName_FirstName" (for example: "2013Neuro_Smith_Jane). Use text font size no smaller than 11 point. Margin size is not restricted but it must be printable using a standard printer. The FILE SIZE is restricted to 2 MB.

1. Initial Research Concept - not to exceed **3** pages using 11 point font (including figures and references). This should incorporate the following components:

- A succinct description of the proposed research (it is not necessary to repeat the abstract and specific aims in this section)
- A short statement explaining the relevance of the proposed research to understanding aggression and related behaviors
- A brief explanation of why you believe this project is more relevant to The Ellison Medical Foundation New / Senior Scholar awards than to traditional funding sources; this should include a description of what this funding will allow you to do that you could not accomplish otherwise
- A brief description of your current research
- If you are applying for a NEW SCHOLAR award, also include a one-page description of your most significant research to date, including research done as a trainee if appropriate. The subject may be unrelated to the proposed project, but it should give the reviewers a good idea of your training and future potential.

2. Curriculum Vitae of PI, including Other Support - not to exceed 1 page using 11 point font. This should include education/training, positions and employment, awards/honors, and other support (including title, source, duration, and funded amount in annual direct costs). If the project involves a Co-PI, 1 additional page may be added for the Co-PI Curriculum Vitae and Other Support.

3. Publication List - not to exceed 1 page using 11 point font. This should list selected prior publications reflecting your relevant expertise and accomplishments. Optional: You may indicate up to three of your most significant or relevant publications by including the entire URL, starting with <http://>, so that it can be opened by the reviewers. The URL may be entered by cutting and pasting from your browser.

Example: Laird, DJ, De Tomaso, AW, and Weissman IL. (2005) Stem cells are units of natural selection in a colonial ascidian. *Cell* 123:1351-1360. <http://www.ncbi.nlm.nih.gov/pubmed/16377573>

Relevant publications (Optional): If you choose, you may also use the same link to upload up to two significant, related publications if they provide supporting information helpful for the review of your proposal. These must be published or accepted for publication (in press). If you choose to submit them, these supplementary publications should be uploaded as separate files in PDF format, and each file may be no larger than 2MB.

Letters of Reference: (For New Scholar applicants ONLY) Provide the required contact information for each reference: (Reference identifiers appear in ***bold/italics***.)

- ***Head of the Sponsoring Institution:*** This individual may be the President of the University, Provost, Dean of the School, or other similar level institutional official, and should speak to the commitment of the institution to supporting your career.

- **Head of the Department:** This individual may be your department chairman, section head, or other similar supervisor, and should speak to your recruitment and role in the department, as well as the space and resources provided to you by the department.
- **Thesis Advisor:** This is your Ph.D. advisor, or, for other than Ph.D. candidates, a member of the professional school faculty from which you obtained your degree.
- **Post-doctoral Fellowship Advisor:** This is the supervisor of your post-doctoral or similar level research training.
- **Scientific Reference:** This is an additional individual familiar with your research, and may be another investigator at your institution, a collaborator, etc. Special emphasis should be given to the relevance of your research toward understanding the basic biological processes that underlie aging and age-related diseases and how your work relates to other ongoing research in your area of expertise.

Applicants should request each reference to send the reference letter to The Ellison Medical Foundation by mail, or attached to an email to estella@ellisonfoundation.org. (See address details below under “Submission and Deadline”.)

The letter **must** indicate the applicant’s name and the relationship of the reference to the candidate (for example, “Thesis Advisor”, “Scientific Reference”).

Keywords: Select the *Keywords* most relevant to the project. Multiple keywords may be chosen for each category. If none of the keywords specified are appropriate, use the text box “Other” to type in a more relevant keyword. You must specify at least one keyword under each section.

Assurances: Indicate whether the project will involve human or animal subjects, biosafety concerns, foreign components, or human embryonic stem cells. **This is all the information that is required at the letter of intent stage.** Please note, however, that if you are ultimately offered an award, required documentation of relevant assurances must be submitted before an award can be made.

Submission and Deadline:

The 2013 New or Senior Scholar Letter of Intent must be submitted online by **11:59 p.m. Eastern Standard Time JUNE 21, 2013.**

Reference letters must be received separately (via direct mail or email) by the same deadline.

**The Ellison Medical Foundation
299 Broadway, Suite 920
New York, NY 10007-1903**

Email: estella@ellisonfoundation.org

Expected timeline:

Those invited to submit a full application will be notified of their selection and provided with application instructions in August, 2013. Applications will be due in late September. Awardees will be notified by early November, 2013.

The earliest possible start date of the award is dependent on completion of the award agreement with the grantee institution.

Address any questions to:

Kevin J. Lee, Ph.D., Executive Director
Email: klee@ellisonfoundation.org
Telephone: 212-577-9255