



**Practical Methods to Analyze and Treat
Emerging Contaminants (PFAS) in Solid
Waste, Landfills, Wastewater/Leachates,
Soils, and Groundwater to Protect
Human Health and the Environment**

Informational Webinar for Applicants

EPA NCER STAR RFA

August 29, 2018



Webinar Objectives

- **Go over application Information in the EPA STAR RFA, “Practical Methods to Analyze and Treat Emerging Contaminants (PFAS) in Solid Waste, Landfills, Wastewater/Leachates, Soils, and Groundwater to Protect Human Health and the Environment” (Eligibility, Submission, Technical)**
- **No new information, other than what has already been provided in the RFA**
- **Read the RFA very carefully!**
- **Check the Authority and Regulations (RFA Section I.C) – SWDA, CWA, CAA, SDWA**
- **No Superfund (CERCLA) Research**

Webinar Ground Rules

- **Please hold your questions till all EPA presentations have been made.**
- **No specific research project or idea can be discussed, but clarifying questions regarding what is written in the RFA announcement may be answered.**



Agency Contacts

- **Technical Contact: Intaek Hahn, Project Officer** (hahn.intaek@epa.gov); phone: 202-564-4377
- **Eligibility Contact: Ron Josephson, Eligibility & Peer Review Officer** (josephson.ron@epa.gov); phone: 202-564-7823
- **Electronic Submissions: Debra M. Jones, Administrative Officer** (jones.debram@epa.gov); phone: 202-564-7839



Goal of the RFA

- ❖ **Agency Top Priority Contaminants**
- ❖ **EPA National Research Programs**
- **Sustainable and Healthy Communities (ORD-SHC)**
- **Safe and Sustainable Water Resources (ORD-SSWR)**
- ❖ **EPA Program Offices**
- **Office of Land and Emergency Management (OLEM)**
- **Office of Water (OW)**
- ❖ **Short Working Title “PFAS in Landfills and Groundwater”**
- ❖ **Solicitation Closing Date: October 2, 2018, 11:59:59 pm Eastern Time**



Award Information

- **Estimated Number of Awards: Approximately 8 awards; 5 regular and 3 early career.**
- **Anticipated Funding Amount: Approximately \$6 million total for all awards**
- **Potential Funding per Award: Up to a total of \$900,000 for a regular award and up to a total of \$500,000 for an early career award, including direct and indirect costs, with a maximum duration of 3 years.**



Eligibility Information

- **Public and private nonprofit institutions/organizations, public and private institutions of higher education, and hospitals located in the U.S., state and local governments, Federally Recognized Indian Tribal Governments, and U.S. territories or possessions are eligible to apply. Special eligibility criteria apply to the early career award portion of this RFA. See full announcement for more details.**



Application Materials

- **To apply under this solicitation, use the application package available at [Grants.gov](https://www.Grants.gov) (for further submission information see Section IV.F. “Submission Instructions and other Submission Requirements”). Note: With the exception of the current and pending support form (available at [Research Funding Opportunities: How to Apply and Required Forms](#)), all necessary forms are included in the electronic application package. Make sure to include the current and pending support form in your [Grants.gov](https://www.Grants.gov) submission.**



Goal of the RFA (Research Areas)

The **U.S. Environmental Protection Agency (EPA)**, as part of its **Science to Achieve Results (STAR)** program, is seeking applications proposing research that will lead to:

- **Better understanding and characterization of the types and quantities of current and historical per- and poly-fluoroalkyl substances (PFAS) and PFAS-containing waste associated with waste disposal (e.g., landfills), as well as media containing PFAS released from these activities (e.g., PFAS in leachate collected by landfills or PFAS leaching to subsurface soils and groundwater)**
- **Increased knowledge of the fate, transport, potential for degradation or other changes to PFAS, and their mobility during materials management (e.g., under different landfill conditions such as pH, temperature, moisture content) that facilitate or retard such transformation or movement**
- **New or improved methods that are more effective, efficient (in cost, energy, etc.), and practical in controlling, treating, destroying, or removing PFAS in waste and wastewater, landfill leachates, biosolids, or environmental media. The main goal is to promote innovation in evaluating and managing PFAS in solid waste, landfills, and environmental media that will lead to improved decision making, management practices, and technical methods to minimize the risks to both humans and ecosystems.**



Research Questions

(I) Better understanding and characterization of the types and quantities of current and historical PFAS and PFAS-containing waste associated with waste disposal (e.g., landfills), as well as media containing PFAS released from these activities (e.g., PFAS in leachate collected by landfills or PFAS leaching to subsurface soils and groundwater)

What types and quantities of PFAS are released to the environment during waste management and how do the releases occur? What are the relative contributions of different types of waste and landfills to environmental PFAS? What are the characteristics of current wastes containing long-chain and short-chain PFAS, including PFAS from past and current chemical production and use (e.g., use in manufacturing processes, consumer goods, firefighting foam and other products), and PFAS-treated goods being disposed at their end-of-life, and other solid waste streams (e.g., waste incinerator ash)? What types and concentrations of PFAS are likely to be found in landfills? What are the potential ways to characterize PFAS in pre-landfill wastes and to treat PFAS-containing wastes before land disposal? Are there novel ways to characterize different PFAS leaching from the landfill under plausible landfill conditions? What are the most effective ways to characterize the PFAS from previously disposed wastes (as long as decades ago) found in landfills (e.g., MSW lined and abandoned unlined landfills as well as other RCRA nonhazardous waste landfills)? What are the types and concentrations of PFAS found in previously disposed waste and/or in leachate, contaminated soils and landfill gas? Is there a temporal signature in the waste that can be discerned from any degradation, transformation, or loss?



Research Questions

(2) Increased knowledge of the fate, transport, potential for degradation or other changes to PFAS, and their mobility during materials management (e.g., under different landfill conditions such as pH, temperature, moisture content) that facilitate or retard such transformation or movement:

Are there more effective, practical, and efficient methods of evaluating the fate, transport, potential for degradation or other changes to PFAS, and their mobility in different types of landfills, soils, and subsurface environments, and environmental or other factors affecting the changes or movements? Are there novel, rapid, and cost-efficient analytical methods that will enable more confident and accurate analyses of PFAS in soil, leachate, groundwater and landfill gas? What are the main sorption/desorption reactions that govern the mobility of PFAS in landfills? Are there innovative technologies or methods (other than landfill liners) that can immobilize or otherwise prevent PFAS release from landfills into environmental media?



Research Questions

(3) New or improved methods that are more effective, efficient (in cost, energy, etc.), and practical in controlling, treating, destroying, or removing PFAS in waste and wastewater, landfill leachates, biosolids, or environmental media:

What are the most effective and efficient chemical/biological/physical methods for treating solid waste, landfill leachate, wastewaters, biosolids, or contaminated environmental media to remove or destroy the PFAS? How can the methods be tested and validated in a bench- and pilot-scale? Are there new ways to bring synergies between leachate treatment and PFAS-contaminated groundwater potentially used for drinking water? How can the new methods be developed, tested, and validated so wastewater/leachate treatments that can also be used for treating groundwater potentially be used for drinking water?



Research Questions

RFA States:

- **Applicants should address at least one of the three research areas described below. Applications may respond to one research area in detail or integrate across two or three research areas.**
- **The proposed research project should be as responsive as possible to as many of the research questions listed under the selected research area.**
- **Applications should clearly indicate which research area(s) is being addressed. Applications that address more than one research area will not necessarily be rated more highly than those that address just one of the areas.**

- Please refer to section **IV. Application And Submission Information** for the required application package materials, including EPA Human Subjects Research Statement (HSRS)
- Please refer to section **V. Application Review Information** for Peer Review and Relevancy Review Process & Criteria



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Thank you.