Association of Program Directors in Surgery
&
APDS Research & Education Fund
Request for Proposals

APDS Research & Education Fund Limited Project Grant on the topic of:

"Beyond standardized testing: assessing medical learning"

Dear Investigator:

Currently, a Limited Program Grants (LPG) is available for a one or two-year duration with a funding level of up to $30,000 that studies:

"Beyond standardized testing: assessing medical learning"

Research project applications should be made using forms from the Public Health Service grant application form PHS 398 (https://grants.nih.gov/grants/funding/phs398/phs398.html). The PHS grant application process has had a long history of satisfactory operation. By using PHS 398, the process of renewal or extension to subsequent Research Foundation or NIH funding, if applicable, will be facilitated. A completed proposal must be submitted to the APDS central office via email (apds@mindspring.com) by **Thursday, January 30th, 2020 at 11:59pm EST**. The APDS central office will forward proposals to the APDS Research Committee for consideration. The Research Committee of the APDS will make every effort to perform a comprehensive review of your application in an expeditious manner. The committee will select up to one winning proposal for funding. Announcement of the winner of this LPG competition will be at the business meeting of the APDS 2020 Annual Meeting. The authors will also be notified by email.

Please review the following requirements listed on the fact sheet and grant application guidelines carefully. All requirements must be adhered to or the application will not be considered. The authors should try to limit the total page limit of their PHS 398 application to under 25 pages.

Completed applications should be emailed to **apds@mindspring.com** and the subject line should read: "2020 APDS Research and Education Fund RFP"

Sincerely,
APDS Research and Education Fund
APDS Research Committee

APDS Research & Education Fund Limited Project Grants (LPG)
Fact Sheet

Funding: Up to $30,000

Application Deadline: January 30th, 2020 at 11:59pm EST

Purpose:
To provide investigator the opportunity to pursue research interest in the following area:

"Beyond standardized testing: assessing medical learning"

Eligibility Requirements:
1. The proposed research must be investigator-initiated, hypothesis-driven
2. The proposed research must be conducted within the United States or Canada
3. APDS members must be co-principal investigators or principal investigators

Award Provisions:
1. The award need not be given every year.
2. The award may be funded in whole or in part.
3. The topics and number of awards granted every year will be made at the discretion of the APDS Foundation.
4. Multi-institutional trials, with PI and co-investigators who are APDS members of the APDS, will be given funding priority over single-institutional trials.
5. Review for scientific merit and financial merit will be considered separately.
6. LPG Funding will be limited to "Direct Cost Only" budgets. Significant outlays to acquire equipment will not be supported. Indirect costs will not be approved.
7. The investigator agrees that: (a) if the research eventually leads to a marketable product, that any patent or copyright filed shall stipulate any interest in all rights would be filed such as to accrue equally to the investigator(s) and APDS; and (b) if tangible products, documents, software or other items develop as a product of this research, that free access to such item(s) will be afforded to APDS and its members for their use.

Topic:
The purpose the APDS Foundation is to promote research that relates to the education of surgical trainees, their learning environment and surgical curriculum. This grant cycle will only accept topics for consideration based on the topic of:

"Beyond standardized testing: assessing medical learning"

Criteria:
1. Multi-institutional trials, with PI and co-investigators who are APDS members of the APDS, will be given funding priority over single-institutional trials.
2. Review for scientific merit and financial merit will be considered separately.
3. All proposed research activities must secure approval from the institution's Internal Review Board (for human studies) and Animal Care Committee (for animal studies) prior to seeking funding.

Priority:
Funding is based upon scientific merit review by the APDS Research Committee and the potential applicability of anticipated results to surgical education.

Reporting and Publishing Requirements:
1. An interim progress report is required at six month intervals (investigators are expected to present at spring and fall APDS meetings) and written copy submitted to APDS central office. This report should include: beginning and ending dates for the period being reviewed; list all professional personnel who have worked, or will have worked who are expected to have worked on the project with you during this period; a succinct account of what has been accomplished during this time period; review the importance of these accomplishments; listing of all presentations or publications based on the work, any changes in the specific aims since the project was last reviewed and an accounting of the budget used to date..
2. A detailed final report of analysis and conclusions arrived from this funded study will be required.
3. Grant recipients are to submit the results of their work as an abstract for potential presentation at the APDS Meeting/Surgical Education Week immediately following (or in conjunction with) the submission of the final study report.
4. . Findings of the results of the proposal must be submitted for potential publication, and if accepted by, then be published in the Journal of Surgical Education.

Disbursing of Funds:
1. One-third of the grant funds awarded will be provided at the outset of the grant, one-third will be disbursed upon receipt and approval by the APDS Research Committee of the six-month progress reports and one-third will be distributed with final report.
2. The successful grant recipient will be required to indicate a Tax ID Number or Social Security Number as well as an account into which grant funds will be deposited. The owner of that account be that a hospital, educational institution, or the individual principal investigator will execute a written commitment of responsibility to deliver timely completion of the project as a prerequisite to release of any grant funds.

Project Completion:
1. It is expected that the project will be completed on time. It is the APDS policy not to consider no cost extensions. Any communications relating to the timeliness of grant completion should be submitted to the attention of the Research Committee, c/o APDS central office.
2. Progress of the project will be assessed by means of the 6 month PI progress report. The APDS Foundation reserves the right to stop funding of a project if, in the judgement of and at the sole discretion of the Research Committee, the project is not showing substantial progress.

Section 1

APDS Research & Education Fund
Grant Application Guidelines

Please refer to the NIH, PHS 398 forms available at:
https://grants.nih.gov/grants/funding/phs398/phs398.html

Include only the following pages in sequential order:
(The font size, spacing & margin requirements ONLY apply to the documents you create)

Face page(s): (maximum 2 pages, single spaced, 12 pt. font, one inch margin)
The cover page must include the following information: the title of the proposal, name of applicant, applicant's position, institution and contact information, and the name and contact information for the individual authorized to act for the applicant if the award is made.

Table of Contents

Research Proposal: (maximum 2 pages without references, only comprised of the specific aims, significance, preliminary studies, experimental design and methods, single spaced, 12 pt. font, one inch margin)
A. **Specific Aims/Hypothesis:** Concisely in one page, outline what the research described in this application is intended to accomplish and/or why hypothesis is to be tested.
B. **Significance:** Briefly outline background material to the present proposal, critically evaluate existing knowledge. State concisely the importance of the research by relating it to specific long-term objectives.
C. **Preliminary Studies:** Briefly outline any preliminary studies that support your hypothesis and/or demonstrate your ability to perform the methods described below.
D. **Experimental/Project Design and Methods:**
Discuss in detail the experimental design or outline of your research and the procedures to be used to accomplish the specific aims of the project. Describe protocols to be used and provide a tentative sequence or timetable. Include means of data analysis and interpretation. Describe any new methodology and its advantage over existing methodologies. Discuss potential difficulties and limitations of your project, and possible alternatives to achieve your aims. Make every attempt to be succinct in this section.
E. **Human Subjects: (**No page limit for the Human Subjects forms, does not fall under the 25 page limit for the total application)
If you intend to use human subjects during your project follow instructions as outlined below. Be sure to include a copy of approved certification by the institutional review board from your institution with this application. Describe the characteristics of the subject population, e.g. anticipated number, age ranges, sex, ethnic backgrounds and health status. Identify criteria for inclusion or exclusion. Explain the rationale for the use of special classes of subjects. Identify sources of research material obtained from individually identifiable living human subjects in the form of specimens, records, or data. Indicate whether the material will be obtained specifically for research purposes or whether use will be made of existing specimens, records or data. Describe plans for recruitment of subjects and the consent procedures to be followed, including the circumstances under which consent will be sought and obtained, who will seek it, the nature of information to be provided to prospective subjects and the method of documenting consent. The consent form must have

institutional review board approval. Describe any potential risks – physical, psychological, social, legal, or other – and assess their likelihood and seriousness. Where appropriate, describe alternative treatments and procedures that might be advantageous to the subjects. Describe procedures for protecting against, or minimizing any potential risks, including risks of confidentiality, and assess their likely effectiveness. Where appropriate, discuss provisions for insuring necessary medical or professional intervention in the event of adverse effects to the subjects. Also, where appropriate, describe the provisions for monitoring data collected to insure the safety of subjects. Discuss why the risks to subjects are reasonable in relation to anticipated benefits to subjects and in relation to the importance of the knowledge that may reasonably be expected to result.

F. **Vertebrate Animals:** If vertebrate animals have been identified on page 2 of the application, justify their use, state the species, strains, ages, and numbers of animals involved. Describe procedures for adequate maintenance and veterinary care of any animals. Describe procedures to avoid unnecessary discomfort, pain, or injury to the animals, such as surgical anesthesia, post-trauma analgesia, tranquilizing drugs, and comfortable restraining devices. Provide evidence of Animal Welfare Assurance.

G. **Literature Cited:** Please list all citations of literature at the end of the research plan, in the order in which they are cited in the proposal. Each complete citation must include the names of all authors, the complete title of any article, the name of the book or journal, volume number, page numbers, and year of publication. Please compile a relevant and current bibliography. It need not be exhaustive.

Biographical Sketch: (maximum 2 pages still using NIH format, single spaced, 12 pt. font, one inch margin per sketch)

Biographical sketches are required from applicant, and all co- investigators. Follow the formatting of the NIH bio sketch form and follow the instructions/format provided on the NIH website.

Resources: (maximum 1 page, single spaced, 12 pt. font, one inch margin)

This should include a brief description of the infrastructure at the applicant's institution as well as any required resources in laboratory science, population science, epidemiology, bio specimen repositories, biostatistics, etc. (Limited to 1 page, single spaced, 12 pt. font, one inch margin).

Budget: (use PHS 398 forms, salaries included on the budget should follow the NIH salary cap)

Supporting Letters: (maximum 2 pages, single spaced, 12 pt. font, one inch margin per letter)

A letter from the applicant's institution is required and should include a review of the proposal and summary of the applicant's qualifications. It should also describe the facilities and support available to complete the project. The letter should also specifically stipulate the percentage of time effort the applicant will devote to the research project. The letter should be from the institution's Vice Chair Education, Chair of their department or Dean of research. Other supporting letters (no more than 3) may be included.

Appendix:

Informed consent form, IRB approval notice, etc.

Section 2

APDS Research Committee
Supplemental Guide To Grant Application

It must be remembered that even the best, most intriguing and worthwhile appearing concept or hypothesis cannot be funded just because it is a great idea. It is up to the principal investigator to support the feasibility of the concept as well as to produce a document that as written stands a reasonable chance of producing a definitive answer. It is not up to the Research Committee to fill in the blanks even if they are obvious. The Research Committee wants to fund projects, but it is up to the principal investigator to conceive of, design, and execute the project.

A. **What is the Question?**

This must be stated up front in the Description and the Specific Aims section of the Research Plan. This must be supported in the Experimental Design and Methods section. This drives the whole proposal and must be concise, focused, feasible, and never lost sight of. The endpoints of the investigation should be clearly stated in the question.

In general, a hypothesis should be stated and the approach and rationale to prove or disprove the concept should be the driving force throughout the proposal.

The fact that this is research assumes that the answers are not known ahead of time. Consequently, it is very reasonable to accept that the concept, the hypothesis, may in fact be wrong. Under such circumstances, it must be clear that being wrong can be proven just as readily as being correct. Consequently, it is important that the principal investigator indicate the alternative possibilities that might result from this research and the response that might be taken as a result of having to change direction. Are potential pitfalls recognized?

B. **Data**

What specific data will be collected to answer the question? How will it be collected? How will it be analyzed? You must show in advance that you know how to process the data that you propose to collect.

C. **Power Analysis**

Not all projects depend upon a sufficient number or patients or subjects in two or more categories to reach a conclusion. However, when conclusions hinge upon the results of one group versus another, then evidence has to be provided to support the likelihood that the project as designed, with the study patient population available, is likely to meet the desired objectives.
Will the study as designed answer the question that you have asked? This is a critical question. Of first importance is, of course, the solidity of the experimental method. Next is the sample size. We are all aware of tests of significance, “p” values, chi squares, “t” tests and ANOVAs. These are not interchangeable and the proper methodology must be specified. Type 2 or beta error and the power of study are just as important statistics and must be examined in the formulation of the study rather than after data collection is over. A study without adequate power is a waste of money for a funding

agency. Power calculations must be provided. It is inappropriate to state: “data will be analyzed by computer” or “the statistical consultant will analyze the data”.

D. **Facilities**

Do you have access to enough material to answer your question? This is not just a calculation, but your chance to assure the granting body that you have can answer your question with the resources and study population that you have.

E. **Human Subject Studies**

Think of the ethical pitfalls of the study. What specific risks are involved in the research protocol? The consent form for participation must be included with the proposal. To state in the Human Subjects section only that IRB approval is pending is inadequate. The committee must be assured that you have seriously considered the ethical side of your proposal.
The same goes for animals within that specific context.

F. **Don’t Assume that the Reviewers of Your Proposal have any Imagination**

Do not assume that your reviewers will go to the library in order to read all your cited references as part of the review process. The Background and Significance section must be brief, but self-contained. The physiologic principles relating to your proposal must be explained, rather than just cited. The literature review need not be global, but must be up to date, concise and relevant.

G. **Budget**

A carefully thought out budget with each item clearly justified will add great strength to your application. There’s no magic to this. You are setting up a small business and should expect to be as careful in planning your expenses as you would with a bank loan. Consultant items must be specifically justified. Substantial hardware items, particularly purchases related to computer equipment that can be used after the completion of the project, are unlikely to be approved. Contractual agreements with other institutions or parties must be included.

H. **Limitations of the Study**

This is your chance to anticipate your reviewers and nip their questions in the bud (rather than hoping against hope that they won’t ask any). Describe your perception of the weak points in your proposal and what specific steps you have taken to strengthen those points.

I. **Above All: Remember, What is the Question?**

Research Committee
Association of Program Directors in Surgery