



Research Medical Student Grant

Policies and Procedures
Revision Date: March 2017

Purpose

To increase the opportunities for medical students to have a research experience in medical imaging and to encourage them to consider academic radiology as an important option for their future. Recipients will gain experience in defining objectives, developing research skills and testing hypotheses before making their final choices for residency training programs. Students are expected to undertake a research project requiring full time efforts for at least 10 weeks under the guidance of a scientific advisor during personal/vacation time or during a research elective approved by their medical school.

Nature of Projects

Any area of research related to the radiologic sciences, from hypothesis-driven basic science and clinical investigations to topics such as drug, device, and therapy development; comparative effectiveness, evidence-based radiology, ethics and professionalism, quality improvement, clinical practice efficiency, and imaging informatics.

Amount

- \$3,000 to be matched by the sponsoring department (\$6,000 total), as a stipend for the medical student.
- Funds are intended to secure protected time for the recipient and may not be used for non-personnel research expenses.
- The RSNA Research & Education Foundation does not pay institutional indirect costs or overhead costs.
- Travel expenses for the RSNA Scientific Assembly and Annual Meeting may not be paid for by this grant.
- Unexpended funds must be returned to the Foundation.

Payment Schedule

- Grant payment will be made to the department as one installment of \$3,000.
- The sponsoring department is responsible for providing \$3,000 matching funds.

Deadline for Application

Applications must be completed online and submitted with scanned signature page by end of day **February 1**. If the deadline date falls on a weekend or holiday, the deadline will be extended to the next business day. Applications will not be accepted after the deadline date. Applications that are not complete, do not comply with the instructions, or do not have properly executed signatures, will not be reviewed. See the Foundation's Website for details, RSNA.org/foundation.

Eligibility

- Applicant must be an RSNA Member (at any level) at the time of application. If the applicant's membership category is Member-in-Training or any other non-dues paying category, the scientific advisor or one of the co-investigators must be a dues paying member.
- Applicant must be a full-time medical student at an accredited North American medical school.
- The research project must take place in a department of radiology, radiation oncology, or nuclear medicine in a North American educational institution; however, it is not required that the research take place in the same institution where the student is enrolled.
- Applicant must not have been principal investigator on external/extramural grant/contract amounts totaling more than \$60,000 in a single year. The restriction on prior funding includes support from single or combined grants or contracts from any source including government, private or industrial/commercial sources.
- Applicant/co-principal investigator(s) must not be agents of any for-profit, commercial company in the radiologic sciences.
- Applicant may not submit more than one research or education grant application to the RSNA R&E Foundation per year.
- Recipients may not have concurrent RSNA grants.
- Supplementation of funding from other grant sources must be approved by Foundation staff if not described in the original research plan. Awards from other sources may be approved by Foundation staff if the investigator submits a satisfactory plan to address any budgetary overlap.

Selection Criteria/Review Process

A review panel consisting of members with expertise in diagnostic radiology, interventional radiology, radiation oncology/biology, medical physics, and nuclear medicine will review the application for scientific merit and appropriateness for funding. For scoring purposes, referees will divide the applications into top third, middle third, and lower third groups, assigning scores of 1, 2, or 3 to each respectively. Final selection will be based on the average scores of the applications and be subject to the approval of the Foundation Board of Trustees. Due to the large number of applications, the feedback to applicants will only indicate whether or not the application has been funded. Applicants will be notified of the outcome of their applications by e-mail. The following guidelines will be applied in the review process:

Research Project:

Is the hypothesis clear? Are methods for testing the hypothesis described? Is the proposed statistical analysis appropriate for the study design? Is there a reasonable chance of completion within the time frame of the grant? Will the results have scientific value?

Applicant:

Will this experience enhance the applicant's investigative skills? Does the applicant show interest in the radiologic sciences and in the subject matter of the proposal?

Facilities and Advisors:

Is appropriate space and equipment available? Is the planned interaction between the scientific advisor and medical student substantive?

CONDITIONS OF THE RSNA RESEARCH MEDICAL STUDENT GRANT

1. Commercial Sponsorship

A portion of the total funds available for the RSNA R&E Foundation's grant programs is in the form of endowments from commercial companies or other sources; some recipients may have their grant named after a company. Grant awards are named only after funding decisions have been made. Company named awards do not imply commercial endorsement of the grant recipient, the research or the institution. Similarly, named awards do not imply endorsement of the commercial sponsor by the grant recipient or the institution. An institution's inability to accept endowed awards will not preclude the award.

2. Publicity of Award Recipients

The R&E Foundation will issue a press release and publicize the award in its print and electronic properties. Information submitted in the application and subsequent reports including the recipient's name, institution, likeness, project title and abstract can be utilized in the promotion of the award. Other external promotional opportunities are at the discretion of the individual recipient.

3. Progress Reports

A final report must be submitted to the Foundation's address within 60 days after completion of the project. Reports are distributed to the Foundation's Board of Trustees and cosponsoring entity if applicable, to determine the effectiveness and success of the program. Failure to comply with the final report requirement may negatively affect the home institution department's eligibility to receive future funds from the RSNA R&E Foundation.

Final reports must be submitted electronically (MS-Word) by email attachment with CC to the department chair and scientific advisor(s), if applicable. Complete reports must address each of the following:

Final Report:

1. Prepare an expanded abstract consisting of 1500 – 2000 words divided into Purpose, Methods, Results and Conclusions. Include appropriate tables, figures and references.
2. Restate the specific aims/goals of your research plan and indicate the progress made toward each aim/goal. **Include all supporting data as an appendix.**
3. Indicate any deviations you have made from the original research plan and justify these changes. If you did not reach one or more of your initial goals, explain why.
4. Indicate any problems or delays that you have encountered; for example, problems in obtaining protected time to do research, slow patient accrual in the study, etc.
5. Indicate if the results from your studies are being prepared for publication or will be prepared for publication within the next six months.
6. Indicate if the results from your studies will be used as preliminary data in a grant application to another granting agency.
7. Indicate the clinical significance and future clinical impact of the results of your study.
8. Indicate the strengths and weaknesses of the grant program in which you participated.
9. Indicate the influence or role that the grant from the RSNA Research & Education Foundation had on your career or will likely have in the future.

4. Annual Survey

Recipients agree to participate in an annual survey that will help the Foundation's Board of Trustees track current contact information, additional grant monies received from other sources, scientific publications, and career advancements.

5. Publications

Scientific and educational manuscripts resulting from R&E Foundation-funded projects must be submitted first to the RSNA Scientific Assembly and Annual Meeting to be considered for presentation, and/or to *Radiology*, *RadioGraphics*, *Medical Physics*, or the *International Journal of Radiation Oncology, Biology and Physics* to be considered for publication (right of first refusal). Manuscripts that are not accepted for publication in one of the four listed journals may be submitted to the journal(s) of the authors' choice. Authors who wish to bypass the right of first refusal process must receive written permission from the Grant Program Committee/Board of Trustees. One reprint of each publication produced as a result of RSNA R&E Foundation-funded work should be sent to the Foundation's address for distribution to the Trustees. All posters, publications, and oral presentations of R&E Foundation-funded projects must contain appropriate acknowledgment of the Foundation's support and sponsoring commercial company (if applicable).

6. Extension

A no-cost extension of the terms of this grant may be requested to extend the final budget period up to 12 months beyond the original ending date. Approval of an extension does not include the awarding of additional funds. A request for an extension along with a progress report must be made in writing to the chair of the Grant Program Committee at the Foundation's address before the expiration of the original grant period. The request must state the reason(s) for the extension, length of the extension requested, and an explanation of how the reason(s) for the delay has been rectified. Requests must be co-signed by the department chair. Interim reports must be submitted every six months during the extension period. Other requests for changes to the terms of an award should be addressed to the chair of the Grant Program Committee with similar documentation and institutional approvals.

7. Modification or Termination of Support

The Trustees reserve the right to modify or terminate the amount of any funds granted under the terms of the Research Medical Student Grant program. If the support level has to be modified by the RSNA R&E Foundation Board of Trustees for any reason, the grant recipient will be notified in writing at least 90 days prior, and the investigator will have the option to modify the research plan or terminate the grant.



Research Medical Student Grant

Application Instructions and Guidelines

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Section I: Summary of Proposed Research Plan

This page, when separated from the rest of the application, should serve as a succinct and accurate description of the proposed research plan, the involvement of the scientific advisor and the role that the medical student will play in completing the research plan. The summary should include the long-term goals of the proposed work and the methods to be used. Data collection and analysis should be summarized along with the potential clinical significance of this work in the radiologic sciences. Abstract not to exceed 300 words.

- A. **Resubmission Information:** Is this application based on a proposal submitted to the RSNA R&E Foundation within the past two years? If yes, please use the following link to provide brief details of the previous submission, including a summary of the reviewer comments and how each issue has been addressed in this proposal.
- B. **Title**
- C. **Abstract**

Section II - Investigator(s)

A. Applicant (Investigator) Professional Data

- Institution
- Department
- Country of Citizenship
- If not a North American Citizen, do you have permanent resident status in a North American country? Specify
- Key Training Dates (Degrees, Completion of residency and fellowship training)
- Current year of training, or faculty position/rank
- Grants received, include all sources of funding. Specify the amount and percent effort for each
- Number of peer-reviewed journal articles
- List no more than five of the investigator's publications related to the proposed research. Give complete reference.
- Time allocated to the proposed project, and to other duties. Specify percent and time frame.
- Contact Information (Auto fill from RSNA membership database)

B. Biosketch

NIH-style, limited to 5 pages

- C. **Priority Statement:** Describe your area of professional/scientific interest(s) and long-term career goals and objectives. Briefly describe how the proposed research plan relates to the applicant's short and long-term priorities and how these priorities are served at the host institution. Not to exceed 1000 words.

D. Scientific Advisor

To be completed by the scientific advisor/sponsor

- Name, degrees, title/faculty rank
- Percent of time that will be devoted to the proposed research project and brief description of the advisor's role as mentor for the applicant (A Sponsor responsible for student and the project who also acts as an Advisor is required for this grant application. The advisor/sponsor will advise the student on all aspects of the project, and will be responsible for the student in ensuring completion of the project in a timely fashion, the content and interpretation of the project, and any publication or presentation of the information. The advisor/sponsor should describe the specific role and expectations for the student, when the student's project falls under a portion of an existing advisor/sponsor project). Not to exceed 1000 words.

E. Relationship of Proposed Project to Existing Research Programs

To be completed by the scientific advisor/sponsor

Describe the extent to which the applicant was responsible for developing and writing the research proposal. Relationship and overlap with existing research programs should be specified in detail. Not to exceed 500 words.

F. Other Investigators (if any)

Other investigators/scientific advisors/consultants who will contribute significantly to the project should be listed. Include a description of the role they will play in the proposed research project.

Section III: Research Plan

A. Detailed Research/Training Plan:

Provide a concise description of the research study and training program, including details of the experimental design, methods to be used, data collection and analysis. The significance of the work in the radiologic sciences and to the applicant's future in academic radiology should be emphasized. The research/training plan should be thorough but focused and as brief as possible. Not to exceed two pages, including figures, tables, etc. Use 0.5" margins and size 11 Arial font. Additional pages may be included for the bibliography.

B. Research Profile:

Complete each section as indicated. The information you enter will be used to help match your proposal with study section members that have compatible interests, expertise and experience.

- Clinical, Translational, or Basic Science?
- Discipline (radiology, radiation oncology, medical physics), if physics, specify therapeutic, diagnostic, or nuclear):
- Modalities/Techniques:
- Procedures:
- Areas/Systems:
- Structures:
- Topics:

Please select up to *one* keyword (primary focus) within each category

Anatomic: Brain; Breast; Cardiac; Chest; Fetal; Gastrointestinal; Genitourinary; Head and Neck; Musculoskeletal; Spine; Vascular

Modalities: Brachytherapy; CT; Elastography; Gamma knife/Radiosurgery; IMRT/IGRT/SBRT; Magnetoencephalography; MRI; fMRI; MR spectroscopy; Nuclear medicine; Optical imaging; Proton therapy; Radiography; U/S

Techniques/Topics: Animal models; Computational biology; Drug/Device development; Genetics/Genomics Information Technology; Interventional Oncology; Molecular biology; Nanotechnology; Physics Quantitative Imaging; Radiation Biology; Stem cells; Theranostics; Vascular/interventional radiology

Research Type: Clinical research; Laboratory research; Outcomes research; Quality assurance/improvement; Research Synthesis/Meta-analysis; Technology Assessment; Translational research

C. Research Assurances

Will the project involve any of the following?

- human subjects (Y/N)
- vertebrate animals (Y/N)
- ionizing radiation/radioactive isotopes (Y/N)
- other, requiring institutional research assurance approval (recombinant DNA, etc) (Y/N)

Funded applicants will be required to submit appropriate forms before grant funds are released.

D. Location of Study:

In some cases, the applicant may be applying for a research/training position at an institution other than where he/she is enrolled in medical school. Indicate the location where the proposed research project is to take place (host institution). Information entered into the grant application from this point forward should refer to the host institution.

E. Resources and Environment:

Describe major equipment, laboratory, clinical, animal, office/computer, support services, education resources, and other facilities (simulation centers, survey cores, etc) that will be available for this project.

Section IV: Budget

A. Detailed Budget:

Although the Research Medical Student Grant will be used as salary support for the recipient, a complete budget will assist the study section reviewers in determining the project's scope and feasibility. The budget should be a complete and detailed listing of the costs associated with the proposed project, including equipment, supplies, materials and personnel (percentage of time or hours per week on planned activities, but not salary amounts). All direct costs and equipment costs should be included. Explain how costs not covered by this grant will be paid (departmental funds, etc). The RSNA Research & Education Foundation does not pay institutional overhead costs or indirect costs. Travel expenses for the RSNA Scientific Assembly and Annual Meeting may not be paid for by this grant.

B. Other Sources of Support (pending and received):

List all other sources of support applied for or received for this project. Include the applicant's name, the amount, and the date of receipt. Their contributions must be clearly indicated as in-kind, restricted or unrestricted support. Indicate the compatibility of such additional sources of support with the eligibility criteria and terms. (Supplementation of funding from other grant sources must be approved by Foundation staff if not described in the original research plan. Awards from other sources may be approved by Foundation staff if the investigator submits a satisfactory plan to address any budgetary overlap.)

C. Award Payment Information:

To facilitate fund disbursement if the grant is approved, please supply the payee information and mailing address - this information is available through the institution's research administration office. The institution will serve as the fiscal agent.

- Grant checks payable to:
- Grant checks sent to: (Include contact name, mailing address, phone number, and e-mail).

Section V: Letters

Letters of recommendation/support are not required or accepted; however, if equipment or supplies for the proposed study will be provided by a source other than the applicant's department (such as a commercial company), include a letter of intent/agreement from that source. Similarly, if the study involves significant collaboration with individuals other than the scientific advisor, include appropriate letters of agreement.

- No letter from scientific advisor or department chair
- Letters of intent should be included only from sources/collaborators outside the applicant's institution;
- Letters should be written to the grant applicant, not to RSNA
- Letters should address only the deliverables that will be contributed to the project (equipment/supplies, time/expertise, etc.)
- Letters should not include specific comments on the project or recommendations of the applicant
- Letters that do not conform to the above guidelines will be removed from the application

Section VI: Signatures

Enter the names and contact information for the department chair, scientific advisor (if applicable) and grant administrator. Download and print the completed signature page, obtain signatures, scan and upload the signed document.

Submit the Application Online

When all sections of the application have been completed and the signed signature page has been uploaded, click the "*Preview Completed Application PDF*" button, located at the top of the online grant application Table of Contents page, to view the compiled grant application. Make sure the data and uploaded documents have been formatted correctly. To submit the application, click the "*Send Completed Grant Application to RSNA*" link at the bottom of the Table of Contents page; there is no need to send a printed copy to the RSNA office.

Questions?

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