



## REQUEST FOR APPLICATIONS 22-1 WALTER A. ROSENBLITH NEW INVESTIGATOR AWARD

Please note that detailed instructions and all necessary application forms are available under [Instructions and Forms](#).

Please also see our [FAQ page](#) for other information about applying to HEI.

### INTRODUCTION

HEI established the Walter A. Rosenblith New Investigator Award as a career development award to provide funding for outstanding investigators who are beginning independent research. By providing financial support for investigators at this early point in their careers, HEI hopes to encourage highly qualified individuals to undertake research on the health effects of air pollution. A key component of the proposal and award is the mentorship plan, which outlines how awardees will interact with and learn from senior experts in their field of study. Candidates may have training and experience in any of the many branches of science relevant to air pollution.

Each award will be a maximum of \$500,000 for three years<sup>1</sup> in total costs to support a research project. The funds can be used to provide salary support for the investigator and supporting junior personnel and operating costs, including supplies and equipment. It is expected that the investigator will devote at least 25% of their time to the proposed research. HEI expects to provide one or two awards from this RFA each year. For information on past awardees, please see the List of Awardees below.

### HEI RESEARCH PROGRAM

Since the early 1980s, HEI's research program has addressed a broad range of questions about the health effects of air pollutants derived from motor vehicle emissions, including carbon monoxide, nitrogen oxides, ozone, particulate matter — including diesel particles and associated compounds — methanol, and air toxics. Several studies have addressed the effects of exposure to more than one pollutant. Research projects are often interdisciplinary in nature and span a range of scientific fields, including atmospheric science, epidemiology, exposure science, statistics, and toxicology. In considering potential research topics, applicants should be aware of HEI's current areas of interest, as described in the HEI Strategic Plan for the Health Effects of Air Pollution 2020-2025<sup>2</sup>.

The current Plan focuses on four key areas: (1) accountability, (2) complex questions for the air pollution mixture, (3) transport and urban health, and (4) global health. Refer to HEI's website for information on studies that were funded in recent years (see [www.healtheffects.org/publications](http://www.healtheffects.org/publications) under "Research Reports" and [www.healtheffects.org/research/ongoing-research](http://www.healtheffects.org/research/ongoing-research)).

HEI studies have used a wide range of designs: modeling, methods development, experiments with cell cultures, animal studies, controlled human exposure studies, and epidemiologic investigations. In all studies, accurate characterization of exposure and appropriate statistical analyses are important. HEI's ultimate goal is to provide scientific evidence that can be used in regulatory decisions or provide better information for risk assessment; thus, human studies and studies to improve extrapolation from animals to humans are an important part of HEI's program.

HEI encourages investigators to submit applications addressing these high-priority research areas. However, HEI realizes that other areas of research can lead to results important to its mission. For this reason, we will also consider particularly innovative or high-quality applications in other areas that are relevant to the overall

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<sup>1</sup> Note that HEI allows for a no-cost extension in case an investigator needs to take time off for family or medical leave.

<sup>2</sup> Available at [www.healtheffects.org/about/strategic-plan](http://www.healtheffects.org/about/strategic-plan)



goals of HEI's program. Given the career-development nature of this award, HEI encourages applicants to propose bold and exciting studies that will allow them to develop as strong, independent researchers in their field of interest.

HEI strongly encourages individuals who are underrepresented in environmental exposure and health research to apply and encourages all applicants to diversify their research teams by including underrepresented individuals, including those attuned to and knowledgeable about the communities in which the studies are taking place, to the extent appropriate given the study location(s). For this purpose, HEI has adopted the National Institutes of Health (NIH) definition of underrepresented populations in the U.S. Biomedical, Clinical, Behavioral and Social Sciences Research Enterprise<sup>3</sup>.

LIST OF RECENT AWARDEES	
Year	Awardee and Project Title
2017	<b>Joshua Apte</b> , University of Texas–Austin: Scalable multi-pollution exposure assessment using routine mobile monitoring platforms
	<b>Marie Pedersen</b> , University of Copenhagen, Denmark: impact of exposure to air pollution on asthma; A multi-exposure assessment
2018	<b>Manabu Shiraiwa</b> , University of California–Irvine: Formation of reactive oxygen species by organic aerosols and transition metals in epithelial lining fluid
2019	<b>Tanya Alderete</b> , University of Colorado–Boulder: Air pollutants and the gut microbiota and metabolome during early life: Implications for childhood obesity
	<b>Megan Herting</b> , University of Southern California: Air pollution exposure and prefrontal connectivity in early adolescence
2020	<b>Heresh Amini</b> , University of Copenhagen, COUPH: Copenhagen Ultrafine Particles and Health
	<b>Joseph Antonelli</b> , University of Florida, Robust statistical approaches to understanding the causal effect of air pollution mixtures
	<b>Raphael Arku</b> , University of Massachusetts–Amherst, Urban air pollution in sub-Saharan Africa: A study of prenatal exposures, birth outcomes, and lower-respiratory infections in infants
2021	<b>Lucas Henneman</b> , George Mason University: Air pollution source impacts at fine scales for long-term regulatory accountability and environmental justice.

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<sup>3</sup> NIH's definition of underrepresented populations includes individuals from racial and ethnic groups underrepresented in health-related sciences on a national basis, individuals with disabilities who are defined as those with a physical or mental impairment that substantially limits one or more major life activities, and individuals from disadvantaged backgrounds, recognizing that women from these three backgrounds face particular challenges at the graduate level and beyond in scientific fields (source: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-20-031.html>).





## RFA 22-2: APPLICATION PROCESS AND DEADLINES

### ROSENBLITH AWARD ELIGIBILITY REQUIREMENTS

Scientists of any nationality holding a PhD, ScD, MD, DVM, or DrPH degree or equivalent are eligible to apply; they can reside in the United States or elsewhere. This is a new investigator award. By the date that full applications are due, the candidate must be at the Assistant Professor level or equivalent at an academic or research institution and meet one of the following two conditions:

- a) Have a minimum of 2 and a maximum of 7 years of research experience after obtaining the highest degree. That is, the PhD or equivalent final degree should have been awarded between June 2016 and June 2021 or
- b) Have held a position of Assistant Professor or equivalent for a maximum of 3 years (36 months).

Note that in either case, time spent on non-research activities since obtaining the highest degree, such as medical residencies without a research component or parental or medical leave, may be excluded.

Evidence that the candidate's institution is prepared to make a tangible commitment to helping them become established as an independent investigator is required as part of the application. Candidates should possess outstanding research potential. Evidence of this potential, in the form of written letters of support and the candidate's publication record, is an essential part of the application materials and will be valued equally with the scientific proposal.

Please note that an applicant who does not meet all eligibility requirements will not be considered for this award. Candidates outside the United States are advised to contact HEI with questions if their country does not have a direct equivalent to the assistant professor title. **All prospective applicants are required to contact Dr. Dan Crouse ([dcrouse@healtheffects.org](mailto:dcrouse@healtheffects.org)) to verify their eligibility before applying.** Candidates can apply to this award twice in their career (note that HEI counts only invited full applications towards this limit).

### PRELIMINARY APPLICATION

Applicants should submit a brief **Preliminary Application** that provides the following information: title, abstract, scientific rationale, a brief description of the study aims, design and methods, and anticipated results. The Preliminary Application should also briefly discuss the applicant's qualifications and include a biographical sketch (maximum two pages). An estimated total budget and study duration (2 to 3 years) should be provided (no budget details are needed at this stage).

Co-investigators are not allowed under the Rosenblith RFA, but junior personnel are allowed. Mentors should be listed on the form. Cover letter, mentor biosketches, and letters of recommendation are NOT needed at this stage. We may contact the applicant if we have questions about their eligibility or the topic of the proposal.

Investigators should use the standard Preliminary Application Form. The preliminary application must be no more than 4 pages in length (using 11-point font size and 1-inch margins, single-spaced, including the cover page, but excluding references and the applicant's biosketch); longer applications will be rejected. For the biosketch, applicants can use HEI form F-9 or another format as long as the biosketch is no longer than 2 pages. The application forms should be converted to a combined PDF with appropriate bookmarks before submitting.

The HEI Research Committee will review the Preliminary Applications and invite selected candidates to submit a Full Application. Before applying, candidates should familiarize themselves with HEI's study oversight and review procedures, which are more involved than a typical NIH grant, see [www.healtheffects.org/research/investigators/commitments](http://www.healtheffects.org/research/investigators/commitments).



## Deadline for Preliminary Applications

Preliminary Applications should be submitted by email in PDF format to [funding@healtheffects.org](mailto:funding@healtheffects.org) (subject line: *PI last name RFA 22-2 Preliminary Application*) no later than **FEBRUARY 10, 2023**. HEI will acknowledge receipt of the application. Applicants will be informed whether to submit a full application by mid-March 2023.

## FULL APPLICATION

### Deadline for Applications

Full applications for RFA 22-2 (by invitation only) should be submitted to [funding@healtheffects.org](mailto:funding@healtheffects.org) (subject line: *PI last name RFA 22-2 Full Application*) no later than **JUNE 30, 2023**. Applications should be in PDF format with a maximum file size of 20 MB.

After submission, please notify our Science Administration Assistant ([science-admin@healtheffects.org](mailto:science-admin@healtheffects.org)) of your submission; do not attach the PDF documents to this second email. (This step is to ensure we detect any potentially bounced messages due to file size or other issues.) HEI will acknowledge receipt of the application. Applicants will be notified of the funding decision by mid-August 2023.

Investigators invited to submit a full application should use forms **F-1 to F-12** and consult the [Instructions and Forms](#) webpage. Please note that the required font size is **11-point with 1-inch margins**, single spaced. The application forms should be turned into a **PDF with appropriate bookmarks** before submitting. Letters of recommendation can be included with the application or sent separately to HEI.

### Content of Full Application

The full application consists of two equally important parts: (1) a formal proposal for a research project of up to 3 years and associated materials and (2) evidence of the candidate's qualifications and outstanding research potential and a mentoring plan (see below). Inquiries regarding application and evaluation procedures may be directed to HEI. **Specific budget requirements:** The project should not exceed a total of \$500,000 (i.e., including indirect costs). For a 3-year project, suggested budget totals are \$150,000 for Year 1, and \$175,000 for Years 2 and 3. For a 2-year project, suggested budget totals are \$150,000 for Year 1, plus \$175,000 in Year 2, for a total of \$325,000.

The budget can be used to support the candidate's salary, to hire additional *junior* personnel (e.g., postdocs, graduate or undergraduate students, or technicians), and to purchase equipment and supplies. **It is expected that the investigator will devote at least 25% of their time to the proposed research.** Under "Other Support", please specify the candidate's time commitment to other research projects.

### Mentoring

Having a mentor or mentors is considered part of the supportive research environment that is required for this career development award. Mentors should be active senior investigators in the area of the proposed research and be committed both to the career development of the candidate and to the direct supervision of the candidate's research. The candidate must work with the mentor(s) in preparing the application.

HEI requires candidates to submit a mentoring plan that identifies one or more senior investigators who will act as a mentor and be available for consultation during the project; it is expected that at least one of the mentors will be at the same institution as the applicant. The mentoring plan should describe in detail how and how often the mentor(s) will advise the candidate throughout the study. In addition, mentors are asked to provide a letter that indicates their commitment to helping the candidate and their availability for regular consultation, as well as their research qualifications in the area of the proposed research and their experience in fostering the development of independent investigators. During the period of the Award, the mentor(s) will also be requested to provide periodic evidence — for example, in the form of a letter describing meeting dates, reviews of research plans, and comments on manuscripts — that the mentoring plan is being followed. Mentors are asked to sign off on each progress report indicating they have read the report and communicated with the awardee about potential issues that arose during the study.

Because the Rosenblith Award is meant specifically to support the candidate's career, senior faculty and consultants can be included for percentage time but not for cost (e.g., 5% effort at \$0 cost). Please contact HEI with questions about how to include mentors or senior personnel on the budget pages.

### **Institutional commitment**

HEI requires evidence of medium to long-term institutional commitment toward the applicant's career. Commitments can take many forms, such as providing laboratory space, access to core facilities, financial support for a laboratory, or paying part of the candidate's salary. In addition, it should be evident that the candidate is guaranteed at least 50% time away from teaching or clinical duties to pursue research and that the department includes faculty capable of productive collaboration and interaction with the candidate. If a start-up package was awarded at the time of hiring it should be described.

In addition to the materials required in the application, the following should also be submitted as evidence of the applicant's outstanding research potential:

1. A cover letter from the applicant that describes their interest in the award and how this project fits with their career goals, including information concerning their long-term career plans and how the HEI Award would contribute to these plans.
2. Two letters of reference from well-established scientists familiar with the candidate's professional capabilities but who are not directly involved in the proposed project. The letters should not focus on the scientific proposal per se but rather address the candidate's past contributions to scientific achievements, the candidate's potential to pursue and develop an independent research program, and how the HEI Award could contribute to this potential. Whenever possible, one of the letters should be from a postdoctoral research mentor or someone else who has worked closely with the candidate. The second letter should come from an expert in the candidate's field, who is not a collaborator but can adequately judge the candidate's potential. Please note that these letters are of paramount importance.
3. One letter from the department chair, dean, or other administrative official from the candidate's present institution, indicating tangible institutional commitment to the candidate and their research, as described above.
4. A description of the mentoring plan and letters from the candidate's mentor(s) indicating the commitment of the mentor(s) to providing consultation to the candidate on a regular basis, as described above.
5. Three recent publications and a list of all publications by the candidate.

**Please refer to application form F-2 (table of contents) for a list of all applications materials and the order in which they should be assembled.**

**Please note that all necessary application forms are available under [Instructions and Forms](#).**

**See our [FAQ page](#) for other information about applying to HEI.**





## RFA 22-2: EVALUATION PROCESS

Qualifications and career potential of the applicant, the quality and relevance of the proposed research, the research environment, and the mentoring plan will be considered in evaluating applications. Applications will be evaluated by HEI in the two-stage process described below.

### **PRELIMINARY APPLICATION REVIEW**

Preliminary applications will be reviewed by the Research Committee. If the Committee expresses interest in the study, the investigator will be invited to prepare a full application. The selection is based on relevance of the proposed research to HEI's mission, the scientific merit of the preliminary application, eligibility of the candidate, and his or her likelihood to become a leader in the field. HEI will also review the list of proposed mentors and may provide feedback if it appears that expertise in a crucial area is lacking.

### **FULL APPLICATION REVIEW**

#### **External Review**

External scientists selected for their relevant expertise in the area of proposed research will evaluate the applications according to the following criteria:

- Scientific merit of the research design, approaches, methodology, analytical methods, and statistical procedures.
- Adequacy of the personnel and facilities.
- Appropriateness of the use of requested funds.
- Consistency of the research plan with the candidate's career goals.
- Adequacy and appropriateness of the mentoring plan.

Qualifications and research potential of the candidate will be reviewed according to the following criteria:

- Capacity to carry out independent research based on level of training, experience, and competence commensurate with the purposes of this award.
- Potential to make significant contributions to the field.
- Evidence of a supportive research environment.
- Involvement of mentors or other senior consultants at the Institution or elsewhere.
- Appropriateness of the applicant's career development plan to HEI and the likelihood that the award will contribute substantially to the continued scientific development and productivity of the candidate.

#### **Internal Review**

The HEI Research Committee will then review the full applications and all additional materials, taking into consideration the comments and recommendations of the external reviewers. In reaching its decision, the Research Committee will evaluate the research proposal using the criteria above. The Research Committee does not ask for revised applications under this Award. However, the Committee can ask for clarifications if it is unable to reach a decision. Applicants can apply twice during their early career; the second application will be reviewed as a new application (although it should be evident that any feedback given on the first application has been considered). The Research Committee makes final recommendations regarding the recipient(s) of the Award to the Institute's Board of Directors, which makes the final decision. Note that HEI's review process is



single-blind (i.e., the identity of external reviewers and Committee members providing specific comments is not revealed to the applicants).

## **CONFLICTS OF INTEREST**

HEI's procedures for conflicts of interest are similar to the guidelines set forth by NIH. Members of HEI's sponsor community are excluded from participating in RFA development, applying for support, application review, and funding decisions.

HEI invites external reviewers (or in the case of a major RFA, Review Panel members) who are unlikely to have a conflict of interest with the proposal(s) they are asked to review. A conflict occurs when the reviewer is named on the application in a major professional role; the reviewer (or close family member) would receive a direct financial benefit if the application is funded; the Investigator or others on the application who have a major role are from the reviewer's institution or institutional component (e.g., department); during the past 3 years the reviewer has been a collaborator or has had other professional relationships (e.g., served as a mentor) with any person on the application who has a major role; the application includes a letter of support or reference letter from the reviewer; or the reviewer is identified as having an advisory role for the project under review. In addition, HEI Staff screen external reviewers for potential conflicts of interest with other applicants who have submitted a proposal under the same RFA.

For Review Panel members and Research Committee members, in some situations it may not be possible to avoid all possible conflicts of interest as outlined above. In such cases, Review Panel and Research Committee members who have a conflict of interest will not be assigned to review the application(s) in question and will be asked to leave the room during the discussion of those application(s). They will also not score or vote on the application(s) at issue and refrain from commenting on them during the overall discussion, and in the case of the Research Committee, from all deliberations regarding recommendation of applications for funding. If several Research Committee members are recused from the overall discussion of applications for such reasons, HEI will invite external consultants to join the Committee to fill in the missing expertise.

This peer review system relies on the professionalism of each reviewer, Review Panel member, and Research Committee member to declare to HEI the existence of any real or apparent conflict of interest. If a reviewer feels unable to provide objective advice for any other reason, they are expected to recuse themselves from the review of the application(s) at issue.

*This document was posted at [www.healtheffects.org](http://www.healtheffects.org) in December 2022.*

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