

**Emergency Medicine Foundation
Council of Residency Directors in Emergency Medicine**

Emergency Medicine Education Research Grant

Request for Proposal

Please read these instructions carefully. Applications that do not follow these instructions with regards to type size, length, format, and supporting documentation will be summarily rejected. No extension of the deadline will be granted.

Before submitting your application, please be sure that the following items have been addressed:

- Information page is included as the first page of the application packet and is fully completed (sample attached).
- Type size is 11 pt. font, single-spaced and margins are one-half (.05) inch
- Evidence of IRB approval, or at least evidence of submission to IRB, from each institution, is included in application packet (for multi-centered studies, approval from or evidence of submission to IRB/AUC for all sites is required)
- Clearly stated research hypothesis
- Statement of Conditions is signed by **Principal Investigator** and **Institutional Official** and is included in application packet (see last page of this RFP)
- Letter of support from Emergency Medicine Chair and/or Vice Chair of Academics/Education is included in application packet
- Letter of support from each co-investigator is included in application packet
- Other grant support for all investigators is included in application packet

Submission via the on-line application system is required. Late applications will not be considered. Submit application at <https://emfoundation.aibs-scores.org>.

**EMERGENCY MEDICINE FOUNDATION
COUNCIL OF RESIDENCY DIRECTORS IN EMERGENCY MEDICINE
EMERGENCY MEDICINE EDUCATION RESEARCH GRANT**

Application Deadline	February 5, 2021
Notification of Award	June 2021
Funding Period	July 2021 – June 2022
Funding Amount Per Award	\$25,000
Number of Awards	Up to two

INTRODUCTION

The Emergency Medicine Foundation (EMF) endeavors to promote and to provide improved education and research opportunities in the field of emergency medicine to improve the availability and quality of emergency medical treatment. The EMF/Council of Residency Directors (CORD) Research Grant will award one or more grants to promote project(s) that seeks to study a medical education topic that has direct relevance to the specialty of emergency medicine. Applicants may apply for up to a total of \$25,000 for a one-year period.

DEFINITION OF EMERGENCY MEDICINE EDUCATION RESEARCH

Emergency medicine education research is broadly defined as scientific investigation designed to investigate the impact of educational innovations and/or study novel means of assessing the essential knowledge and skills of emergency medicine providers.

RESEARCH TOPICS

The EMF/CORD Research Grant goals and scope:

1. To promote methodologically robust emergency medicine education research.
2. To provide evidence that supports best practices for emergency medicine training and assessment.
3. To facilitate the academic growth and development of future researchers in emergency medicine education.
4. To study emergency medicine education across the continuum including medical students, residents, fellows, or faculty.
5. To publish research findings in a peer-reviewed journal.

Proposals may include, but are not limited to: improved learning, curricular or program evaluation, instructional design, patient safety, or assessment.

MENTORSHIP

The applicant must identify a mentor that will assist with project design, implementation, completion and presentation. The mentor must be an experienced medical education researcher. However, applicants with educational expertise who apply with experienced clinical researchers, or PIs with education research expertise themselves may also be competitive. **When there is a mentor involved, it is required that they submit a letter of support.** This letter must describe the mentor's (or collaborator's) and the applicant's roles and responsibilities in the proposed project. The mentor must have an MD, DO, PhD or equivalent degree. The mentor must have proven ability to pursue independent research as evidenced by original research publications in peer-reviewed journals and/or funding from extramural sources.

ELIGIBILITY

The principal investigator (PI) must have a primary faculty appointment in Emergency Medicine. The PI will be responsible for all arrangements and conduct pertaining to the proposed research projects and supervising the work of all associate investigators. Only US-based universities will be eligible to apply for this grant award. The research proposal must be approved by the corresponding institutional review board (IRB) at the time of grant submission including those determined to be exempt. This must be documented by inclusion of the IRB letter in the grant proposal.

INSTITUTIONAL SUPPORT

The applicant must also submit a letter from the Emergency Medicine Chair/Vice Chair of Academics/Education stating that adequate funds and time will be available to the applicant to complete the proposed project.

EVALUATION OF APPLICATIONS

Each application will be reviewed by emergency medicine specialists who are actively involved in education, basic science, clinical or health services research. Each application will be judged primarily on: (1) the significance of the project to emergency medicine, (2) the soundness of the research methodology, and (3) the likelihood the project will be completed. The final funding decision will be made by the Emergency Medicine Foundation Board of Trustees and all decisions are final.

TERMS OF THE AWARD

The EMF/CORD Research Grant funds will be disbursed semi-annually over the one-year cycle. Disbursement of payments will be contingent upon satisfactory progress reports.

Limitations on Awards

Funds may be used for materials and supplies and to provide salary support. Capital equipment expenditures (costing more than \$5000 and a life of over one year) must be justified in the budget. Payments will be made to the principal investigator's institution that will be responsible for administering the funds. The Emergency Medicine Foundation will not be responsible for institutional overhead, cost for publications, travel, renovations, or secretarial support. Detailed audited financial reports may be required. The EMF is not fiscally responsible for funds necessary for the project's completion.

Change of Status of Principal Investigator

If the PI makes any changes, including affiliations or ceases research in the field for which the award was made, that jeopardizes the research, he/she is responsible for immediately notifying EMF. The award will immediately terminate, and the remaining balance will be returned to the Emergency Medicine Foundation.

Liability of the Emergency Medicine Foundation

The EMF and CORD assumes no financial liability if patient care responsibilities of any kind are undertaken by the program faculty or investigator. The principal investigator and his or her institution acknowledge that the EMF is not legally liable for the conduct of the institution, the principal investigator, the program faculty, or any associate investigators.

Patent Policy

The principal investigator and institution acknowledge that, though unlikely, if a patentable invention or discovery is conceived, or conceived and reduced to practice by EMF-supported personnel during the award year, the EMF and CORD must be apprised of the invention and the institution's plans for protecting such invention under existing institutional patent policy. The EMF will defer to institutional policies where they are in compliance with those of the Federal government.

SUPPORT FACILITIES

The applicant must submit letters of support if the proposed project uses facilities not routinely available to or directly under the supervision of the sponsoring program.

PUBLICATIONS

All discoveries resulting from work supported in part by the Foundation should be made available to the public and scientific community through scientific and/or public policy channels such as national meetings and peer-

reviewed publications. Publications will acknowledge the support of the EMF/CORD. Two reprints of each publication will be forwarded to the Emergency Medicine Foundation.

PROGRESS REPORTS AND MONEY MANAGEMENT

The principal investigator will submit a six-month progress report and a final progress report within thirty days of the conclusion of the award year. Additional reports may be required. Failure to provide the reports will delay transmission of funds. Furthermore, failure to provide interim and final reports to the Foundation may negatively impact the PI's institution's ability to apply for future EMF awards. EMF/CORD will maintain the copyright of all such reports. Progress reports must include an accounting report using Generally Accepted Accounting Procedures showing the distribution of funds with a signature from an institutional official (e.g., accountant, grants manager, administrator from the Office of Sponsored Research). The EMF reserves the right to withhold release of interim funds if >25% of the previous cycle remains unspent. The EMF allows up to 25% of funds to be carried over from one cycle to the next. The PI must immediately report any violation of IRB rules or IRB concerns relating to the research.

SURVEYS

The principal investigator and the institution will be surveyed periodically following completion of the award regarding career paths, subsequent grants/contracts obtained, and publications. The principal investigator and the institution will be expected to respond to these surveys as the Foundation will rely on such information to support continuation of the award program.

ABSTRACT PRESENTATION – ACEP RESEARCH FORUM AND CORD ACADEMIC ASSEMBLY

Grantees are required to present their work at the American College of Emergency Physicians (ACEP) Scientific Assembly/Research Forum immediately following the completion of the award. At the time of submission, abstracts must not have been accepted for publication in any journal. Also, abstracts may not be presented at any U.S. nationwide emergency medicine meeting or major international emergency medicine meeting prior to the ACEP Scientific Assembly. Presentation at non-emergency medicine meetings is allowed after presentation at ACEP. Funds cannot be requested to cover the travel cost nor registration to Research Forum. Awardees are also required to present their work at the CORD Academic Assembly as a poster or oral presentation.

GRANTEE WORKSHOP

Grantees are expected to attend a grantee workshop in Bethesda, MD. The workshop is designed to bring together EMF grant recipients to present their progress and discuss any problems they may be facing. Senior researchers and faculty will be available to help solve problems, such as enrollment efforts, managing staff and life-work balance. NIH program officers participate in this workshop to discuss funding opportunities, provide research career advice and network with the grantees. Travel expenses will be reimbursed by the Emergency Medicine Foundation.

CONTACT INFORMATION

Please address questions to Cynthia Singh, MS, Deputy Executive Director at csingh@acep.org.

APPLICATION INSTRUCTIONS

Do **not** submit an incomplete application. **An application will be considered incomplete if it is illegible, if it fails to follow instructions, or if the material presented is insufficient to permit an adequate review.** Unless specifically required by these instructions (e.g. human subjects certification, vertebrate animals verification) do **not** send supplementary material.

The application consists of the following sections:

1. COVER PAGE

Name the **one** person responsible to the applicant organization for the scientific and technical direction of the project. Choose a title that is descriptive and specifically appropriate, rather than general. List the Mentor and any associate investigators. (See sample below)

2. ABSTRACT (limit 1 page)

Provide a summary of educational program and research proposal. The abstract should succinctly describe every aspect of the proposed project. Include rationale, research hypothesis, specific aims, study design, study population, setting, intervention(s), outcome measures, data analysis, and significance.

3. TABLE OF CONTENTS

4. INTRODUCTION TO REVISED APPLICATION, if applicable. (limit 2 pages)

EMF will consider revised proposals. Two additional pages are provided to introduce reviewers to the revised proposal. Key things to keep in mind when submitting a revised grant:

- a. The introduction to the revision should provide a concise summary of reviewers' comments from the previous application and should, point-by-point, discuss how the revised application has addressed these concerns.
- b. Revised applications are not reviewed outside of the normal review process. Such applications may be more competitive than first-time submissions, but not necessarily so.
- c. Revised applications are reviewed as new science. Revised applications will not automatically be considered better applications within the review process.
- d. In the event of a resubmission, the committee will attempt to return applications to their original reviewers when possible. However, regular turn-over of the committee membership prevents the SRC from guaranteeing that a grant will be reviewed by the same individuals reviewing the original application.

5. RESEARCH PROPOSAL (limit 10 pages)

In general, most successful education research grant proposals will address the following types of studies (Suggested resources for specific methods are listed):

A. Evaluation of educational interventions

- Sullivan GS. Writing education studies for publication. *J Grad Med Educ* 2012;4(2):133-137.
- Yarris LM, Deiorio NM. Education Research: A Primer for Educators in Emergency Medicine. *Acad Emerg Med* 2011;18:S27-S35.
- Beckman TJ, Cook DA. Developing Scholarly Projects in Education: A Primer for Medical Teachers. *Med Teacher* 2007;29:210-218.

B. Programmatic needs assessments

- Grant J. Learning Needs Assessment: Assessing the Need. *BMJ* 2002;324(7330):156-159.

C. Assessment

- Sullivan GM. A Primer on the Validity of Assessment Instruments. *J Grad Med Educ*

2011;3:119-120.

- Cook DA, Beckman TJ. Current Concepts in Validity and Reliability for Psychometric Instruments: Theory and Application. *Am J Med* 2006;119:166e10-199.e16.
- Ricards G, Magee C, Artino Jr AR. You Can't Fix by Analysis What You've Spoiled by Design: Developing Survey Instruments and Collecting Validity Evidence. *J Grad Med Educ* 2012;4(4):407-410.
- The Standards for Educational and Psychological Testing (2014); see: teststandards.org

D. Qualitative studies

- Sullivan GM, Sargeant J. Qualities of Qualitative Research: Part I. *J Grad Med Educ* 2011;3:449-452.
- Sargeant J. Qualitative Research Part II: Participants, Analysis and Quality Assurance. *J Grad Med Educ* 2012;1:1-3.
- Hanson J. Qualitative Research Methods for Medical Educators. *Academic Pediatrics* 2011;11:375-386.
- O'Brien B. Standards for Reporting Qualitative Research: A Synthesis of Recommendations. *Acad Med* 2014;89:1245-1251.

E. Systematic Reviews

- Cook DA, West CP. Conducting Systematic Reviews in Medical Education: A Stepwise Approach. *Medical Education* 2012;46:943-952.

Please use the following subheadings:

Specific Aims

- State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s) involved.
- List succinctly the specific objectives of the research proposed, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or educational practice, address a critical barrier to progress in the field, evaluate an educational intervention, or develop and evaluate a new assessment instrument (quantitative) or to explore a phenomenon or generate a new hypothesis about a specific educational problem (qualitative).
- Specific Aims are limited to one page.

Significance

- Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
- Describe the *conceptual framework* (a theory or model for thinking about a problem or a study, or representing how complex things work the way they do) that the study is built upon.
 - Bordage G. Conceptual Frameworks to Illustrate and Magnify. *Medical Education* 2009;43(4):312-319.
- Explain how the proposed project will improve learning theory or impact educational practice.

Innovation

- Explain how the application challenges and seeks to shift current research or educational practice.
- Describe any novel theoretical concepts, approaches or methodologies, instrumentation or interventions to be developed or used, and any advantage over existing methodologies, instrumentation or interventions.
- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation or interventions.
- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation, or interventions.

Approach

- Describe the study design, methods and analysis to be used to accomplish the specific aims of the project.

- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project involves developing an educational innovation, describe the feasibility and acceptability outcomes that will be measured.
- If the project involves developing and/or evaluating a novel assessment instrument, or application of an established assessment instrument to a new context, describe the planned approach to collecting validity evidence, and the sources that will be included in the evidence (content validity, response process validity, internal structure, relationship to other variables, and consequences).
- Preliminary Studies. Include information on Preliminary Studies. Discuss the PD/PD's preliminary studies, data and/or experience pertinent to this application. Preliminary data can be an essential part of a research grant application and help to establish the likelihood of success of the proposed project.

6. PERSONAL STATEMENT (limit 1 page)

The applicant should compose and submit a personal statement that addresses:

- a. the applicant's interest in the topic and this project
- b. the applicant's perception of his/her role in the project
- c. any additional pertinent experience or interests the applicant wishes the committee to consider

7. ROLE OF PARTICIPANTS (limit 1 page)

List the Mentor and each associate investigator and consultant. Include a brief description of how and to what extent each will be involved in the proposed project.

8. BIOGRAPHICAL SKETCHES

Use the NIH Biographical Sketch Format Page available on the internet at <https://grants.nih.gov/grants/forms/biosketch.htm> Information is requested for the applicant, mentor and any associate investigators who will be involved with the projects.

9. RESOURCES AND ENVIRONMENT

Describe the research facilities (education resources, laboratory space, clinical population, etc.) available to support the project. If computer access or statistical support is available, it should be described in this section.

10. BUDGET

Use the NIH Form Detailed Budget for Initial Budget Period available on the internet at www.grants.nih.gov/grants/funding/phs398/phs398.html# Provide a budget narrative to indicate how the money will be spent. Justify all major expenditures. Use the current NIH salary cap. Institutional overhead is not allowed.

11. OTHER SUPPORT

List all current and pending intramural and extramural research funding for the applicant, Mentor and co-investigators. For each item indicate the grant identification number, grant type, PI, funding source, annual direct costs, funding period, percent effort, grant title, and brief description of project. For all items indicate whether there is any scientific or budgetary overlap with the current proposal.

12. ETHICS

Human subjects. For all research involving human subjects, a part of the peer review process will include careful consideration of protections from research risks, as well as the appropriate inclusion of women, minorities, and children. The EMF Scientific Review Committee (SRC) will assess the adequacy of safeguards of the rights and welfare of research participants, and the appropriate inclusion of women, minorities, and children, based on the information in the application. This evaluation will be factored into the overall score. The information on the protection of human subjects that you are required to provide in

this section is identical to information that you will be required to provide for IRB at your own institution and are required by most Federal agencies. This section must address the following items. These can be copied and pasted directly into your application.

The applicant should include specific measures on how protected health information (as defined by the Human Health Services) will be handled in accordance with the Privacy Rule of the Health Insurance Portability Accountability Act (HIPAA).

1. RISKS TO THE SUBJECTS

a. Human Subjects Involvement and Characteristics

Describe the proposed involvement of human subjects in the work outlined in the Research Design and Methods section. Describe the characteristics of the subject population, including their anticipated number, age range, and health status. Identify the criteria for inclusion or exclusion of any subpopulation. Explain the rationale for the involvement of special classes of subjects, such as fetuses, neonates, pregnant women, children, prisoners, institutionalized individuals, or others who may be considered vulnerable populations. Note that 'prisoners' includes all subjects involuntarily incarcerated (for example, in detention centers) as well as subjects who become incarcerated after the study begins. List any collaborating sites where human subjects research will be performed and describe the role of those sites in performing the proposed research.

b. Sources of Materials

Describe the research material obtained from living human subjects in the form of specimens, records, or data.

Describe any data that will be recorded on the human subjects involved in the project.

Describe the linkages to subjects and indicate who will have access to subject identities.

Provide information about how the specimens, records, or data are collected and whether material or data will be collected specifically for your proposed research project.

c. Potential Risks

Describe the potential risks to subjects (physical, psychological, social, legal, or other), and assess their likelihood and seriousness to the subjects.

Where appropriate, describe alternative treatments and procedures, including the risks and benefits of the alternative treatments and procedures to participants in the proposed research.

2. ADEQUACY OF PROTECTION AGAINST RISKS

a. Recruitment and Informed Consent

Describe plans for the recruitment of subjects (where appropriate) and the process for obtaining informed consent. If the proposed studies will include children, describe the process for meeting requirements for parental permission and child assent.

Include a description of the circumstances under which consent will be sought and obtained, who will seek it, the nature of the information to be provided to prospective subjects, and the method of documenting consent. Informed consent document(s) need not be submitted to the PHS agencies unless requested.

b. Protection Against Risk

Describe planned procedures for protecting against or minimizing potential risks, including risks to confidentiality, and assess their likely effectiveness. Where appropriate, discuss plans for ensuring

necessary medical or professional intervention in the event of adverse effects to the subjects. Studies that involve clinical trials (biomedical and behavioral intervention studies) must include a description of the plan for data and safety monitoring of the research and adverse event reporting to ensure the safety of subjects.

3. POTENTIAL BENEFITS OF THE PROPOSED RESEARCH TO THE SUBJECTS AND OTHERS

Discuss the potential benefits of the research to the subjects and others.

Discuss why risks to subjects are reasonable in relation to anticipated benefits to subjects and others.

4. IMPORTANCE OF THE KNOWLEDGE TO BE GAINED

Discuss the importance of the knowledge gained or to be gained as a result of the proposed research.

Discuss why the risks to subjects are reasonable in relation to the importance of the knowledge that reasonably may be expected to result.

13. LITERATURE CITED

14. APPENDIX

Include letters of support from the department chairs, and associate investigators (required). Include proof of IRB approval or submission. Copies of questionnaires and relevant testing forms should also be included as appendices. No page numbering is necessary for Appendix. Do not use appendix to circumvent page limitations for research plans. Do not include experimental methods, protocols or figures that should be incorporated within the research project description.

Applicant (*Last, first, middle*): _____

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Cover Page Sample

Full Name with Titles: _____

Name of Institution: _____

Grant Category: _____

Project Title: _____

Amount Requesting: _____

Mentor, if applicable: _____

STATEMENT OF CONDITIONS GOVERNING THE EMERGENCY MEDICINE FOUNDATION GRANT

It is understood that any Emergency Medicine Foundation Research Grant approved by the Emergency Medicine Foundation will be made with the following conditions:

1. Institutional overhead is not allowed.
2. The principal investigator's institution is organized for humanitarian purposes and is not a profit-making organization.
3. All reports of work achieved with this grant will acknowledge the support of the Emergency Medicine Foundation and any co-sponsors.
4. Any discovery that arises from work supported by the Emergency Medicine Foundation will be submitted for publication. Two electronic reprints of each electronic publication will be forwarded to the Emergency Medicine Foundation.
5. Independent progress reports by the applicant will be submitted to the Emergency Medicine Foundation mid-project, and within thirty days of completion of the funding period. Additional reports may be required. The Emergency Medicine Foundation will maintain the copyright of all such reports.
6. Participation in the Emergency Medicine Foundation Grantee Workshop is expected. The Emergency Medicine Foundation will reimburse travel expenses.
7. Grantees must submit the abstract of the funded project to the ACEP Research Forum at the end of the project. Research Forum is held each year during the American College of Emergency Physicians Scientific Assembly. Grant funds may not be used for registration nor travel.
8. If the named principal investigator leaves the institution or terminates research in the designated field, all remaining funds revert to the Emergency Medicine Foundation. If unused funds exist at the completion of the project, all remaining funds revert to the Emergency Medicine Foundation.
9. Patent rights will conform to institutional standards. If none exist, the Emergency Medicine Foundation reserves the right to protect such interests.
10. No research proposal will be funded unless the Principal Investigator and the Institutional Official of the sponsoring institution affirm:
 - a. That the investigation(s) proposed in this application are endorsed by the Animal and/or Human Subjects Committee or other designated body of the preceptor's institution, and
 - b. That any research involving human subjects conforms with the principles of the Helsinki Code of the World Medical Association, and
 - c. Research involving animals or human subjects must be approved by the institutional review board (IRB), or its equivalent, and a copy of the approval or pending approval sent with this application. IRB approval must be documented prior to dispensation of Emergency Medicine Foundation funds.
 - d. That research involving vertebrate animals will conform with the "Guiding Principles in the Care and Use of Animals" as approved by the Council of the American Physiological Society.
 - e. Research involving vertebrate animals must have approval from the Institutional Animal Care and Use Committee.

Date Signature of Principal Investigator

Type Name of Principal Investigator

Date Signature of Mentor, if applicable

Type Name of Mentor, if applicable

Date Signature of Institutional Official

Type Name of Institutional Official