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Robert W. Holden

Teresa Williams

Butler University, twilliam@butler.edu

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Funding Opportunities for Young Investigators In Radiology

TERESA D. WILLIAMS, MA, AND ROBERT W. HOLDEN, MD

FOR MANY INVESTIGATORS in radiology, one of the most frustrating steps of conducting research is the search for funding sources. One study of radiologists found that the three most significant obstacles to performing research were finding time, overcoming pressures to complete clinical work, and finding research funding.¹ The search for funding is frequently most intimidating for those initiating their research careers. A survey of chairmen of academic radiology departments asked what factor would most increase the probability of trainees entering research careers and becoming successful in their research efforts. The most frequent recommendation was to improve or increase funding opportunities for radiology researchers.²

Some have suggested that a national database of information concerning funding opportunities, perhaps developed and maintained by one of the large radiology societies, would increase awareness of external funding sources for radiologists.³ This suggestion may become a reality as the Radiological Society of North America (RSNA) has decided to host an office of radiologic research, a component part of which will be maintaining a registry of private and public funding for investigators (Maynard CD, personal communication, 1993).

Funding from radiologic societies may serve as seed money or may be combined with grants from numerous other groups that accept applications from radiologists. In addition to the government, these funding agencies may

include corporations, private foundations, and voluntary health organizations. The disease-specific nature of these organizations often allows them to support innovative ideas and new areas of research, which for political or structural reasons, the federal government cannot fund.⁴ Many of the funding organizations in the private sector also offer research programs targeted to the new investigator who does not have the track record required to receive support from larger sources.

Although a public-access database of funding sources does not yet exist, we have started to develop our own information bank on funding available through the radiology societies and other sponsors. A majority of these funding sources target the "young investigator" in radiology. The use of the word "young" in the award name does not necessarily restrict applicants by age, but rather by tenure in the field or number of years since completing training. In this article, we share our collected information regarding funding opportunities to provide a starting point for the young investigator in radiology.

Methodology and Output

We contacted more than 40 radiologic societies, as identified in the 1993 American College of Radiology (ACR) publication, *Organizations in Radiology*, as well as other agencies with funding opportunities relevant to research in radiology. We asked each society about the availability of research funding, including paper awards, research grants, and fellowship programs for young investigators. From this informal survey, we were able to identify numerous funding sources, as listed in Tables 1 and 2. We also learned that some of the radiology societies with no funding programs at this time are considering establishing such awards.

From the Department of Radiology, Indiana University School of Medicine, Indianapolis, Indiana.

Reprint requests: Teresa D. Williams, MA, Department of Radiology, Indiana University School of Medicine, 541 Clinical Drive, Room 120, Indianapolis, IN 46202-5111.

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Table 1 identifies funding available from the various radiology societies, while Table 2 lists programs from government or private sources such as foundations. Neither table is intended to be inclusive of all funding from each type of source. Rather, these tables present a sampling of the type of funding opportunities that are available for young investigators in radiology. Based on the information received about these awards, we are able to offer some guidelines for application.

Award Programs Offered by Radiology Societies

The diversity of programs listed in Table 1 illustrates the range of efforts made by radiology societies to inspire young investigators to conduct research. Some of the professional radiology societies have acknowledged the lack of research funding for new researchers by offering developmental internships or establishing seed money for pilot research. Many subspecialty societies offer research or paper awards, often aimed toward newer or younger members.

Subspecialty radiology societies have been advised to pattern their own funding programs after the models established by the seminal radiologic organizations.³ Perhaps some of the most well-known and successful funding programs for radiologists are sponsored by the RSNA. Through its Research and Education Fund, RSNA offers five types of funding programs, including seed grants, a scholars and fellows program, and funding for medical students. Since 1986, RSNA has awarded more than \$4 million for research purposes (Boylan J, personal communication, 1993). More than half of this funding has been allocated as grant awards in the Scholars Program, which supports young faculty by freeing at least 50% of their time for research. Another program, the Annual Scholarship sponsored by the American Roentgen Ray Society (ARRS), also awards funding to provide young faculty with more time for academic study and research. The ARRS Scholarship awards \$120,000 for 1 year toward salary or in other support of the scholar's studies. In return, the ARRS Scholar is expected to devote 100% of his or her time to the program outlined in the nominating proposal and be free of clinical and administrative responsibilities for this period.

Some funding opportunities offered by radiologic societies are designed to enhance specific skills. For example, the winners of the J.T. Rutherford Internship Program receive a 2-week, expense-paid trip to Washington, DC. Organized by the Government Relations Division of ACR, this program educates radiology residents on governmental factors affecting the future of radiology. Another targeted award allows selected radiologists the opportunity to sharpen their writing and editing skills for manuscript preparation. The 1-month program, called the Melvin M. Figley Fellowship in Radiology Journalism, is conducted in the editorial office of the American Journal of Roentgenology.

Other awards listed in Table 1 provide recognition of

research results by supporting the investigator's travel and attendance to the society's annual meeting. Frequently, the investigator is asked to present his or her research findings and is awarded an honorarium. This type of funding is usually available to stimulate the investigator's research career at the residency level. Examples include the President's Award and Executive Council Award from the ARRS and the Annual Memorial Award presented to a resident by the Association of University Radiologists.

Other Award Programs

The programs listed in Table 2 represent only a small sample of the sources outside of professional societies that fund research conducted by radiologists. Perhaps the most well-known on the list, and certainly the largest funding source, is the National Institutes of Health (NIH). For inexperienced investigators, the NIH encourages applications for its First Independent Support and Transition (FIRST) award. This grant offers funding in the amount of up to \$350,000 in direct costs for a period of 5 years and is intended to support an investigator's first independent research efforts.

Other organizations, such as the American Cancer Society, fund investigators who conduct disease-specific research. Corporations such as pharmaceutical companies also may have an interest in funding research focused on a particular medical condition. An example is Abbott Laboratories' Young Investigator's Award, which supports research involving the screening, diagnosis, or monitoring of cancer. As a joint effort, a corporation may offer a program for young investigators in cooperation with a radiology society. Two examples, which are noted in Table 1, are the General Electric-Association of University Radiologists (GE-AUR) Radiology Research Academic Fellowships (GERRAF) and the Squibb Diagnostics/Society for Cardiac Angiography Interventions Fellowship for Research in Cardiac Imaging.

The GERRAF fellowship program is a unique venture developed as a cooperative partnership among General Electric, the academic radiology community, and scholars to encourage research commitment by young investigators in radiology. This collaboration of industry and academia evolved in recognition of the need to improve the quality of scientific clinical research in radiology. The program emphasizes original research in technology assessment, health and economic outcome methods, and decision analysis. Recipients of the GERRAF award are supported by 2-year fellowships funded at a rate of \$50,000 per year. This amount is paid through the sponsoring institution and used exclusively for the Fellow's salary. In return, the institution must make available no less than one half of the Fellow's time to pursue the approved research. During the 2-year award period, GE-AUR fellows are expected to complete required training in research and statistical analysis meth-

TABLE 1. Radiology Societies with Award Programs Applicable to Young Investigators in Radiology

Organization	Program name	Purpose	Deadline/award amount	Eligibility
American Association for Women Radiologists 1891 Preston White Drive Reston, VA 22091 703-648-8939	Distinguished Resident Awards (1 in radiology and 1 in radiation oncology)	Awards on the basis of outstanding contributions, whether in clinical care, teaching, research, or public service.	July \$500 and expenses to attend annual AAWR meeting	Radiology and radiation oncology residents who are members of AAWR. Candidate must be nominated by residency director, with only one nomination per residency program allowed.
American College of Radiology Government Relations Division 1891 Preston White Drive Reston, VA 22091 703-648-8900	J.T. Rutherford Internship Program	Informs radiology residents of governmental factors affecting the future of radiology in medicine and America's healthcare system.	Deadline: April Stipend and accommodations for 2 weeks in Washington, DC	Radiology residents
American Journal of Roentgenology AJR Editorial Office 2223 Avenida de la Playa, Suite 103 La Jolla, CA 92037 619-459-2229	Melvin M. Figley Fellowships in Radiology Journalism	Provides 1-month fellowships in radiology journalism in the editorial office of the <i>American Journal of Roentgenology</i> .	Deadline: September \$10,000	Board-certified radiologists with special academic promise.
American Roentgen Ray Society 1891 Preston White Drive Reston, VA 22091 703-648-8992	Annual Scholarship	Prepares young investigators for leadership in academic radiology by supporting study in a specific area of radiologic sciences or education.	Deadline: July \$120,000	Full-time faculty in a medical school radiology department who are no more than 5 years beyond completion of residency or fellowship training. Investigator must devote 100% of his or her time to a scholarly program free of clinical and administrative responsibilities during scholarship period.
	Residents in Radiology Awards: President's Award and Executive Council Award	Awards for papers on the clinical application of the discipline of radiology and radiologic science.	Deadline: February President's Award—\$2,000 Executive Council Award—\$1,000	Residents in radiology and radiologic sciences.
American Society of Head and Neck Radiology 2210 Midwest Road, Suite 207 Oak Brook, IL 60521 708-574-0220	Radiologist in Training Award	Promotes interest and research in head and neck imaging from residents and fellows in radiology.	Deadline: February \$1,000 and reimbursement of annual meeting registration fees.	Radiology residents and fellows.
American Society of Neuroradiology 2210 Midwest Road, Suite 207 Oak Brook, IL 60521 708-574-0220	Cornelius G. Dyke Memorial Award	Recognizes unpublished research work in neuroradiology.	Deadline: February Honorarium and two-day, expense-paid trip to annual meeting.	Radiology residents, neuroradiology trainees, junior members of ASNR, and staff radiologists at assistant professor or below.

TABLE 1. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
	Fellowship in Basic Science Research	Allows young investigators to gain further insight into scientific investigation or to develop competence in research.	Deadline: January \$35,000	MDs or MD/PhDs with board certification in radiology. Candidates must have completed 1 or more years of a clinical neuroradiology fellowship in a training program directed by a senior member of ASNR or be enrolled in or accepted for such a program.
Association of University Radiologists 1891 Preston White Drive Reston, VA 22091 703-648-8900	Annual Memorial Award Competition	Awards radiology resident or first-year fellow who submits the best original paper on any aspect of radiology.	Deadline: January \$1,000	Radiology residents or first-year fellows who are first or senior authors on submitted manuscript.
	Stauffer Awards—Best Basic Science Paper and Best Clinical Paper	Awards authors in each category for most outstanding work.	Deadline: January \$1,500	Authors of papers published in <i>Investigative Radiology</i> .
	Joseph E. Whitley, MD Award	Awards radiologist who submits and presents best radiologic educational paper at annual meeting.	Deadline: January \$1,000	Authors of papers dealing predominantly with teaching in radiology.
GE Medical Systems GERRAF Program Coordinator Box 414 (NB-907) Milwaukee, WI 53201 414-785-5161	General Electric Association of University Radiologists (GE-AUR) Radiology Research Academic Fellowship	Fosters original clinical and health services research in technology assessment, health and economic outcome methods, and decision analysis related to diagnostic imaging.	Deadline: October \$50,000/year (2 years)	Candidates must hold MD degree and board certification in radiology (or equivalent) and should hold or have been offered an academic appointment at the assistant professor level or junior faculty equivalent in a radiology department of an accredited medical school or research institute in the United States or Canada. Individuals who have conducted independent research for more than 5 years after postdoctoral training are not eligible.

TABLE 1. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
National Council on Radiation Protection and Measurements 7910 Woodmont Avenue, Suite 800 Bethesda, MD 20814 301-657-2652	Robert D. Moseley, Jr. Award in Radiation Protection in Medicine	Awards young investigator for an outstanding paper on radiation protection in medicine.	Deadline: January \$1,000 and expenses to attend NCRP annual meeting	Principal author should be in, or have completed within in the last ten years, an approved residency in diagnostic radiology, nuclear medicine, or radiation oncology, or be otherwise qualified through postdoctoral experience in medical physics or radiobiology. Proposed awardee must be a U.S. resident.
Radiation Research Society 1891 Preston White Drive Reston, VA 22091 703-648-3780	Radiation Research Award	Recognizes a young scientist who has made contributions in the field of radiation research.	Deadline: July \$1,000 and fees paid to annual meeting	Candidates must not have passed their 41st birthday prior to January 1 of the year of the meeting in which the award is being made.
	Student Travel Awards	Awards students showing potential in the field of radiation research.	Deadline: Fall prior to annual meeting \$400 and waiver of annual meeting registration fee	Students working toward a higher degree or who are less than 3 years postdoctorate and still in a training program. Must be student members of the Society or have membership application pending.
Radiological Society of North America Research and Education Fund 2021 Spring Road, Suite 600 Oak Brook, IL 60521 708-571-2670	Medical Student/Scholar Assistant	Provides promising medical students an opportunity to experience radiology research while assisting a second-year RSNA Scholar.	Deadline: January \$5,000 (one academic year)	Medical Students who are nominated by a current RSNA Scholar grant recipient.
	Neuroradiology Seed Grant	Assists young neuroradiologic investigators by underwriting preliminary studies required prior to seeking major funding for a project.	Deadline: May Up to \$15,000	Fellows in recognized, and where applicable, accredited neuroradiology training programs; or neuroradiologists, 35 or younger, who are full-time faculty members in radiology departments in recognized academic institutions. Applicants may not have served as principal investigator on a major, peer-reviewed grant.

TABLE 1. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
	Research Fellow	Provides educational and research opportunities for young investigators not yet professionally established in the radiologic sciences.	Deadline: January \$30,000 for one year, with \$35,000 renewal for second year, plus \$5,000 to institution for expenses	Nominees should possess a MD, DO, DVM, DDS, DMD, or their equivalent as recognized by the American Medical Association and be nearing the end of their radiology training or be eligible for certifying exams. Preference given to candidates with a commitment from a North American institution for a faculty appointment.
	Research Resident Program	Provides educational and research opportunities for radiology residents before definite career decisions are made.	Deadline: January \$25,000	First or second-year radiology residents who are North American citizens. The Research Resident must devote 90% of his or her time to the program outlined.
	Scholars Program	Supports young faculty by freeing at least one-half of their time for research.	Deadline: January \$45,000/year (2 years)	Investigators, usually under the age of 40, who have completed conventional postdoctoral service, are within 5 years of initial faculty appointment, and have not served as a principal investigator on peer-reviewed grant of \$30,000 or more. Nominees must also be citizens of a North American country or hold permanent resident status.
	Seed Grant	Provides funding for young investigators for preliminary or pilot studies before they apply for major grants.	Deadline: January, May, and September Up to \$20,000	Full-time faculty of any North American diagnostic or oncologic radiology department. Applicants should have completed all advanced training and may not have served as a principal investigator on a major, peer-reviewed grant.
Society for Pediatric Radiology 2021 Spring Road, Suite 600 Oak Brook, IL 60521 708-571-2197	Research Funds	Provides funding to support research in pediatric radiology.	Deadline: March Up to \$5,000	Investigators in pediatric radiology.

TABLE 1. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
Society of Gastrointestinal Radiologists Department of Radiology University of Washington Seattle, WA 98195 206-543-0871	Research Award	Provides funding to support research in gastrointestinal radiology.	Deadline: September Up to \$7,500	Members of Society of Gastrointestinal Radiology, especially those initiating a research career.
	Roscoe E. Miller Prize Memorial Prize	Awards for best scientific papers in two categories.	Deadline: September Roscoe E. Miller—\$2,000 Memorial—\$1,000	Society members may submit papers. Memorial Prize is restricted to first-time presenters at the SGR meeting.
Society of Magnetic Resonance in Medicine 1918 University Avenue, Suite 3C Berkeley, CA 94704 510-841-1899	Educational Stipends	Supports attendance of students and postdoctoral trainees at the annual meeting.	Deadline: April Stipend	Medical interns, first-, second-, and third-year residents, and postdoctoral trainees who have not gained a doctorate or equivalent degree 4 years prior to the annual meeting. Applicants should be enrolled in a full-time program.
	Young Investigator's Award	Awards young investigators for original research in the field of magnetic resonance imaging or localized spectroscopy in biology or medicine.	Deadline: February \$1,500 for winner \$500 for four finalists	Scientists less than 38 on January 1 of application year who are at the undergraduate, graduate, and postgraduate levels in academia, industry, or research institutions. Applicants should have no more than 5 years of full-time postdoctoral research experience.
Society of Nuclear Medicine SNM Awards Committee 136 Madison Avenue New York, NY 10016-6760 212-889-0717, ext. 250	Annual Mallinckrodt Fellowship Program for Research and/or Development in Nuclear Medicine	Provides support for a project conducted by a physician fellow active in nuclear medicine research and/or development.	Deadline: January \$30,000	Those physician fellows who are presently active in nuclear medicine research or development.
	DuPont Pharma/SNM Fellowship Program for Research in Cardiovascular Nuclear Medicine	Encourages physicians to enter the field of Cardiovascular Nuclear Medicine by supporting diagnostic research in the field.	Deadline: January \$25,000	Current fellows in accredited Cardiology or Nuclear Medicine fellowship training programs, who have completed at least one fellowship year. Preference given to young physicians or those new to the field. Other requirements apply.

TABLE 1. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
	SNM/Medi-Physics Research Grant for Therapeutic Nuclear Medicine	Encourages physicians and scientists to enter the field of Therapeutic Nuclear Medicine by supporting nuclear medicine research in therapy application.	Deadline: January \$30,000	Current fellows in accredited Nuclear Medicine or Nuclear Radiology training programs; or, those who are currently serving as postdoctoral scientists in nationally recognized medical facilities. Applicants must have completed at least one fellowship year. Other requirements apply.
Society of Nuclear Medicine Education and Research Foundation 136 Madison Avenue New York, NY 10016-6760 212-889-0717	Pilot Research Grants in Nuclear Medicine	Provides funding for support of deserving pilot projects.	Deadline: May and December Up to \$5,000	Young investigators conducting pilot research studies in nuclear medicine.
	Student Fellowship Awards in Nuclear Medicine	Provides financial support for students assisting with clinical and basic research activities in nuclear medicine.	Deadline: May and December Up to \$3,000 for 3 months of full-time research efforts.	Students at the undergraduate or graduate levels who demonstrate competence in physical and/or biological aspects of radioactivity.
	The Tetalman Award	Awards young investigator pursuing a career in nuclear medicine.	Deadline: March Up to \$2,500	Applicants 36 or younger as of July 1 of the year for which the application is submitted or no more than 7 years beyond obtaining certification in nuclear medicine or nuclear radiology or completing a PhD program.
Society of Thoracic Radiology Research and Education Foundation % Gordon Gamsu, MD, FACR Department of Radiology—Box 0628 505 Parnassus—M396 San Francisco, CA 94143-0628	Seed Grants	Provides seed grant funding for research in thoracic imaging and related fields.	Deadline: January, March, November \$4,000–8,000. Salary and overhead excluded.	Principal investigator should be a resident, fellow, or junior faculty (within 3 years of completion of fellowship).
Squibb Diagnostics/ Society for Cardiac Angiography Interventions (SCA&I) Fellowship Program Awards Committee P.O. Box 7849 Breckenridge, CO 80424 303-453-1773	Fellowship for Research in Cardiac Imaging	Encourages research in cardiovascular imaging and fosters new insights into patient care.	Deadline: February Up to \$25,000	Fellows in accredited Cardiology or Radiology training programs, with at least 1 year of the fellowship completed. Applicants must be sponsored by a member of SCA&I.

Note: Award conditions are subject to change; contact sponsoring organization for the most recent application guidelines.

ods, with emphasis on biostatistics, experimental design, and epidemiology. Since its inception 2 years ago, the GERRAF program has awarded seven scholarships.

A professional medical society whose membership consists primarily of physicians or scientists outside radiology may target funding easily encompassed by imaging research. The American College of Chest Physicians (ACCP) sponsors several research awards for which a radiologist may be eligible. However, applicants should be aware that an organization such as ACCP may require that at least 50% of the funded research be conducted within the realms of the organization's special interests.

Private foundations are often excellent funding sources for radiologists seeking a postdoctoral fellowship award. While these organizations are often specific in their criteria for application, they are sometimes alternative funding avenues for young investigators who are changing specialties or conducting in-depth, devoted research in a targeted area. A supported fellowship year allows the young investigator to more clearly define research directions career goals before accepting a faculty position.

Because of increasing basic science research within radiology, we have also identified funding programs for imaging physicists or engineers conducting research within imaging. Two examples are grants provided by the International Society for Optical Engineers (SPIE) and The Whitaker Foundation, a private organization supporting research involving innovative engineering techniques. Radiologists also may be eligible for these awards or may be co-investigators for the research.

Application Guidelines and Program Characteristics

Identifying the best funding source is only one step in the application process. The young investigator in radiology should be very aware of the specific guidelines for the research award because the application restrictions may affect eligibility. One of the most important pieces of advice we can offer is that program guidelines are always subject to change, especially deadlines or award amounts. A program offered 1 year may be ended the next, or a new award may be created but receive little publicity. Therefore, interested investigators should contact the sponsoring organization for a copy of the most recent guidelines before preparing an application.

Of the program guidelines subject to change, the most critical item for applicants to verify is the award program's deadline. Because deadline dates tend to vary on an annual basis, we have provided only monthly deadlines in Tables 1 and 2. However, we find that most organizations tend to set deadlines for the 1st or the 15th of the month, and these important dates often fall within the first quarter of the calendar year. Meeting a deadline may satisfy only a preliminary step in the review process, with award finalists informed of a later date for submitting more materials. Sev-

eral organizations, especially those with travel or best paper awards, have set their deadlines to coincide with early preparations for an annual meeting. Therefore, an applicant may be asked to submit an abstract 3 to 6 months before the annual meeting at which the award will be granted. For many of the radiology organizations, the annual meeting serves as a forum for presenting awards of all types.

Application for funding programs usually requires not only a formal application form, but also a detailed proposal, budget, and other attachments. These materials will be formally reviewed by a committee composed of the organization's members, Board of Directors, or peers in the field of study.

Not surprisingly, many of the award programs offered by the radiology societies are open only to members, or in some cases, an applicant may need the nomination of a senior member of the organization. Some organizations restrict the number of applications that may be received from candidates at the same institution or may disallow candidates already receiving or anticipating funding from another source.

The majority of the programs identified in Tables 1 and 2 support only one award per year. However, because the number of awards may vary from year to year, candidates interested in the level of competition may wish to contact the organization before application. Some research awards are open to radiologists at all levels of experience, thus increasing the number of applicants.

The research or fellowship program's guidelines usually stipulate that funding is to be applied to the investigator's salary and related research project costs. Also, this type of research program may require assurance from the applicant's institution that the award recipient will be allotted sufficient research time or even be relieved from clinical or other administrative duties. Young investigator research awards or fellowships usually have a duration of one year, with a few offering funding for 2 or more years. In some cases, the award recipient may apply for an extension beyond the initial funding period. The average research or fellowship award identified in Tables 1 and 2 tends to range from \$25,000 to \$35,000 per year, with some of the smaller organizations offering amounts of \$5,000 or less for pilot studies.

Conclusion and Recommendations

As a result of this study, we conclude that a wealth of funding opportunities are available to young investigators in radiology. This funding can be found in many forms, including seed grants, scholarships, fellowships, internships, and paper awards.

We believe that the receipt of funding in the early stages of a radiologist's career, including the residency level, helps to establish a solid interest in research. The success of initial research not only encourages the beginning investi-

TABLE 2. Other Organizations with Award Programs Applicable to Young Investigators in Radiology

Organization	Program name	Purpose	Deadline/award amount	Eligibility
Abbott Diagnostics Educational Services Abbott Laboratories D-94K, AP6C One Abbott Park Road Abbott Park, IL 60064 708-937-2360	Young Investigator's Award	Supports an untenured scientist engaged in cancer research that has potential application to the screening, diagnosis or monitoring of cancer.	Deadline: January \$20,000/year (2 years)	Untenured scientists with less than 7 years of research experience when application is submitted.
Alzheimer's Association 919 North Michigan Avenue, Suite 1000 Chicago, IL 60611-1676 312-335-8700	Pilot Research Grants	Enables investigators to test innovative ideas on a small scale and generate pilot data that will support future proposals for larger grants.	Deadline: July \$30,000	New investigators conducting research on Alzheimer's disease and related disorders.
	Faculty Scholar Award	Provides sustained salary support for individual investigators at the junior faculty level who have a commitment to research relevant to degenerative brain diseases, such as Alzheimer's	Deadline: January Up to \$45,000/year (3 years)	Investigators at junior faculty level in nonprofit research institutions. Applicants must have completed at least 2 year's postdoctoral experience and provide a statement of research sponsorship by a senior faculty member.
American Cancer Society Research Department 1599 Clifton Road, N.E. Atlanta, GA 30329 404-329-7558	Junior Faculty Research Award	Provides salary for junior faculty who are conducting independent research in cancer.	Deadline: March, October Salary ranging from \$25,000 to \$28,000 over 3 years	Promising scientists who have recently completed their postdoctoral training and for whom the institution will provide a faculty appointment or equivalent position.
	Postdoctoral Fellowship	Enables a new investigator to qualify for an independent career in cancer research.	Deadline: March, October Stipend ranging from \$22,000 to \$26,000 over 3 years	Applicants must have received their postdoctoral degree prior to activation of fellowship and must be endorsed by a proposed mentor or head of the department in which training will be received.
American College of Chest Physicians Educational Foundation 3300 Dundee Road Northbrook, IL 60062-2348 708-498-1400	ACCP/Alfred Soffer Research Award	Awards for papers judged best in scientific quality.	Deadline: March \$1,500	MD and non-MD investigators at all academic levels, and to investigators in both basic and clinical research.

TABLE 2. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
	Cecile Lehman Mayer Research Award	Awards young investigator for the most outstanding oral and written presentation of a basic research project.	Deadline: March 6 finalists receive \$750 for travel costs to meeting; 1 winner is awarded \$1,500	Physicians of residency or fellowship status or those under the age of 35.
	DuPont Pharmaceuticals/ACCP Critical Care Research Award	Awards young investigators for most outstanding written presentation of a clinical research project in critical care medicine.	Deadline: March for abstracts; 3 finalists will submit manuscripts in August \$1,000	Physicians of residency or fellowship status, or to physicians under the age of 35.
	DuPont Pharmaceuticals/ACCP Young Investigator Award	Defrays travel costs to Annual Scientific Assembly for authors of abstracts judged to describe outstanding original scientific research.	Deadline: March \$1,00 (200 awards)	Investigators under the age of 40. An abstract in any area of chest medicine and surgery is eligible.
	Physician Scientist Award	Supports research in a chest specialty.	Deadline: January \$70,000 (over 2 years)	Junior faculty level with the academic rank of instructor or assistant professor at the beginning of the award term.
	Research & Training Fellowships: Allen & Hansburys, Boehringer Ingelheim, and CIBA-GEIGY	Allen & Hansburys: Supports candidates involved in research, training, or clinical education focusing on reversible obstructive airways disease. Boehringer Ingelheim: Available to candidates in second or later year of chest specialty training. CIBA-GEIGY: Assists researchers focusing on clinical application of education in smoking cessation.	Deadline: January \$18,000	MDs entering second or later year of training in one of the specialties or subspecialties of the chest. Recipients of the Boehringer Ingelheim fellowship must devote 75% of professional time to the proposed research project.
American Federation For Clinical Research 6900 Grove Road Thorofare, NJ 08086-9447 609-848-7072	Young Investigator Awards for Clinical Research	Two awards: One based on patient oriented research involving human subjects; other award based on total body of meritorious clinical research.	Deadline: October \$10,000 for each award	Investigators who have performed major research in a clinical or scientific field. Recipients must be an active AFCR member at time of award. Any person under age 43 who has not held a doctoral level degree for longer than 6 years may apply for AFCR associate membership.

TABLE 2. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
	Early Career Development Awards	Supports young investigators who are initiating careers in biomedical research.	Deadline: September (letter of intent) \$20,000/year (3 years)	Investigators whose research project complements an overall program of research, teaching, and clinical medicine. Must be an AFRC member at time of award and be within first 5 years of full-time, tenure track position. Other requirements apply.
American Heart Association National Center 7272 Greenville Avenue Dallas, TX 75231-4596 214-706-1453	Clinician-Scientist Award	Encourages promising clinically trained physicians to undertake careers in investigative science broadly related to cardiovascular function and disease, including stroke or related fundamental problems.	Deadline: June Up to 40,000/year (5 years)	MDs with not less than 2 years of clinical training and who are less than 4 years beyond qualifying for subspecialty board certification. Applications are encouraged from individuals who, at the time of application, are in the last year of clinical training.
American Lung Association Medical Affairs Division 1740 Broadway New York, NY 10019-4374 212-315-8793	Research Grants	Supports laboratory, clinical, or other areas of investigation relevant to lung disease. Awards are considered postdoctoral seed money for the support of new investigators holding doctoral degrees.	Deadline: November Up to \$25,000 for 1 year; renewable for additional year	Individuals who have completed at least 2 years of research training and are at the instructor or assistant professor level.
Cystic Fibrosis Foundation (CFF) Office of Grants Management 6931 Arlington Road Bethesda, MD 20814 1-800-FIGHT CF	—Postdoctoral Research Fellowships —Clinical Fellowships —Student Traineeships —Summer Scholarships —Research Grants and New Investigator Awards —Special Research Awards	CFF offers numerous competitive award programs for research related to cystic fibrosis. Studies may be carried out at the subcellular, cellular, animal or patient levels.	Deadlines and award amounts vary by program type.	Numerous CFF awards target the young investigator. Eligibility requirements vary by program type. Interested individuals are encouraged to contact the CFF for application guidelines.

TABLE 2. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
Damon Runyon-Walter Winchell Foundation 131 East 36th Street New York, NY 10016 212-532-3888	Postdoctoral Research Fellowships	Encourages all theoretical and experimental research that is relevant to the study of cancer.	Deadline: March Level 1: Stipend ranging from \$23,000 to \$30,500 over 3 years Level 2: Stipend ranging from \$42,000 to \$44,000 over 3 years	Level 1: Candidate must have received doctoral degree within the year prior to meeting at which applications are considered. Level 2: Candidate must have completed residency or clinical fellowship training within 3 years prior to the meeting at which applications are considered. Only candidates who are beginning their first fulltime postdoctoral research fellowship are eligible.
Epilepsy Foundation of America Research Grants Program 4351 Garden City Drive Landover, MD 20785 301-459-3700	Research Grants Program	Stimulates epilepsy research by providing funding for investigators in the early stages of their careers.	Deadline: September \$30,000; renewable for a second year on a competitive basis.	Priority is given to beginning investigators just entering the field of epilepsy research, to new or innovative projects, and to investigators whose research is relevant to developmental and pediatric aspects of epilepsy.
Helen Hay Whitney Foundation 450 East 63rd Street New York, NY 10021 212-751-8228	Postdoctoral Research Fellowships	Awards recent MDs and PhDs seeking beginning research training for a career in the basic biomedical sciences.	Deadline: August Stipend of \$25,000 (3 years)	MDs and PhDs seeking beginning postdoctoral training in basic biomedical research. Applicants who have already had one year's postdoctoral laboratory training at the time of application will usually not be considered.
March of Dimes Birth Defects Foundation National Office 1275 Mamaroneck Avenue White Plains, NY 10605 914-428-7100	Basil O'Connor Starter Scholar Research Award	Supports young scientists who are ready to begin independent research after completion of their postdoctoral training. Research programs are directed at the prevention of birth defects.	Deadline: Varies Up to \$50,000 for research support. Does not fund recipient's salary.	Nominated candidates must hold a faculty appointment at the instructor or assistant professor level. Applicants may not be recipients of a major, peer-reviewed grant.

TABLE 2. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
Muscular Dystrophy Association 3300 East Sunrise Drive Tucson, AZ 85718 602-529-2000	Research Fellowship Program	Supports research into 40 diseases of the neuromuscular system to identify the causes of, and effective treatments for, the muscular dystrophies and related diseases.	Deadline: June, December 1st year: \$23,000 2nd year: \$26,000	Recipients of doctoral degrees who have been accepted to work in the laboratory of a qualified senior investigator. Applicant must be starting first fellowship or second fellowship in a new training experience and environment.
National Institutes of Health Division of Research Grants Room 240, Westwood Building 5333 Westbard Avenue Bethesda, MD 20892	First Independent Research Support and Transition (FIRST) Award	Provides a sufficient period of research support for newly independent biomedical investigators to initiate their own research and demonstrate the merit of their own research ideas.	Deadline: February 1, June 1, October 1 Up to \$350,000 in direct costs (5 years)	Principal investigator must be independent of a mentor and in the beginning stages of his or her research career. Candidate must have no more than 5 years research experience since completing postdoctoral research training or its equivalent.
National Institutes of Health National Cancer Institute Radiation Research Program % Dwight Kaufman, MD Acting Associate Director 6130 Executive Blvd., Suite 800 Rockville, MD 20852 301-496-6711	Mini-Sabbatical Program	Goal is to strengthen the bond between the Radiation Research Program and the academic and research communities. Also provides participants with an insight into how NCI works.	Contact sponsor for deadlines and award conditions.	Radiologists who have an interest in diagnostic radiology or radiation oncology research. Contact sponsor for additional eligibility requirements.
SPIE—The International Society for Optical Engineers 1000 20th Street Bellingham, WA 98225 206-647-1445	Scholarships and Educational Grants	Provides funding in the field of optics, with judging based upon the long-range contribution the granting of the award would make to optics and optical engineering.	Deadline: March Up to \$5,000	For Scholarships: Students in optical engineering For Educational Grants: Universities and Colleges involved in optics and optical engineering.
UHC/Sanofi Winthrop Technology Advancement Center University Hospital Consortium 2001 Spring Road, Suite 700 Oak Brook, IL 60521 708-954-1700	UHC/Sanofi Winthrop Research Award	Fosters research in the radiological sciences in University Hospital Consortium member institutions.	Deadline: August Amount varies; four to six awards will be made from a \$100,000 annual fund.	Promotes research in the radiological sciences and focuses on those beginning their research careers. Awards will be made to support projects submitted by investigators who have completed training. Fellows who are board-eligible are encouraged to apply.

TABLE 2. (Continued)

Organization	Program name	Purpose	Deadline/award amount	Eligibility
The Whitaker Foundation 4718 Old Gettysburg Road, Suite 405 Mechanicsburg, PA 17055-4380 717-763-1391	Biomedical Engineering Research Grants	Supports biomedical researchers who are relatively early in their careers and whose research substantially involves the innovative use of engineering techniques.	Deadline: January, May, and September (for preliminary proposals). \$60,000/year (3 years)	Faculty or research member of applicant institution who has received doctoral degree less than 8 years before submission or has completed all residencies less than 7 years before submission. Individuals in postdoctoral training programs are not eligible.

Note: Award conditions are subject to change; contact sponsoring organization for most recent application guidelines.

gator, but also provides the experience and data usually required to apply for more significant amounts of funding. Awards granted by the various radiology societies provide other benefits for young investigators: interaction with more experienced researchers, recognition from both peers and potential mentors, and beginning documentation of research expertise.

Perhaps some departments of academic radiology are already aware of the awards we identified, as well as other grant programs. The opposite scenario also may be true, with a few departments unfamiliar with the majority of the awards we found. We believe that information on funding opportunities for radiologists should not be proprietary or available only to those with the resources or connections currently required to learn about them. Instead, this information should be readily available through the establishment of a database of funding sources applicable to investigators in radiology. The database should include application guidelines for all types of funding sources, including federal and private organizations, and information should be updated regularly allowing investigators prompt access to changes in award guidelines. This database will function best under the administration of a central organization that is familiar to all radiologists and can be contacted easily. Hopefully, the society or sponsoring organi-

zation will financially support such a database and make it available free of charge to the imaging research community.

We predict two outcomes will be generated by widening the knowledge base of funding opportunities for radiologists. First, the level of competition for these awards will increase, thus heightening the chances that the most innovative and worthwhile research projects are funded. Second, and perhaps most important, more new investigators in radiology will pursue the early funding that often lays the foundation for future research careers.

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