



**ASTRO Residents/Fellows in Radiation Oncology Seed Grants  
PROGRAM ANNOUNCEMENT**

<b>AWARD YEAR</b>	2024
<b>MECHANISM</b>	Seed Grant (SG)
<b>PA NUMBER</b>	SG-2024-01
<b>POSTED DATE</b>	October 1, 2023
<b>PURPOSE</b>	To foster and develop the research careers of residents and fellows interested in radiation oncology related basic, translational and/or clinical research.
<b>SCOPE OF RESEARCH</b>	<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"> <li>• Basic, translational, and clinical research in the radiation therapy sciences.</li> <li>• Projects in which innovative techniques, new methods or special equipment leading to better patient care are developed.</li> <li>• Aspects of health care planning and delivery, including outcome evaluation studies (i.e., health services research-related activities).</li> <li>• Development of programs in health education relevant to the radiation therapy sciences.</li> <li>• Research to improve understanding of radiation effects on normal tissues,</li> <li>• Projects to better understand the pathogenesis of cancer cells alone and in the context of the tumor microenvironment.</li> </ul>
<b>AWARD TERM</b>	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.
<b>NUMBER OF AWARDS</b>	<p>Up to one (1) award for each of the below grants will be awarded unless additional funds become available at ASTRO’s discretion.</p> <ul style="list-style-type: none"> <li>• ASTRO Residents/Fellows in RO Seed Grant</li> <li>• ASTRO Residents/Fellows in RO Biology Seed Grant</li> </ul> <p><b>Applications to this Seed Grant program might also be considered for other active Seed Grant opportunities for the 2024-2025.</b></p>
<b>AWARD BUDGET</b>	Up to \$25,000 can be awarded to the selected applicant’s training organization (Institution). ASTRO will not pay indirect costs as part of this award.

<b>APPLICATION DEADLINE</b>	February 23, 2024; 11:59 PM Eastern time (GMT -5)
<b>EARLIEST START DATE</b>	July 1, 2024

**ELIGIBILITY**

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.

***Eligible Organizations***

Higher Education Institutions

- Public/State Controlled Institutions of Higher Education
- Private Institutions of Higher Education

The following types of Higher Education Institutions are always 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. The remainder may be devoted to clinical or other pursuits consistent with the objectives of the grant.
- *ASTRO Membership:* The applicant must be a current and active ASTRO member, or have submitted an application for ASTRO membership, as of the due date of the proposal. If selected, the PI will be required to maintain their membership throughout the duration of the grant.

#### **COMMITMENT FROM THE APPLICANT**

- 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 present their research findings.

#### **COMMITMENT FROM THE APPLICANT'S MENTOR**

- 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.
- 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.

#### **COMMITMENT FROM THE APPLICANT'S AFFILIATED ELIGIBLE ORGANIZATION(S)**

- 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).

## APPLICATION GUIDELINES

### ***SUBMISSION***

All applications are due by 11:59 pm Eastern time on February 10, 2023. Proposals will not be considered after the deadline. Applications must be submitted online using the application tool and document templates and requirements therein at ProposalCentral:

<https://proposalcentral.com/ProposalGI.asp?SectionID=10793&ProposalID=-1>

Applicants must select **one** research focus area that best describes the scope of the research plan:

- Health Services/Health Equity/Disparities Focus
- Biology Focus
- Physics Focus
- Other Focus (not applicable to the above)

### ***Application Instructions***

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.

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.

1. **Title Page:** Enter the Project Title, Discipline of Research, Research Focus Area, Proposal Budget, and indicate whether you have other research funding.
2. **Templates and Instructions:** Download PA and templates.
3. **Enable Other Users to Access this Proposal:** Allow others (e.g., Institutional administrators or collaborators) to view, edit, or submit the proposal.
4. **Applicant:** Complete all required fields that include PI's name and contact information, ASTRO membership status and member ID, and level of effort (%) that will be allocated to the proposed research project.
5. **PI Demographics:** Providing this information is optional and is not part of the review process.
6. **Institution and Contacts:** Provide the Institution's name, address and type of organization and requested contact information of the mentor and signing official.
7. **Key Personnel: List and provide contact information for key persons.**
8. **Scientific Abstracts, Impact Statement, Modalities and Common Scientific Outline (CSO) Codes:**
  - Provide a general audience abstract (non-technical) (2,000 characters including spaces max) and a technical abstract (3,000 characters including spaces 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 research (1,000 characters including spaces max).
  - Select all relevant Modalities and CSO Codes that best represent the proposed research.
- 9. Other Support:** List any additional research support that the PI currently holds. Include Project Title, Funding Source, Project Status, Award Number, Start and End Dates, Person Months, and Overlap.
- 10. Research Assurances:** Indicate status of IRB/IACUC approvals as applicable, use of recombinant DNA, biohazardous materials, genetically engineered organisms, or fetal tissue.
- 11. Application Documents:** Upload the below required application documents.
- **Research Plan (6-page limit):** Project description to fit within the 1-year project period and should include:
    - ✓ Background
    - ✓ Preliminary data and figures (if applicable, but not required)
    - ✓ Specific aims
    - ✓ Experimental design/methods
    - ✓ Statistical analysis plan
    - ✓ Anticipated outcomes
    - ✓ Potential pitfalls and alternatives
    - ✓ Significance
    - ✓ 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 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.

**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.**

## APPLICATION REVIEW

All proposals will undergo a rigorous peer review by the ASTRO Grant Review Panel. Reviewers are members of the ASTRO Scientific Review Panel. 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 Board of Directors. If no suitable candidates are found, no awards may be issued.

**Review Criteria:** In general, reviewers should evaluate the candidate's potential for developing an independent research career that will make important contributions to the field of radiation oncology research, taking into consideration the likely value of the proposed research project to lead to submissions for larger grant applications. Selected proposals will have strong scientific merit and impact, and possess an innovative and transformative approach, and demonstrate potential for progression to the clinic.

### ***Overall Impact***

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the radiation oncology research field. In addition, Reviewers should provide their assessment of the likelihood that the proposed mentorship and research plan will enhance the candidate's potential for a productive, independent scientific research career, taking into consideration the criteria below in determining the overall impact score.

### ***Scored Review Criteria***

Reviewers will consider each of the review criteria below in the determination of scientific merit, and give a separate score for each. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

If the proposed research includes clinical study, the reviewers will consider that any clinical study may include study design, methods, and intervention that are not by themselves innovative, but address important questions or unmet needs. Reviewers should also consider the scope of the clinical study relative to the available resources.

### ***Significance***

- Does the project address an important problem or a critical barrier to progress in the field?
- If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved?

- How will successful completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?

#### *Candidate*

- Are the PI, collaborators/mentors well suited to the project?
- Does the candidate have the potential to develop as an independent and productive researcher?
- Are the candidate's prior training and research experience appropriate for this award?
- Is the candidate's academic, clinical (if relevant), and research record of high quality?
- Is there evidence of the candidate's commitment to meeting the program objectives to become an independent investigator in research?
- Do the reference letters address the above review criteria, and do they provide evidence that the candidate has a high potential for becoming an independent investigator?
- Does the candidate have the potential to organize, manage, and implement the proposed research?
- Does the candidate have training (or plans to receive training) in data management and statistics relevant to the proposed research?

#### *Mentoring Plan/Career Goals and Objectives*

- What is the likelihood that the plan will contribute substantially to the scientific development of the candidate and lead to scientific independence?
- Are the candidate's prior training and research experience appropriate for this award?
- Are the content, scope, phasing, and duration of the mentoring plan appropriate when considered in the context of prior training/research experience and the stated training and research objectives for achieving research independence?
- Are there adequate plans for monitoring and evaluating the candidate's research and career development progress?

#### *Research Plan*

- Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions?
- Are the concepts, approaches or methodologies, instrumentation, or interventions novel to one field of research or novel in a broad sense?
- Is a refinement, improvement, or new application of theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?
- Are the proposed research questions, design, and methodology of significant scientific and technical merit?
- Has the candidate included plans to address weaknesses in the rigor of prior research that serves as the key support for the proposed project?
- Has the candidate presented strategies to ensure a robust and unbiased approach, as appropriate for the work proposed?

- If relevant, has the candidate presented adequate plans to address relevant biological variables, such as sex, for studies in vertebrate animals or human subjects?
- Is the research plan relevant to the candidate's research career objectives?
- Is the research plan appropriate to the candidate's stage of research development and as a vehicle for developing the research skills described in the mentoring plan?
- If relevant, are the scientific rationale and need for a clinical, feasibility or ancillary study well supported by preliminary data, clinical and/or preclinical studies, or information in the literature or knowledge of biological mechanisms?
- If proposing a small feasibility study, is the study warranted and will it contribute to planning and preliminary data needed for design of future larger scale clinical trials?
- If relevant, is the clinical or ancillary study necessary for testing the safety, efficacy or effectiveness of an intervention, or in the case of a feasibility study necessary to establish feasibility of a future clinical trial?
- Is the study design justified and relevant to the clinical, biological, and statistical hypothesis(es) being tested?
- Are the plans to standardize, assure quality of, and monitor adherence to, the protocol and data collection or distribution guidelines appropriate?
- Are planned analyses and statistical approach appropriate for the proposed study design and methods used to assign participants and deliver interventions, if interventions are delivered?

*Mentor(s), Co-Mentor(s), Consultant(s), Collaborator(s)*

- Are the qualifications of the mentor(s) in the area of the proposed research appropriate?
- Does the mentor(s) adequately address the candidate's potential and strengths and areas needing improvement?
- Is there adequate description of the quality and extent of the mentor's proposed role in providing guidance and advice to the candidate?
- Is the mentor's description of the elements of the research career development activities, including formal course work adequate?
- Is there evidence of the mentor's, consultant's, and/or collaborator's previous experience in fostering the development of independent investigators?
- Is there evidence of the mentor's current research productivity and peer-reviewed support?
- Is active/pending support for the proposed research project appropriate and adequate?
- Are there adequate plans for monitoring and evaluating the career development of the candidate's progress toward independence through a detailed mentoring plan?
- Does the mentor or mentoring team have the expertise, experience, and ability to guide the applicant in the organization, management and implementation of the proposed research and help them to meet timelines?

*Environment & Institutional Commitment to the Candidate*



- Is there clear commitment of the sponsoring Institution to ensure that the required minimum of the candidate's effort will be devoted directly to the research described in the application, with the remaining percent effort being devoted to an appropriate balance of applicable research, teaching, administrative, and clinical responsibilities?
- Is the Institutional commitment to the career development of the candidate appropriately strong?
- Are the research facilities, resources and training opportunities, including faculty capable of productive collaboration with the candidate adequate and appropriate?
- Is the environment for scientific and professional development of the candidate of high quality?
- If applicable, are the administrative, data coordinating, enrollment and laboratory/testing centers, appropriate for the trial proposed?
- Does the application adequately address the capability and ability to conduct the proposed research at the proposed site(s) or centers? If applicable, are there plans to add or drop enrollment centers, as needed, appropriate?
- If international site(s) is/are proposed, does the application adequately address the complexity of executing the proposed research?

***Additional Review Criteria***

As applicable for the project proposed, reviewers will evaluate the following additional items while determining scientific and technical merit, and in providing an overall impact score, but will not give separate 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 materials. For additional information on review of the Human Subjects section, please refer to the [NIH Guidelines for the Review of Human Subjects](#).

*Inclusion of Women, Minorities, and Individuals Across the Lifespan*

- 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](#).

#### *Vertebrate Animals*

- 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](#).

#### *Biohazards*

- 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.
- For projects involving key biological and/or chemical resources, reviewers will comment on the brief plans proposed for identifying and ensuring the validity of those resources.

#### *Budget and Period of Support*

- Reviewers will consider whether the budget is fully justified and reasonable in relation to the proposed research within the project period.

#### **PROGRAM CONTACT**

- Email questions about this PA to ASTRO's Department of Scientific Affairs at [science@astro.org](mailto:science@astro.org).
- Technical questions about the ProposalCentral submission system should be directed to their customer support at 1-800-875-2562 or by email [pcsupport@altum.com](mailto:pcsupport@altum.com). Support is available during normal business hours: 8:30 am - 5:00 pm Eastern Time (Monday through Friday).

#### **OTHER INFORMATION**

The *Terms and Conditions* for this award are attached to this Program Announcement as a reference for organizational signing official.

## American Society for Radiation Oncology (ASTRO) Seed Grants Terms and Conditions

This document contains the Award Terms and Conditions ("Terms and Conditions") applicable to the ASTRO Residents/Fellows in Radiation Oncology Seed Grants. Please read these Terms and Conditions carefully. By accepting the award as set forth in the award letter ("Award Letter"), both the Principal Investigator and the Institution acknowledge that they have read, understand, and agree to comply with the Terms and Conditions herein.

### 1. **Conditions of the Award.**

As a condition of receiving the award ("Award") granted in the Award Letter, the Principal Investigator ("Principal Investigator") acknowledges, and the Institution ("Institution"), (collectively, the "Recipient") agrees to the Terms as follows.

- (A) Compliance: Recipient shall perform the research described in the submitted Research Proposal ("the Research") in full compliance with (i) all applicable laws and regulations; (ii) the Program Announcement; (iii) these Terms and Conditions, referenced herein or later modified with notice provided in writing per Section 1(D); (iv) the Award Letter; and (v) the Research Proposal.
  
- (B) Approvals: Recipient shall obtain ASTRO's written approval prior to making any significant changes to the Research Proposal. In addition, if the individual designated as the Principal Investigator in the Award Letter (i) ceases to conduct the Research; (ii) is unable to continue to serve as the Principal Investigator; or (iii) departs from, or is otherwise no longer affiliated with the Institution named in the Award, Recipient shall promptly notify ASTRO in writing of the same, and shall fully comply with ASTRO's written instructions regarding the continuation of the Research Proposal.
  
- (C) Progress Report: Recipient shall provide ASTRO with a final written report within thirty (30) days after completion of the Research Proposal. Recipient will use the progress report form provided by ASTRO and grants ASTRO permission to review, use, and retain such reports, in whatever manner ASTRO chooses in its sole discretion. The reports shall include, at a minimum, a substantive discussion of the following (in addition to any other items reasonably requested in writing by ASTRO):
  - i. Summary of expenditures, activities, and findings from the performance of the Research Proposal during the year.
  - ii. List of publications, presentations, conferences, Award IP (as defined below), additional funding received from other sources, and any similar professional activities and outcomes supported by the Award. "Award IP" is defined as any patentable invention, discovery, improvement, and/or other work product conceived and reduced to practice during the performance of the Research Proposal funded by the Award.
  - iii. Discussion of any collaborations with industry groups relating to the Research Proposal, if applicable.

(D) Notices:

1. Recipient shall promptly notify ASTRO in writing if any item in the below list occurs, whether during the award period, or after:
  - i. Findings, breakthroughs, or events of unusual interest funded with this award.
  - ii. Filing of an Invention Disclosure (or similar form) regarding any Award IP.
  - iii. Any monetization event that occurs regarding Award IP.
  - iv. Problems, delays, or adverse conditions that will or may materially affect the Research Proposal, its objectives, or time schedules or budget, together with proposed Recipient actions to address such problems, delays, or adverse conditions.
  - v. Expected or unexpected adverse events that negatively impacted the safety or wellbeing of any human or vertebrate animal subjects associated with the activities as described in the Research Proposal.
2. All notices to the parties shall, unless otherwise modified in writing and acknowledged in writing by the other party, be sent to the following addresses:

If to ASTRO:

American Society for Radiation Oncology  
Attn: Scientific Affairs  
251 18th Street South, 8th Floor  
Arlington, VA 22202  
science@astro.org

If to the Institution:

INSTITUTION  
ADDRESS  
CITY, STATE ZIP  
EMAIL

Any such notice, communication or delivery will be deemed given upon receipt. Notices sent via email (return receipt requested) are deemed to be official notice.

(E) ASTRO's Annual Meeting:

The Principal Investigator shall submit an abstract of their results to ASTRO's Annual Meeting at least once following completion of their research.

2. **Award Management and Payment.**

- (A) Distribution: Subject to each Recipient's compliance with the Terms and Conditions required herein, ASTRO will distribute the Award in one installment to the Institution at the beginning of the Award Term. The Award may only be used to fund the direct expenses of conducting the Research Proposal, and in no event may any portion of the Award be used for any indirect or overhead costs. Allowable expenses will be given the definition used by the [NIH Grants Policy Statement](#). Checks will be mailed to:

Attn:

- (B) No Cost Extensions: Requests for extensions of time beyond the end date of the Award must be made to ASTRO in writing thirty (30) days prior to the end date of the Award and must comply with ASTRO's written instructions. No additional funding will be made available for such extensions ("No Cost Extensions"). No Cost Extensions are granted on a case-by-case basis and in ASTRO's sole discretion, and typically will not be granted for a period in excess of 12 months. If a No Cost Extension is granted, ASTRO may request additional reporting from Recipient in connection with the Research Proposal similar to that reporting set forth in Section 1(C) above.
- (C) Budget Deviations: Significant changes to the award budget requests are granted on a case-by-case basis in ASTRO's sole discretion. Budget deviations of greater than 25% require written pre-approval by ASTRO.
- (D) Award Closeout: At the end of the Award Term, the Institution shall refund any unspent portion of the Award to ASTRO.

### 3. **Confidentiality.**

During the term of this agreement, certain confidential information ("Confidential Information") may be disclosed by Recipient (including Principal Investigator or Institution) to ASTRO or by ASTRO to the Principal Investigator and/or Institution. Each Disclosing Party agrees to clearly identify in writing any such information as "Confidential Information" to any Receiving Party. If Confidential Information is transmitted orally, Disclosing Party shall provide written notice within thirty (30) days indicating that such oral communication constitutes Confidential Information. Each Receiving Party agrees: (A) to take reasonable measures, but in any event, no less stringent measures than it uses to protect its own confidential information, to protect the Confidential Information of the Disclosing Party; (B) the Confidential Information shall remain the sole property of the Disclosing Party; (C) to restrict internal access to Confidential Information and will only disseminate such Confidential Information on a need to know basis, provided that representatives who receive such shall be bound by the confidentiality obligations set forth in this Section; (D) to use Confidential Information solely for the purpose of the Award; and (E) except as otherwise provided in these Terms and Conditions, not disclose such Confidential Information to any third parties. These confidentiality obligations shall not apply to information which is: (A) information known to the Receiving Party prior to receipt from or on behalf of the Disclosing Party; (B) information that is disclosed to the Receiving Party by a third person who has a right to make such disclosure without any obligation of confidentiality to the Party seeking to enforce its rights under this Section; (C) information that is or becomes generally known in the trade without violation of this Agreement by the Receiving Party or is or becomes public knowledge without breach of this award letter; (D) information that is independently developed by the Receiving Party or its employees or affiliates without reference to the Disclosing Party's information, or (E) information that is authorized for release in writing by the Disclosing Party.

### 4. **Institution Representations and Warranties.**

Institution represents and warrants to ASTRO to the best of its knowledge that the terms and conditions hereof do not and will not conflict with or violate any provision of the articles of incorporation, bylaws, limited partnership agreement or any similar instrument of Institution, as applicable, in any material way, and do not and will not conflict with, violate, or breach or

constitute a default or require any consent under, any contractual obligation or policy by which Institution is bound, including any agreements with or policies applied to its researchers, employees, contractors, or other sources of funding.

**5. Publications and Publicity.**

- (A) Publication: ASTRO anticipates that all scientifically significant results of the Research Proposal, whether negative or positive, will be published or otherwise publicly presented by Recipient. Any publication of research using the funding under the Award, unless otherwise requested by ASTRO, shall conspicuously acknowledge the support of the ASTRO Residents/Fellows in Radiation Oncology Biology Seed Grant. Recipient shall also acknowledge the ASTRO Residents/Fellows in Radiation Oncology Biology Seed Grant as a funding source in presentations reporting on research supported by the Award.
- (B) Release of Information: Copies of all publications, articles, abstracts, or presentations, whether written or oral, related to the Research Proposal shall be provided to ASTRO, subject to the rights of publishers or other third parties to the extent such rights have been communicated to ASTRO in writing by a Recipient, and ASTRO will be entitled to use, refer to, reproduce, and disseminate reprints of scientific, medical, and other published articles, subject to the rights of other third parties, directly relating to the Research Proposal or this Award, without any further compensation to any Recipient or any third party under applicable copyright law.
- (C) Publicity: Except as set forth in this section, neither party will use the name, symbols, or marks of the other party in any form of publicity without prior written consent of the other party; provided, however, that the Principal Investigator, Institution, and ASTRO may state factually on any of their websites and other materials the information authorized or approved per this Agreement. Furthermore, ASTRO may issue a press release and make public statements regarding the Award, the identity of the Recipient, Principal Investigator, and Institution and the general nature of the Award, its purpose, and the title and abstracts of any Research named as part of the Research Proposal. If a Party wishes to make any other press or other announcement or release relating to this Agreement, the Research Proposal, or the Research occurring under this Agreement, that Party will discuss with, and obtain advance written agreement from the other Party regarding the content, form and manner of the announcement or release. If, and to the extent that the announcement or release is required to be made by the Party by law or by a stock exchange regulation, the Party will notify the other Party, Principal Investigator, and Institution, as applicable, in advance of the announcement or release to the greatest extent possible.

**6. Other Award Obligations.**

- (A) Principal Investigator must agree to become a member of ASTRO by the time the award begins.
- (B) Recipient must obtain all relevant approvals [e.g. Institutional Review Board (“IRB”) or Institutional Animal Care and Use Committee (“IACUC”) approvals] for the conduct of human- or vertebrate animal-subject research before research can begin. Recipient must provide ASTRO with a copy of these approvals. ASTRO reserves the right to retract ASTRO

funds from the Recipient if the Recipient conducts human or vertebrate animal subject research without having obtained relevant approvals from regulatory bodies such as an IRB or IACUC.

- (C) Principal Investigator is expected to send an electronic high-resolution, 300DPI, 4-color photo (preferably 5x7 inches) and brief bio (~250 words) to ASTRO for use on the ASTRO website, *ASTROnews* and in other applicable ASTRO publications.
- (D) To assist ASTRO with tracking the Principal Investigator's career progression and impact of the Seed Grant program, Principal Investigator is expected to respond to ASTRO's related survey or email requests during or after the award period.
- (E) Site Visits: ASTRO and/or its authorized representatives reserves the right, with reasonable advance written notice and at a mutually agreed upon time, to conduct site visits, meet with Recipient personnel, and view any materials, equipment, or supplies purchased under the Award, as well as any financial records relating to performance of the Research Proposal, including without limitation, any records regarding the receipt and disbursement of the Award funds, to review and verify Recipient's compliance with the terms of the Award (including these Terms and Conditions). Recipient shall fully cooperate in any such audit or visit, and failure to provide such access shall constitute a material breach of Recipient's obligations.
- (F) Records: Recipient shall keep systematic and complete records on the receipt and disbursement of all Award funds and may not co-mingle any funds from other sources with the Award funds. Recipient shall retain all such records for a period of at least three (3) years after the expiration date of the Award Term (as defined in the Award Letter), or for longer period(s) as may otherwise be required by applicable law. Recipient shall make these records available to ASTRO for review or audit upon request.

## 7. Termination.

- (A) Termination: ASTRO reserves the right to terminate the Award immediately upon written notice if Recipient (i) is unable to complete the Research Proposal; (ii) terminates or suspends the Research Proposal; (iii) materially alters the Research Proposal; or (iv) violates applicable laws or standards, as determined in ASTRO's discretion. In addition, ASTRO may terminate this Award for breach of the Award Letter or these Terms and Conditions, if such breach is not cured within thirty (30) days of receipt of written notice thereof or immediately if such breach is deemed material or not subject to cure in ASTRO's reasonable discretion. Use of the Award grant for prohibited expenses shall be considered a breach of these Terms and Conditions. Furthermore, if the Principal Investigator departs from, or is otherwise no longer affiliated with, the Institution (each, an "Investigator Departure"), ASTRO reserves the right to terminate the Award with respect to any or all parties to the Award in its discretion.

The ASTRO Board of Directors reserves the right to modify or terminate the amount of funds granted under the terms of the ASTRO Award Program upon advance written notice.

- (B) Effects of Termination: In no event shall either Party be responsible for any lost profits or other lost opportunities arising from any early termination of this Award. In the event of early termination of the Award, the Institution shall promptly refund any unspent portion of the Award to ASTRO not associated with non-cancellable obligations in accordance with ASTRO's written instructions.
- (C) Transition Assistance: In the event of an Investigator Departure, the Institution agrees to assist ASTRO and/or its designee (which may include the Principal Investigator), with the orderly transfer of any of its obligations under the Research Proposal along with the Research Proposal to ASTRO's designee as expeditiously as possible, and to render all assistance reasonably requested by ASTRO and its designees in connection therewith.
- (D) Survival: In addition to any provisions that by their nature survive expiration or termination of the Award, Section 1(C)-(D), 3-6, 7(C)-(D), and 8-10 shall survive the termination or expiration of the Award for any reason.

#### 8. **Indemnification and Liability.**

- (A) ASTRO Disclaimer: ASTRO IS A PASSIVE GRANTOR AND HEREBY DISCLAIMS ALL WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE AWARD OR THE RESEARCH PROPOSAL. UNDER NO CIRCUMSTANCE SHALL ASTRO BE LIABLE FOR, AND RECIPIENT WAIVES ANY AND ALL LIABILITY AGAINST ASTRO FOR, ANY DAMAGES ARISING FROM OR IN RELATION TO THIS AWARD, THE RESEARCH PROPOSAL, OR THE USE OF THE RESEARCH RESULTS (WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, BY STATUTE, REGULATION OR OTHERWISE).
- (B) Indemnification: Institution agrees to indemnify, defend, and hold harmless ASTRO, its officers, directors, personnel, and agents from and against any and all actual and alleged liabilities, damages, losses, claims, or expenses (including court costs and reasonable attorneys' fees), resulting from or arising in connection with the grant of this Award or the performance of the Research Proposal, including without limitation, any claims brought by or on behalf of a third party such as subjects participating in any Research Proposal.

ASTRO and Institution each shall maintain insurance in adequate amounts and coverage to fulfill its obligations hereunder. This provision shall survive the expiration or earlier termination, for any reason, of the Award Term.

#### 10. **Miscellaneous Provisions.**

- (A) Force Majeure: Neither Party shall be liable for any failure to perform any obligations under the Award if such failure results from causes beyond its reasonable control, including, but not limited to, war, sabotage, insurrection, riots, civil unrest, fires, flood, epidemics, earthquake, or other similar occurrences (including any mechanical, electronic, or communications failure, but excluding failure caused by Institution's own financial condition or negligence). If a Party is unable to perform any obligations under the Award pursuant to this provision, the affected Party shall give immediate written notice to the other party.



- (B) Governing Law: This Agreement will be governed by and construed in accordance with the laws of Virginia, without giving effect to its principles or rules of conflict of laws to the extent such principles or rules would require or permit the application of the laws of another jurisdiction.
- (C) Amendments: ASTRO may, with mutual written agreement with Institution, amend or add to these Terms and Conditions.
- (D) Nature of Relationship: Nothing in these Terms and Conditions or the Award Letter shall constitute a partnership or joint venture or establish a relationship of agency between or among ASTRO and any Recipient. No employee of ASTRO or any Recipient shall be considered to be an employee of any of the others, and neither ASTRO nor Recipient shall enter into any contract or agreement with a third party that purports to obligate or bind any of the others.
- (E) Waiver of Default or Breach: Failure to enforce the rights hereunder, regardless of the length of time such failure continues shall not constitute a waiver of those or any other rights.
- (F) Assignment: The Award Letter or Award may not be assigned or transferred without ASTRO's prior written consent, and any attempted transfer or assignment in violation of the Award Letter or these Terms and Conditions shall be void and of no force or effect.
- (G) Entire Agreement: These Terms and Conditions, along with the Award Letter, the terms and conditions of the Program Announcement, and the Research Proposal, which are incorporated by reference into these Terms and Conditions, constitute the full agreement of the parties as it relates to the Award. In the event of any inconsistency between the Terms and Conditions and the Award Letter, the terms of the Award Letter shall govern and control.
- (H) Severability: Should any term or condition of the Award or these Terms and Conditions be determined to be unlawful by a court of law or adjudicative body with jurisdiction over the parties, the remainder will continue to remain in force and effect and shall be interpreted to best effect the original intentions of the parties.

**ACKNOWLEDGEMENT:**

I, the Principal Investigator, acknowledge that I have read and understood the terms and conditions of this ASTRO Seed Grant and understand my obligations to comply therewith. I authorize ASTRO's use of my name, likeness, and personal information as set forth in the Terms and Conditions. I WAIVE ANY CLAIMS AGAINST ASTRO, ITS DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS RELATED TO THE AWARD OR ANY PROJECT ASSOCIATED WITH THIS AWARD.