

PROGRAM ANNOUNCEMENT

ANNOUNCEMENT TITLE	ASTRO-AAPM Physics Resident/Post-Doctoral Fellow Seed Grant
AWARD YEAR	2025
MECHANISM	Seed Grant (SG)
PURPOSE	To foster and develop the research careers of residents and fellows interested in radiation oncology related basic, translational and/or clinical research.
SCOPE OF RESEARCH	<p>Any area of research that has the potential to advance the radiation oncology field. Specific areas of interest may include, but are not limited to:</p> <ul style="list-style-type: none"> • Basic, translational, and clinical research in the radiation therapy sciences. • Projects in which innovative techniques, new methods or special equipment leading to better patient care are developed. • Aspects of health care planning and delivery, including outcome evaluation studies (i.e., health services research-related activities). • Development of programs in health education relevant to the radiation therapy sciences. • Research to improve understanding of radiation effects on normal tissues, • Projects to better understand the pathogenesis of cancer cells alone and in the context of the tumor microenvironment.
AWARD TERM	1 year. One no-cost extension (NCE) may be considered by ASTRO at ASTRO's full discretion. However, the total project period may not exceed 2 years.
NUMBER OF AWARDS	2 awards. Applications to this Seed Grant program might also be considered for other active 2025-2026 Seed Grant opportunities.
AWARD BUDGET	Up to \$50,000 can be awarded to the selected applicant's training organization (Institution). This award does not support Facilities and Administrative Costs (indirect or overhead expenses).
APPLICATION DEADLINE	March 20, 2025; 11:59 PM Eastern time
EARLIEST START DATE	July 1, 2025
ELIGIBILITY	<p>The general eligibility criteria for this PA are listed in this section. Meanwhile, ASTRO has full discretion in any funding decision and is not obligated nor liable to issue any award to any eligible or ineligible applicants at any time.</p> <p style="text-align: center;">Eligible Organizations</p> <p style="text-align: center;">Higher Education Institutions</p> <ul style="list-style-type: none"> • Public/State Controlled Institutions of Higher Education Private Institutions of Higher Education <p style="text-align: center;">The following types of Higher Education Institutions are always</p>

encouraged to apply for ASTRO support as Public or Private Institutions of Higher Education:

- Hispanic-serving Institutions
- Historically Black Colleges and Universities (HBCUs)
- Tribally Controlled Colleges and Universities (TCCUs)
- Alaska Native and Native Hawaiian Serving Institutions

Asian American Native American Pacific Islander Serving Institutions (AANAPISIs)

Nonprofits Other Than Institutions of Higher Education

- Nonprofits with 501(c)(3) IRS Status (Other than Institutions of Higher Education)
- Nonprofits without 501(c)(3) IRS Status (Other than Institutions of Higher Education)

Foreign Institutions

- Non-domestic (non-U.S.) Entities (Foreign Institutions) are **not** eligible to apply.
- Non-domestic (non-U.S.) components of U.S. Organizations are **not** eligible to apply.

Eligible Individuals (Residents/Fellows)

Any candidate with the skills, knowledge, and resources necessary to carry out the proposed research as the Principal Investigator (PI) is invited to work with their mentor(s) and organization to develop an application for support.

Individuals from underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply for ASTRO support. Multiple PIs are **not** allowed.

- *Degree Requirements and Employment Status:* Applicants must hold a doctorate degree such as Ph.D., M.D./Ph.D., M.D., D.O., or other equivalent degrees(s) and must be enrolled in a U.S. residency or fellowship at the time of application.
- *Level of effort:* **PIs are required to commit at least 75% of their full-time professional effort to research during the term of the grant.** The remainder may be devoted to clinical or other pursuits consistent with the objectives of the grant.
- *ASTRO and AAPM Memberships:* The applicant must be a current and active ASTRO and AAPM member or have submitted an application for ASTRO and AAPM membership, as of the due date of the seed grant application. Visit the linked sites to apply for [AAPM](#) and [ASTRO](#) membership. If selected, the PI will be required to maintain their membership throughout the duration of the grant.

<p>COMMITMENT FROM THE APPLICANT</p>	<ul style="list-style-type: none"> • The applicant must designate a mentor at their Institution who will provide guidance and support for the research project. Mentors should be senior investigators with a minimum of R01 or equivalent level funding and provide a letter of support detailing their oversight and support. • ASTRO Meetings: If awarded, the PI is encouraged to attend at least one ASTRO Annual Meeting and AAPM Annual Meeting and present their research findings at the meetings.
<p>COMMITMENT FROM THE APPLICANT'S MENTOR</p>	<ul style="list-style-type: none"> • The mentor should be an accomplished investigator in the proposed research area and have a track record of success in training independent investigators. • The mentor should have sufficient independent research support to cover the costs of the proposed research project in excess of the allowable costs of this award. • The mentor must demonstrate, in writing, a commitment to the development of the applicant as a productive, independent investigator. It is expected that the mentor will meet with the PI at least weekly. <ul style="list-style-type: none"> • Applicants may also nominate co-mentors as appropriate to the goals of the program. • At least one mentor must be an active member of ASTRO and/or AAPM.
<p>COMMITMENT FROM THE APPLICANT'S AFFILIATED ELIGIBLE ORGANIZATION(S)</p>	<ul style="list-style-type: none"> • If awarded, the host department will act as the fiscal intermediary. The Institution will administer the funds to the PI, agree to the Terms of the Award, and be responsible for satisfying tax withholding, deposit and/or reporting requirements applicable to the payment of the award. The PI will be responsible for individual income taxes. The Institution will be required to provide sufficient additional funds to supplement salaries or supplies as needed for the research project. The Terms & Conditions for this Award are attached and should be shared with organizational officials before applications are submitted. • Any change in Institution, mentor, and chair or in the applicant's position that might affect their ability to successfully complete their training should be communicated as soon as possible to ASTRO so that appropriate action can be taken. • When a mentor at the grantee's Institution is to be replaced, the Institution must submit a letter from the proposed mentor documenting: 1) the need for substitution; 2) the new mentor's qualifications for supervising the project; and 3) the level of support for the applicant's career development. • Only 1 grant can support the proposed research project. If independent funding is obtained for the same scope of work selected by ASTRO for this award, the recipient must refuse either this or the competing award(s).

<p>APPLICATION GUIDELINES</p>	<p>Submission</p> <p>Applicants may submit one proposal. Applications are due by 11:59 pm Eastern time on March 20, 2025. Proposals will not be considered after the deadline.</p> <p>Application Content</p> <p>It is critical that applicants follow the instructions. Conformance to the requirements in this PA are required and strictly enforced. Applications that are out of compliance with these instructions may be delayed or not accepted for review.</p> <p>All materials must be prepared in English, single spaced, using a font size of 11 or 12 points. Smaller text in figures and charts is acceptable, once it is legible when the page is viewed at 100%. Arial or Times New Roman fonts are recommended. A minimum of one-half inch margins must be used on all page borders.</p> <ol style="list-style-type: none"> 1. Log in as an AAPM member; go to https://aapm.me/AAPRPD to start the online application. Upload the required documents prior to the deadline. 2. Applicant: Complete all required fields, and level of effort (%) that will be allocated to the proposed research project. 3. PI Demographics: Providing this information is optional and is not part of the review process. 4. Institution and Contacts: Provide the Institution name, address and type of organization and requested contact information of the mentor and signing official. 5. Scientific Abstracts, Impact Statement, Modalities and Common Scientific Outline (CSO) Codes: <ul style="list-style-type: none"> • Provide a general audience abstract (non-technical) (300 words max) and a technical abstract (500 words max) that concisely describe the background, rationale, specific aims, experimental approach including model system and statistical approach, anticipated outcomes and impact of the project. Note the general audience abstract will become public if the proposal is selected for funding, therefore, it should not include any proprietary information. • Impact Statement: Statement of Proposal’s Benefit to radiation oncology and medical physics research (200 words max). • Select all relevant Modalities and CSO Codes that best represent the proposed research. 6. Other Support: List any additional research support that the PI currently holds. Include Project Title, Funding Source, Project Status (i.e., Active or Pending), Award Number, Start and End Dates, Person Months, and describe any Overlap. 7. Research Assurances: Describe if the project involves Human Subjects and/or Vertebrate Animals, the status of IRB/IACUC approvals as applicable (e.g., approved, pending, exempt), use of recombinant DNA, biohazardous materials, genetically engineered organisms, or fetal tissue.
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8. Application Documents to upload:

- Research Plan (6-page limit): Project description to fit within the 1-year project period and should include:
 - o Background
 - o Preliminary data and figures (if applicable, but not required)
 - o Specific aims
 - o Experimental design/methods
 - o Statistical analysis plan
 - o Anticipated outcomes
 - o Potential pitfalls and alternatives
 - o Significance
 - o Future directions

References must be included but will not count toward the 6-page limit.

- Biosketches (5-page limit): The applicant and lead mentor must each submit a biosketch including a list of relevant publications and currently funded research projects. DoD and NIH formats will be accepted. Biosketches for collaborators and research support staff are not required.

- Budget and Budget Justification: Submit a detailed budget (can be prepared using the NIH budget form e.g. PHS 398) and Budget Justification with a breakdown and description of the estimated costs. ASTRO and AAPM will cover only direct costs. Funding cannot go towards supporting salaries of mentors or collaborators.

- Mentoring plan (1-page limit): A detailed mentoring plan from the applicant's mentor that outlines courses, lectures, meetings, and other ways to support the applicant and help increase likelihood of success must be included.

- Letters of support (2): Upload 2 letters of support. One must be from your mentor. The other can be from a collaborator. Letters of support from additional collaborators can be appended but are not required.

- Institutional letter of support: Upload a letter of support from the Institution or Department. This letter must indicate the level of commitment through matching funds or in-kind contribution from the Institution to this award. This letter should include a guarantee that the applicant will be afforded at least 75 percent protected time to perform research (to include this and other research projects).

12. Validate: Review entire proposal for missing required information

13. Signature Page: Before submitting the application, complete all fields within the signature page. A signature is required from the Applicant/PI, the primary mentor, and a Signing Official from the applicant's Institution. **Applications will not be considered for review if required signatures are missing.**

Applications to this Seed Grant program might also be considered for other active Seed Grant opportunities for the 2025-2026 funding cycle.

APPLICATION REVIEW

All proposals will undergo a rigorous peer review by the AAPM Grant Review Panel. Reviewers are representatives from AAPM and ASTRO. A study section consisting of researchers with expertise in the areas and topics of each grant will review the application for scientific merit and appropriateness for funding. Final decisions will be subject to the approval of the ASTRO and AAPM Boards of Directors. If no suitable candidates are found, no awards may be issued.

- Each proposal will be scored by at least three qualified reviewers.
- Individuals who submit an application in response to this RFP or are designated as key personnel, including the mentor of an applicant, may not review applications for this RFP.
- Reviewers will not score or discuss applications from their own institution or organization.

Review Criteria: In general, reviewers should evaluate the candidate's potential for making important contributions to the field of radiation oncology and breast cancer, taking into consideration the years of experience and the likely value of the proposed project as a vehicle for developing a successful, independent career. Selected proposals will have strong merit and impact, possess an innovative and transformative approach, and demonstrate potential for progression to the clinic or other significant impact.

Scored Review Criteria

Reviewers will score (rate 1-9) Factor 1 and 2 and will determine whether Factor 3 is sufficient or insufficient.

Factor 1: Importance of the Research*Significance*

- Evaluate the importance of the proposed research in the context of current scientific challenges and opportunities, either for advancing knowledge within the field, or more broadly. Assess whether the application addresses an important gap in knowledge in the field, would solve a critical problem, or create a valuable conceptual or technical advance.
- Evaluate the rationale for undertaking the study, the rigor of the scientific background for the work (e.g., prior literature and/or preliminary data) and whether the scientific background justifies the proposed study.

Innovation

- Evaluate the extent to which innovation influences the importance of undertaking the proposed research. Note that while technical or conceptual innovation can influence the importance of the proposed research, a

project that is not applying novel concepts or approaches may be of critical importance for the field.

- Evaluate whether the proposed work applies novel concepts, methods or technologies or uses existing concepts, methods, technologies in novel ways, to enhance the overall impact of the project.

Factor 2. Rigor and Feasibility

Approach. Evaluate the scientific quality of the proposed work. Evaluate the likelihood that compelling, reproducible findings will result (rigor) and assess whether the proposed studies can be done well and within the timeframes proposed (feasibility).

Rigor

- Evaluate the potential to produce unbiased, reproducible, robust data.
- Evaluate the rigor of experimental design and whether appropriate controls are in place.
- Evaluate whether the sample size is sufficient and well-justified.
- Assess the quality of the plans for analysis, interpretation, and reporting of results.
- Evaluate whether the investigators presented adequate plans to address relevant biological variables, such as sex or age, in the design, analysis, and reporting.
- For applications involving human subjects or vertebrate animals, also evaluate:
 - the rigor of the intervention or study manipulation (if applicable to the study design).
 - whether outcome variables are justified.
 - whether the results will be generalizable or, in the case of a rare disease/special group, relevant to the particular subgroup.
 - whether the sample is appropriate and sufficiently diverse to address the proposed question(s).

For applications involving human subjects, including clinical trials, assess the adequacy of inclusion plans as appropriate for the scientific goals of the research. Considerations of appropriateness may include disease/condition/behavior incidence, prevalence, or population burden, population representation, and/or current state of the science.

Feasibility

- Evaluate whether the proposed approach is sound and achievable, including plans to address problems or new challenges that emerge in the work. For proposed

studies in which feasibility may be less certain, evaluate whether the uncertainty is balanced by the potential for major advances.

- For applications involving human subjects, including clinical trials, evaluate the adequacy and feasibility of the plan to recruit and retain an appropriately diverse population of participants. Additionally, evaluate the likelihood of successfully achieving the proposed enrollment based on age, racial, ethnic, and sex/gender categories.
- For clinical trial applications, evaluate whether the study timeline and milestones are feasible.

Factor 3: Expertise and Resources.

Investigator. Evaluate whether the investigator(s) have demonstrated background, training, and expertise, as appropriate for their career stage, to conduct the proposed work.

Environment. Evaluate whether the institutional resources are appropriate to ensure the successful execution of the proposed work.

Additional Review Criteria:

As applicable for the project proposed, reviewers will consider the following additional items while determining scientific and technical merit and in providing an overall impact score, but will not give scores for these items:

Protections for Human Subjects

- For research that involves human subjects but does not involve one of the categories of research that are exempt under 45 CFR Part 46, the committee will evaluate the justification for involvement of human subjects and the proposed protections from research risk relating to their participation according to the following five review criteria: (1) risk to subjects, (2) adequacy of protection against risks, (3) potential benefits to the subjects and others, (4) importance of the knowledge to be gained, and (5) data and safety monitoring for clinical trials.
- For research that involves human subjects and meets the criteria for one or more of the categories of research that are exempt under 45 CFR Part 46, the committee will evaluate: (1) the justification for the exemption, (2) human subjects involvement and characteristics, and (3) sources of

	<p>materials. For additional information on review of the Human Subjects section, please refer to the NIH Guidelines for the Review of Human Subjects.</p> <ul style="list-style-type: none"> • When the proposed project involves human subjects and/or NIH-defined clinical research, the committee will evaluate the proposed plans for the inclusion (or exclusion) of individuals on the basis of sex/gender, race, and ethnicity, as well as the inclusion (or exclusion) of individuals across the lifespan (including children and older adults) to determine if it is justified in terms of the scientific goals and research strategy proposed. For additional information on review of the Inclusion section, please refer to the NIH Guidelines for the Review of Inclusion in Clinical Research. <p><i>Vertebrate Animals</i></p> <ul style="list-style-type: none"> • The committee will evaluate the involvement of live vertebrate animals as part of the scientific assessment according to the following criteria: (1) description of proposed procedures involving animals, including species, strains, ages, sex, and total number to be used; (2) justifications for the use of animals versus alternative models and for the appropriateness of the species proposed; (3) interventions to minimize discomfort, distress, pain and injury; and (4) justification for euthanasia method if NOT consistent with the American Veterinary Medical Association (AVMA) Guidelines for the Euthanasia of Animals. Reviewers will assess the use of chimpanzees as they would any other application proposing the use of vertebrate animals. For additional information on review of the Vertebrate Animals section, please refer to the NIH Worksheet for Review of the Vertebrate Animal Section. <p><i>Biohazards</i></p> <ul style="list-style-type: none"> • Reviewers will assess whether materials or procedures proposed are potentially hazardous to research personnel and/or the environment, and if needed, determine whether adequate protection is proposed. <p><i>Budget</i></p> <ul style="list-style-type: none"> • <i>Reviewers</i> will consider whether the budget is fully justified and reasonable in relation to the proposed research within the project period.
PROGRAM CONTACT	Email questions to grantsandfellowships@aapm.org