PILOT RESEARCH GRANT

PURPOSE

The Pilot Research Grant is designed to fund research in areas identified by SIR Foundation as important to the advancement of interventional radiology and patient care. SIR and SIR Foundation believe in promoting a culture of inclusion and strengthening the specialty of interventional radiology (IR) through different perspectives.

AWARD

Grant funding up to $35,000.

NATURE OF PROJECTS

Projects are typically pilot or seed grant-type projects that test a new idea or help support a new area or direction of research in interventional radiology. These grants generally address a specific hypothesis and generate preliminary data that could be used to justify or strengthen subsequent comprehensive applications to national peer-reviewed funding agencies. These grants may be issued to support the initial research efforts of faculty as well as those who have limited research experience.

EXAMPLES OF RESEARCH TOPICS

Projects may include but are not limited to topics such as:

- Advanced Imaging to aid with interventions / Artificial Intelligence in IR
- Non-oncologic pain palliation with needle-based interventions
- Biliary Interventions / Endoscopy
- Amputation in underserved populations as well as racial disparities in CLI
- Education in the era of virtual learning

ELIGIBILITY

Applicants must be a current member of the Society of Interventional Radiology. Grants are available to full-time interventional radiology faculty and trainees with an MD, DO, PhD, or equivalent degree (does not include residents) in educational institutions within the United States and Canada. Applicants should be individuals who have not yet been recognized as independent investigators or recipients of major grant support (i.e., current grants exceeding $50,000). Applicants must be within the first five years of their initial faculty appointment after having completed all of the formal training. Only applicants holding a position up to and including assistant professor level at the time will be considered.

Applications will be accepted from citizens of the United States or Canada or those who have permanent resident status therein. Permanent residents must submit documentation of their status. If an applicant is at an institution in the US or Canada and is on a visa, a letter from the department chair (for faculty applicants) or fellowship director (for trainee applicants) guaranteeing completion of the project will be required.

APPLICATION DEADLINE
Applicants are to submit their completed application via the online form found at: **http://apply.sirfoundation.org/**.

Applications are due by close of business day on January 15, 2022. The deadline remains whether or not the date falls on a weekend and/or holiday. Applications that are not completed or do not comply with the guidelines, will be withdrawn.

NOTE: Applicants who wish to take advantage of the Proposal Development Form, must submit the initial application by June 30, 2021 to receive feedback.

REVIEW PROCESS
Completed applications will be distributed to the members of the SIR Foundation Grant Review Study Section.

A primary and secondary reviewer will be assigned based on their expertise in the particular area of the proposed investigation. A Study Section will be held at the SIR Annual Scientific Meeting. All applications will be discussed, and funding recommendations will be made during this study section. Funding recommendations will be taken to the SIR Foundation Board and final decisions will be made in the weeks following the SIR Annual Scientific Meeting. Applicants will be notified in writing of the SIR Foundation's final funding decision.

Funding decisions are based on the overall impact/priority score which reflect assessment of the likelihood that the project will facilitate the establishment of a record of independent research by the investigator, promoting a successful academic career. The review process and scoring guidelines are modeled on the NIH scoring system.

1. **Significance**. Does the project address an important problem or a critical barrier to progress in the interventional radiology? 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 interventional radiology?

2. **Investigator**. Are the PI, collaborators, and other researchers well suited to the project? If Early Stage Investigators or New Investigators, or in the early stages of independent careers, do they have appropriate experience and training? If established, have they demonstrated an ongoing record of accomplishments that have advanced interventional radiology?

3. **Innovation**. 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?

4. **Approach**. Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project? Are potential problems, alternative strategies, and benchmarks for success presented? If the project is in the early stages of development, will the strategy

establish feasibility and will particularly risky aspects be managed? If the project involves clinical research, are the plans for 1) protection of human subjects from research risks, and 2) inclusion of minorities and members of both sexes/genders, as well as the inclusion of children, justified in terms of the scientific goals and research strategy proposed?

5. **Environment**. Will the scientific environment in which the work will be done contribute to the probability of success? Are the institutional support, equipment and other physical resources available to the investigators adequate for the project proposed? Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?

In addition, the review committee will take the following factors into consideration:

Protection of human subjects. For research that involves human subjects, 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

Inclusion of Women, Minorities, and Children. When the proposed project involves clinical research, the committee will evaluate the proposed plans for inclusion of minorities and members of both genders, as well as the inclusion of children

Vertebrate Animals. The committee will evaluate the involvement of live vertebrate animals as part of the scientific assessment according to the following five points: 1) proposed use of the animals, and species, strains, ages, sex, and numbers to be used; 2) justifications for the use of animals and for the appropriateness of the species and numbers proposed; 3) adequacy of veterinary care; 4) procedures for limiting discomfort, distress, pain and injury to that which is unavoidable in the conduct of scientifically sound research including the use of analgesic, anesthetic, and tranquilizing drugs and/or comfortable restraining devices; and 5) methods of euthanasia and reason for selection

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.

Resubmission. For Resubmissions, the committee will evaluate the application as now presented, taking into consideration the responses to comments from the previous scientific review group and changes made to the project.

Budget and Period of Support. Reviewers will consider whether the budget and the requested period of support are fully justified and reasonable in relation to the proposed research.

Letters of support. Letters of support from industry and/or memorandums of understanding with collaborators will be taken into consideration.

PAYMENT SCHEDULE
Upon submission of a fully executed grant agreement, awarded funds will be transmitted to the institution for support of the grant recipient and the project. Funds will be distributed in three installments: 50% at the start of the project, 40% upon receipt and approval of the six-month progress report, and 10% upon receipt and approval of the final report in manuscript format.

APPLICATION PROCEDURES
The application must contain a detailed research plan and a one-year budget for the planned research with all other funding sources indicated. All funds requested in the application must be fully justified. Insufficient justification or failure to describe completely the sources and use of other funds available to the investigator will result in deferral or disapproval of the application.

A letter from the department chair (for faculty applicants) or fellowship director (for trainee applicants) must be provided that indicates approval of application, comments on the merit of the project, and explains the extent to which the department is supporting the applicant's research in terms of funding and/or available facilities. It is important that the letter indicate commitment to provide protected research time and support the salary of the applicant during the research period.

The application must be submitted electronically through the online application found at **http://apply.sirfoundation.org/** by **January 15, 2022**. Applications must be submitted in PDF format. Incomplete applications and those submitted after the deadline of **January 15, 2022** will not be reviewed.

NOTE: Those applicants wishing to enhance the competitiveness of their proposal are encouraged to take advantage of the Proposal Development Form to obtain external input on the fundamentals of grant writing and how to maximize the impact of their research program. The form must be submitted by June 30, 2021 to receive feedback.

REPORTS
An Interim Progress Report (IPR) is required after the first six (6) months of the project. The interim progress report must be submitted electronically through the online forms found at **http://apply.sirfoundation.org/.** This report should be a one-page synopsis of the progress, unforeseen problems, and results to date.

Included with the report should be a cover letter that:

1. States the specific aims/goals of the research project and summarizes the results to-date relating to each specific aim/goal (all supporting data should be included, if applicable);
2. Indicates the significance/possible clinical impact of the results;
3. States whether the results will be submitted for possible publication, and if so, to what journal;
4. Indicates whether results will be used to apply for additional funding from other sources, and if so, the funding agency and date of application (should be included).
5. When uploading your Interim Progress Report (IPR) to our online forms, you must save your Interim Progress Report using the naming convention below. The year should be the year that you were awarded.
    a) 2022_IPR_Pilot_Mary Johnson

A final written report must be submitted within sixty (60) days of the project's completion.
The Final Progress Report (FPR) must be submitted electronically through the online forms found at **http://apply.sirfoundation.org/**.

The Final Progress Report (FPR) should include the following, as applicable:

1. A Statement of the accomplishments/outcomes of this grant
2. The current and future impact (e.g. success stories, statistics, benefits to patients, staff, and/or community)
3. The use of this award to leverage other funding
4. An account of any unexpended funds and/or major modifications of the budget.
5. Include Signature of Principal Investigator/Program Director's name, Signature of Authorized Institutional Official, and Date.
6. When uploading your Final Progress Report (FPR) to our online forms, you must save your Final Progress Report using the naming convention below. The year should be the year that you were awarded.
    a) 2022_FPR_Pilot_Mary Johnson

PRESENTATIONS/PUBLICATIONS

It is strongly suggested that recipients submit their work primarily to JVIR or to the SIR Annual Scientific Meeting. Requests to submit to other meetings or journals will be entertained. Such requests should be made in writing to the Director of Research at SIR Foundation's address and include the reason why submission to the alternate meeting or journal is more appropriate. All posters, oral presentations, and publications must contain appropriate acknowledgement of SIR Foundation's support.

NO-COST EXTENSION

An extension of the term of the grant may be requested for up to twelve (12) months beyond the original ending date of the grant. The approval of an extension does not include the award of additional funds. A maximum of two 1- year extensions may be requested.

The request for a no-cost extension must be made in writing to the Director of Research at SIR Foundation's address before the expiration of the original grant period. The request must include the reason for the extension, the length of the extension (not to exceed twelve (12) months), and a brief project progress report, including to date findings, problems encountered, presentations/publications resulting from the work, and budget expenditures. The request must be co-signed by the department chair, fellowship program director or other authorized institutional official.

Other requests for changes to the terms of an award should also be addressed to the SIR Foundation Director of Research with similar documentation and institutional approvals.

MODIFICATION OR TERMINATION OF SUPPORT

SIR Foundation reserves the right to modify or terminate the amount of any funds granted under the terms of the Pilot Research Grant. Generally, such action would be based on the awardee's receipt of support from sources other than SIR Foundation which might (1) limit the ability of the recipient to

successfully complete the terms of the award or (2) obviate the recipient's need for funding from SIR Foundation.

In the event that the awardee relocates to a different institution, a request in writing to relocate the grant to the new institution may be made to the Director of Research at the Foundation's address. SIR Foundation will continue project funding provided the awardee is guaranteed support, protected research time, and adequate equipment/facilities from the new institution (i.e., letter from department chair) as well as IRB approvals, if applicable. If the new institution cannot provide the necessary support or IRB approvals for the project, the original institution may appoint a new principal investigator, with SIR Foundation's approval, to complete the project. If the project cannot be completed at the new or the original institution, then all unexpended funds must be returned to SIR Foundation.

AWARD EXPENSES

Budget expenses can be used for materials and supplies, equipment, service function charges (e.g., pathology costs, animal per diem charges, reasonable imaging machine time, etc.), salaries for research assistants/technicians working on the proposed project, and publication costs.

Travel expenses, faculty salaries, consulting expenses, institutional indirect/overhead costs, construction expenses, and secretarial or office expenses will also not be funded.

If the project involves the use of human subjects, animals, radioisotopes, or biohazards, documentation of approval from the appropriate institutional review board(s) (IRB) must be provided before an award can be funded.

Any unused funds must be returned to SIR Foundation.

Grant recipients will not be eligible for concurrent support through other SIR Foundation Research Grants.

GRANT APPLICATION FORMAT

When uploading your grant application to our online forms you must save your grant application using the naming convention below.

2022_APP_Pilot_Mary Johnson
2022_APP_Ring_Mary Johnson
2022_APP_Academic Transition_Mary Johnson
2022_APP_Funding Source_Mary Johnson
2022_APP_Resident Grant_ Mary Johnson
2022_APP_Culp_Mary Johnson
2022_APP_Allied Scientist_Mary Johnson

If you have a resubmission you must save your grant application using the naming convention below.

2022_APP_Resubmission1_Pilot_Mary Johnson
2022_APP_Resubmission2_Pilot_Mary Johnson

All the items detailed below must be included in the application before it will be considered. The format should follow the guidelines used for NIH applications and an example is posted on the SIR Foundation website.

I. Title Page:

A. Title of research project;
B. Lay statement of the proposed research project and its relevance to interventional radiology; C. Name, faculty position, and department of principal investigator, as well as other professional personnel collaborating in the research project;
D. Brief abstract (ten [10] to twenty [20] lines), with keywords underlined; E. Beginning and termination dates of proposed expenditures;
F. Total funding requested;
G. Signatures of principal investigator and department chair or fellowship program director;
H. Contact information (name, address, phone, fax, email) for the grants office at the principal investigator's institution.

II. Description of Research Plan: The applicant must present his/her research logically and clearly and show that the proposed research is meaningful. (LIMIT—SIX (6) PAGES FOR SECTIONS A-D)

A. 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 clinical practice, address a critical barrier to progress in the field, or develop new technology. (0.5 pages)

NOTE: The Proposal Development Form is intended to specifically address the creation of an effective Specific Aims page. The deadline for assistance using this program is June 30, 2021.

B. Research Strategy:
Organize the Research Strategy in the specified order and using the instructions provided below. Start each section with the appropriate section heading – Significance, Innovation, Approach. Cite published experimental details in the Research Strategy section and provide the full reference in the References Cited section

Significance. Explain the importance of the problem or critical barrier to progress in interventional radiology. Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in interventional radiology or other fields. Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive interventional radiology will be changed if the proposed aims are achieved. (0.5 pages)

Innovation. Explain how the application challenges and seeks to shift current research or clinical practice paradigms. 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.(0.5 pages)

Approach. Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted. Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims. If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work. Point out any procedures, situations, or materials that may be hazardous to personnel and precautions to be exercised. (3-4 pages)

If an applicant has multiple Specific Aims, then the applicant may address Significance, Innovation and Approach for each Specific Aim individually, or may address Significance, Innovation and Approach for all of the Specific Aims collectively.

Preliminary studies are NOT required, but can help to establish the likelihood of success of the proposed project, which may influence the overall impact of the application. If applicable, include preliminary studies within the Research Strategy section, within one or more of the three sections listed above: Significance, Innovation, and Approach. If included, discuss the PI's preliminary studies, data, and or experience pertinent to this application.

C. Human or Animal Subjects, Radioisotopes, and Biohazards: Provide documentation that the institution has approved all proposed human, animal, radioisotope, and biohazard use;

D. Budget Proposal: List budget items in the following main categories and give details and justification of the items in each category;

1. Consumable supplies including animal purchase costs;
2. Equipment: Identify each item, show unit cost, and explain why it cannot be borrowed;
3. Other expenses (only those service costs essential to the conduct or reporting of the research);
4. Funds to support the salary of technicians, students, or support personnel working on the project may be requested, but they must be well justified;
5. Total budget.

E. Other Support: Describe all funding currently available to the applicant as well as any pending grant support, and describe the relationship these funds may have to the proposed research;

F. Literature Cited.

III. Supporting Materials:

A. Resources: Describe the facilities available for conduct of the proposed research including lab space, equipment, computers, technical support, etc.

B. Brief biographical sketch of all investigators, specifically following the NIH format (Not to exceed five pages for each investigator).

C. A cover letter that indicates if the applicant is considering a larger project or research opportunity (i.e. potential NIH, NSF, ACS, AHA funding) and how the preliminary data from this project will support potential future funding from other larger funding agencies (i.e. government agencies such as the NIH or NSF, industry, or non-profit organizations).

D. A letter from the Department Chair that:

1. Indicates approval of application;
2. Comments on the merit of the project;
3. Explains the extent to which the department is supporting the applicant's research in terms of funding, protected research time, technical support, and available facilities. It is important that the chair's letter indicate commitment to support the salary of the applicant during the research period.

E. Letter(s) of confirmation from company(s) providing materials needed to complete the proposed research.