

THE FOUNDATION OF THE ASNR



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PROSPECTUS:

◆ *Neuroradiology Research Grant in Artificial Intelligence*

POLICIES AND PROCEDURES

PURPOSE

The Foundation of the ASNR Research Grant in Artificial Intelligence is created to provide a funding opportunity for investigators who are not fully established as neuroimaging researchers and who are interested in the emerging field of artificial intelligence in neuroradiology. Scientific research remains the foundation upon which the clinical practice of neuroradiology is built, and artificial intelligence is likely to have a transformative influence on the field of neuroimaging. Researchers in artificial intelligence will become the leaders who develop and translate this emerging technology into the routine clinical care of patients and go on to obtain extramural funding to support their research program. The overarching goal of this grant initiative is to foster the growth of individuals in this important and rapidly evolving field of artificial intelligence.

Although any research in the field of artificial intelligence will be considered, the award emphasizes the application or translation of artificial intelligence methodology into neuroimaging practice including work flow, health services and access, diagnosis, treatment management, outcome assessment, prognostication, and biomarker development.

ELIGIBILITY

A candidate must be a member of ASNR in good standing with an MD or DO degree, and must be board-certified or board-eligible in Radiology by either the American Board of Radiology or the Royal College of Physicians and Surgeons of Canada (RSPSC). A candidate must have completed a residency in Diagnostic Radiology and at least one year in an ACGME-approved fellowship in neuroradiology during the award period. Junior faculty are encouraged to apply. In some circumstances, the award may be appropriate for mid-level faculty wishing to alter their research path. The award is not intended for established or senior investigators. Ideally, the candidate should have access to a mentor with working knowledge of artificial intelligence, both machine learning and deep learning. If the AI mentor is not a senior ASNR member, then the candidate should seek additional mentorship from an ASNR senior member, who can assist as an overall project supervisor. Attendance to the ASNR/ASFNR AI workshop and/or active participation to the activities of the

ASNR study group are encouraged.

RESEARCH AWARD ACTIVITIES

- A. The award will initially be approved for one year. A second year no cost extension may be requested during the third quarter of the first year of the award. Approval for the no cost extension will depend on a successful demonstration of research progress.
- B. Preference will be given to innovative proposals in the field of artificial intelligence (i.e. machine learning and/or deep learning) that are considered likely to have a transformative role in neuroradiology practice. Projects that demonstrate how the translation of this emerging technology into neuroradiology practice in ways that provide quantitative metrics that may be used to support evidence-based medicine and precision health are encouraged. Research in artificial intelligence may involve any aspect of neuroradiology and may, for example, include projects related to clinical work flow and health services, diagnosis, treatment management and risk stratification, outcome metrics and prognosis, and technology assessment including biomarker development and the evaluation of interventional and therapeutic procedures in neuroradiology.
- C. The research proposal must have a clearly stated, testable hypothesis and well-developed aims.
- D. An itemized budget is required as part of the award proposal submission. Funds (up to the maximum of the award) may be apportioned as required by the investigator, but must be briefly justified in the application. Examples of fund use might include: (i) salary support for protected research time for the investigator, (ii) salary support for associated staff (e.g. research assistants and/or PhD collaborators), (iii) appropriate equipment and/or scanner time access, and combinations of the above, (iv) IT resources to run AI project.**
- E. During the tenure of the award, which is considered as a career development award, the recipient must have access to and participate in an organized core-training program, to include such topics as AI, biostatistics, experimental design, epidemiology, image processing, and preparation of scientific papers and grants. A plan and schedule to carry out this training must be provided in the original award application, and will be strongly considered in selecting the award recipient. Sources for this training may include institutional programs available to physicians and scientists within the institution, RSNA courses in writing papers or grant writing and design, and personal instruction by the mentor. Participation in workshops on artificial intelligence either through the American Society of Neuroradiology (ASNR) or the American Society of Functional Neuroradiology (ASFNR) are strongly encouraged.
- F. The applicant will need a mentor who is an ASNR *Senior* Member with expertise in advanced neuroimaging research and preferably with good working knowledge in artificial intelligence. The mentor will help guide the project and must be willing to assume responsibility for its performance and completion. Alternatively, an applicant may have a non-ASNR *Senior* Member as a mentor who is an expert in the field of artificial intelligence but still needs the mentorship of an ASNR *Senior*. Letters of support from all mentors are needed.

- G. The ultimate goal of this program is to prepare awardees for careers as independent investigators with a long-term goal of sustained federal or foundation funding. Applicants and their mentors should carefully review the requirements for extramural funding including NIH awards, for example K series on the following website: <http://grants.nih.gov/>, and discuss the time commitment required with their department chairman, before submitting the application for the Foundation awards. Preference will be given to those projects which demonstrate potential for external funding beyond the Foundation funding period.

LOCATION OF STUDY

- A. Strong consideration will be given to applicants from departments and institutions that show a commitment to the applicant's career development.
- B. The parent institution must demonstrate adequate resources and facilities to carry out the terms of the project. Specific involvement by experts in artificial intelligence whether within or outside of Radiology is needed, and applications without such a guarantee will be viewed less favorably. A letter of support from the Department Chairman is required.

CONDITION OF APPOINTMENT

- A. The total award amount is up to \$60,000 per year (direct costs only), which will be paid in two equal installments on July 1st and January 1st of the year of the award. **Any portion of the award not utilized should be returned to The Foundation of the ASNR.** The proposed allocation of award resources (salary support and other research costs) should be specified in a detailed line-item budget submitted with the full proposal.
- B. The funding will go directly to the Institution or the department of Radiology as direct costs only. No overhead or indirect costs are provided.
- C. Bi-yearly updates due on the 1st of January and the 1st of July within the year of the award cycle must be submitted in writing to The Foundation of the ASNR. These are not to exceed one page. The progress report should summarize the specific aims and the progressed achieved, explain any significant changes to the specific aims, new directions to be undertaken due to those changes, and expenditures to date. Any publications, patents, or other material related to the funded research should be included on a separate page and submitted separately. The final report should include the above with the additional summary if a publication, patent, or grant is being or will be prepared using the results obtained from this Foundation grant. In the final report, a second page should be submitted separately describing the clinical impact of the results of the research, the strengths and weakness of the grant program, and the role that the Foundation or ASNR had, has, or might have in their future. In addition, a Return on Investment Survey will be emailed to recipient 3 and 5 years after receiving grant.
- D. Award recipients are encouraged to present their research at the ASNR 58th Annual Meeting in Las Vegas, Nevada, 30th May to 4th June 2020.
- E. The *American Journal of Neuroradiology (AJNR)* welcomes the best science and encourages

publication submissions to *AJNR* before considering other journals.

- F. Applicants who have held any of the Foundation of the ASNR Research Awards, the RSNA Research Scholar, Research Fellow, or Research Seed Grant Award, GERRAF, or ARRS Grant Award in the past must declare their previous awards on the application. The applicant is considered ineligible if they are or will concurrently be holding any of previously mentioned grants, while applying to or holding a grant from the Foundation of the ASNR.
- G. **Note: while institutional IRB approval is not required at the time of award proposal submission, IRB approval must be submitted to ASNR before fund disbursement for all award recipients.**
- H. **No award will be made without prior confirmation from the Program Director or Department Chair that the applicant's proposal will be supported in full by the host institution.**
- I. This award may be transferred to another institution, following approval by The Foundation of the ASNR for the designated individual, provided the new institution abides by the original agreement and the awardee is able to carry out the proposed work in the new setting. This request must be submitted in writing to The Foundation of the ASNR at least 30 days prior to the transfer. Each institution sponsoring the awardee will receive a portion of the funding that is in proportion to the length of time that research was performed at their institution. In the event that a decision is made by The Foundation of the ASNR not to allow transfer of the award to another institution, the original institution sponsoring the awardee will receive funds that are proportionate to the length of time the research project was performed at that institution.
- J. The award is not transferable to another individual.

SELECTION METHOD

- A. Awards will be designated and administered by The Foundation of the ASNR.
- B. The Research Committee of the ASNR, or its designate, will provide review and recommendations to the Foundation for the recipient of the award. Preference will be given to innovative research proposals that are felt likely to advance the field of artificial intelligence in its application to neuroradiology and neuroscience.
- C. Applications from senior and junior scientists will not be reviewed separately, but special consideration will be given to applicants who are within 5 years of their doctoral degree.

APPLICATION SCHEDULE

- A. The deadline for receipt of letters of intent is 9:00 AM Central Standard Time (CST), Monday, November 5, 2018. These should be one-page abstracts of the research proposal, submitted electronically to Theresa Espinosa at tespinosa@asnr.org
- B. The deadline for receipt of full proposal submissions is 9:00 AM Central Standard Time (CST), January 21, 2019. Full proposals should also be submitted via asnr.smapply.io
- Please visit <https://asnr.smapply.io> to submit your application by creating an account or logging-on and selecting the Artificial Intelligence Award.
- C. Selection of award recipients will be in early spring, with subsequent notification of the recipient and institution. All those with interests in the award, or employees of an institution that may be involved in the award, shall recuse themselves from voting on such applications. In the event that applications are received from the institutions of the Research Committee co-Chairs, the Co-Chair(s) will recuse themselves the responsibility of coordinating review of the applications from their home institution.
- D. In June of 2018, the Foundation Research Awards announcement will be made via E-News and posted on the ASNR and Foundation of the ASNR websites. The recipient is encouraged to present the results of this research at the ASNR 58th Annual Meeting in Las Vegas, Nevada from 30th May to 4th June 2020 and will receive an invitation to the President's Reception during that same time.