



THE KLARMAN FAMILY FOUNDATION

Eating Disorders Research Grants Program

2019 Request for Applications

Deadline: February 14, 2019

The Klarman Family Foundation is delighted to announce the 2019 Grant Cycle for our Eating Disorders Research Grants Program.

Scientific focus:

Our fundamental mission is to understand the biology underlying the psychiatric disease anorexia nervosa, with the goal of accelerating progress towards prevention and treatment. We are seeking proposals to conduct **research that directly investigates the underlying biology of anorexia nervosa, and the questions of how and why it develops and persists.**

Funding priorities and guidance to applicants:

We seek to fund well-controlled, sufficiently powered studies asking important questions about the interface between behavior/cognition and neurobiology. We encourage approaches that incorporate neurobiology with an up-to-date understanding of the symptoms and dysfunction associated with anorexia nervosa psychopathology.

Moving from genes to mechanism

We encourage research to strengthen the connections between the epidemiology, genetic epidemiology, and molecular biology of this disease, and to identify the mechanisms through which genetic, environmental, and lifestyle factors lead to disease. We expect the data and results of an **anorexia nervosa genome-wide association study** to be released in the fall of 2018, involving approximately 17,000 AN cases in total and including nearly 13,000 cases from the Anorexia Nervosa Genetics Initiative (ANGI), an initiative of the Klarman Family Foundation. We encourage applications to build on these GWAS results.

Human studies

Proposals for human studies must be grounded in the basic biology and neuroscience of anorexia nervosa.

A major challenge in studies involving human subjects is **power and sample size**. For this reason, we encourage researchers involved in human imaging studies to consider ways of increasing sample size by making their studies more interoperable or combinable with other studies. While identification of disease biomarkers is a high priority research area, such proposals could also be strengthened by considering how to coordinate these to increase power.

Another challenge in human studies is the difficulty of establishing causality of observed changes, and selecting a relevant **control group where confounding will not limit comparison**. While we welcome proposals using noninvasive methods such as fMRI to study the biology of

anorexia nervosa, behavioral tasks used in fMRI studies should be **well linked to the pathology of the disease**. We encourage researchers who are new to the field to consider such issues carefully and to discuss the options with established clinical researchers in this or similar fields.

Animal models

The lack of a robust animal model for this disease has been identified as a significant bottleneck to research progress. **We welcome applications to develop new or improved animal models** that mimic several of the relevant elements of the human psychiatric disease anorexia nervosa. Behavioral resemblance to the human disorder on its own is not generally considered to have strong etiological validity as the basis for an animal model. We encourage applicants to **use what has been learned about the mechanism of disease in humans (e.g. a known risk gene or epidemiological factor) to develop animal models that have the molecular and cellular abnormalities found in human anorexia nervosa**, using genetic modification, observation of species-specific behavior, environmental perturbation, or some combination of these.

Relevance and importance to the mission of this grants program is an essential prerequisite to a favorable review. In 2017, the chance of success for basic neuroscience proposals involving the use of animal models was considerably lower (<10%) than for studies involving human subjects (~30%). The primary reason for this was the Scientific Review Committee's opinion that relevance to the human disease anorexia nervosa was not adequately demonstrated. For this reason, we advise researchers who wish to propose research using animal models to consult with researchers with clinical expertise (e.g. psychiatrists) at an early stage of project planning.

Collaborative projects

We encourage **applications that bridge the gap between human and animal research, and collaborative applications focused on a central hypothesis where success depends on close collaboration between two or more labs**. Investigators jointly leading collaborative projects may apply as multi-PIs. These proposals must involve meaningful collaboration between participants to perform research in a synergistic manner. **Any application involving multi-PIs must be discussed with and approved by KFF staff before submission.**

Resource sharing

The **development of scientific resources** is one of our strategic priorities. We expect KFF funded investigators to freely share renewable reagents and data developed using KFF funds with other qualified investigators. The quality of the resource sharing plan will be considered during the grant review process. While we understand that the need to share data must be balanced with the need to protect investigators' intellectual contributions, we expect KFF funded researchers to develop resource sharing plans at the vanguard of current best practice for resource sharing in their field.

Exceptional opportunities

We want to fund **bold, imaginative, game-changing research**, and we are willing to take **strategic risks**. We realize that in some cases these studies may not match the scale or form of what we are offering, and **we are willing to consider ideas for proposals with budgets and/or duration that exceed the limits of this grants program**. Applications for such studies must have exceptionally high potential impact, importance, and relevance to anorexia nervosa, should be conducted by strong research teams, and **must be pre-approved by KFF before submission**. In addition to hypothesis-driven research, we encourage proposals to develop large-scale scientific

resources that will address a major unmet need in this research field. This may include studies that aim to combine some combination of prevention research, epidemiology, genetics, epigenetics, and the identification of biomarkers and behavioral correlates of early stage disease. If you have an idea for such a project and would like to request approval to submit a full application, please contact our Director of Medical and Scientific Research for an initial discussion.

Ineligible research topics

While we appreciate the value of the following topics, research into obesity, normal feeding behavior and/or negative energy balance, sickness-induced anorexia, PANS/PANDAS, other types of anorexia distinct from the psychiatric disease anorexia nervosa, behavioral therapy, the medical complications of eating disorders, and clinical trials are currently outside the scope of our program.

Review criteria

Criteria for review include relevance, importance, experimental design, and qualifications of the applicant. In order to provide more insight on our review process, we have included a summary of the most common reasons for low scores during the 2017 round of grant review in our **Frequently Asked Questions** document. Please note that relevance to the biology underlying anorexia nervosa is a prerequisite for consideration. If applications are not relevant, they are not scored on other criteria.

Eligible investigators:

Applicants must hold a faculty appointment at a nonprofit academic, medical or research institution in the United States, Canada, or Israel.

We have always been enthusiastic about **attracting researchers with a strong track record in another field who can bring a new approach to eating disorders research**. Bringing in investigators from other fields, such as those studying the neuro-circuitry of complex, motivated behavior (e.g. fear conditioning, reward behavior, and addiction research), remains a priority for us. While this program is not specifically aimed at early career faculty, applicant track record will be evaluated according to career stage and experience. We encourage researchers who are new to the field to consult with clinical experts in order to ensure a deep understanding of the behaviors associated with this disease before designing a research study.

Grant categories:

1-year pilot studies of up to \$150,000 USD, inclusive of up to 10% indirect costs

1-3 year research projects of up to \$250,000 USD per year, inclusive of up to 10% indirect costs

Given the variety of scientific approaches and types of research that could address our mission, we expect that proposals will be of varying duration and cost. We acknowledge that not all types of research require the same amount of time and budget, and the value of each proposal will be assessed relative to its potential impact. We encourage applicants to carefully consider the needs of their project, and to request only the amount of time and budget that is essential to the proposed research. We will consider how an applicant's specific aims overlap with those of their other current or pending grants.

Online submission begins: January 15, 2019

Application deadline: February 14, 2019

Decisions by: July 2019

Grant Start Date by: November 1, 2019

**Application materials available online at
<http://klarmanfoundation.org/eating-disorders-research/>**