



HEADLINES

SUMMER 2018

DoD's Environmental Research Programs

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SERDP and ESTCP Continue Webinar Series - [View Schedule](#)

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[November 27-29](#)

SERDP-ESTCP Symposium 2018

RELATED EVENTS

[December 10-14](#)

AGU Fall Meeting 2018
Washington, DC

NEW EVENTS AT THE 2018 SERDP AND ESTCP SYMPOSIUM

The 2018 [SERDP and ESTCP Symposium](#) is going to include a few new events and bring back an old favorite at the upcoming conference in November.

One of the new events will focus on the students attending the Symposium. Many Project Investigators bring their students to the Symposium and students from

local Universities assist with the technical sessions. A lunch will be held for all interested students on Wednesday, November 28, at noon, to discuss the general topic of careers as a research scientist in the Government. Another new event will be a pair of Technology Transfer panels during the evening poster session on Wednesday. SERDP and ESTCP Deputy Director Dr. Andrea Leeson and Program Manager Dr. Robin Nissan will moderate two panels of experts who have been involved in technology transfer of the results of SERDP and ESTCP projects. A final new event will be focused on the SERDP and ESTCP Management System (SEMS) and will take place in a room off the poster session hall, where a developer will be available to answer questions on SEMS.

A returning favorite event scheduled for Thursday, November 29, at noon, is a session entitled "Funding Opportunities: How to Partner with SERDP & ESTCP." SERDP and ESTCP Director Herb Nelson and Dr. Leeson will present an overview of the SERDP and ESTCP funding process followed by a Q&A session with the other Program Managers. A contracting officer from the Humphreys Engineer Center Support Activity (HECSA) is planned to be available to answer any contract-related questions. This has been a very popular session in the past and is expected to be well attended this year.

More information on these events, the technical and poster sessions, and the short courses can be found on the [Symposium website](#). [MORE](#)



NOVEL TREATMENT APPROACHES FOR INVESTIGATION-DERIVED WASTE CONTAMINATED WITH PFAS

The Department of Defense (DoD) has been using aqueous film forming foam (AFFF) since the 1970s to suppress fires. Due to this use, there are numerous sites with related per- and polyfluoroalkyl substance (PFAS) contamination. With the increase in investigations to determine the extent of PFAS contamination, large quantities of investigation-derived



waste (IDW) are being generated. In 2018, SERDP initiated a suite of projects to develop technologies capable of more cost-effective, on-site treatment of these waste materials. All selected projects are one-year, proof-of-concept approaches and are further described below.

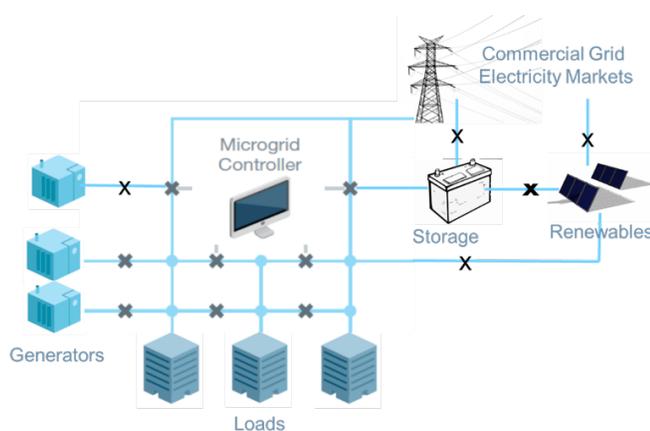
Several projects are focused on a treatment train approach to combine multiple technologies into a system for use on different media as well as PFASs and other co-contaminants. Another technology being studied is the use of electrochemical technologies. The use of thermal treatment technologies is also being evaluated for the destruction of PFAS-contaminated IDW. Several projects are studying complete destruction of PFAS using nanoscale-level technology. Finally, two projects are focused on the use of plasma-based processes as a treatment for IDW contaminated with PFASs. Summaries of these research projects are available on the [SERDP and ESTCP website](#) and all reports originating from these efforts will be available from the project web pages. [MORE](#)

ESTCP FY19 SOLICITATION - LARGE SCALE ENERGY STORAGE AND MICROGRIDS

Energy is the lifeblood of military installations. Just as the Armed Forces rely on petroleum to drive ships, fly aircraft, and support troops in combat zones, they depend on electricity to power fixed installations. The military's use of installation energy entails risks as well as costs. Installations are dependent on a commercial grid that is vulnerable to disruption due to aging infrastructure, severe weather, and physical- and cyber-attacks. There is growing concern regarding whether military bases can maintain critical functions during outages that last for days or weeks, as opposed to hours.

DoD is actively pursuing the deployment of microgrid technologies to provide improved energy security for longer durations. DoD also has been working with the private sector to develop renewable generation assets on military installations. Most of the sources of renewable energy (commonly solar and wind) are intermittent. Although of value to improving energy security in some circumstances, they cannot be relied on as a backbone of an energy security solution in the absence of energy storage. Given DoD's energy security requirements, its plans to deploy microgrids, and its existing and planned deployment of renewables, the potential to use energy storage to provide a better and more cost-effective energy security solution is significant.

ESTCP's FY19 solicitation topic, [Large Scale Energy Storage and Microgrids](#), directly tackles this opportunity. Integrated into a microgrid, energy storage can play a key role in DoD mission assurance by providing increased reliability for lower costs. [MORE](#)



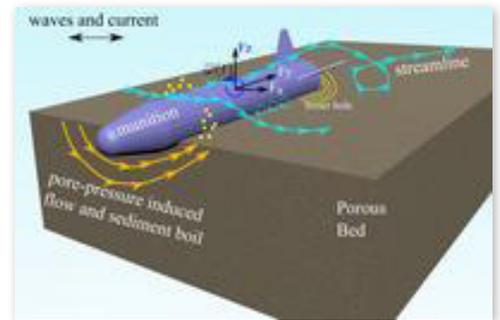
HIGHLIGHTS FROM MUNITIONS RESPONSE SPRING IN-PROGRESS REVIEW (IPR)

The SERDP and ESTCP Munitions Response (MR) Program held its spring IPR in May 2018. There were presentations from 14 continuing projects and the MR Technical Committee met to consider FY19 ESTCP pre-proposals. The first day's presentations focused on projects working on underwater munitions mobility and burial. The presentations started off with an overview by Dr. Sarah Rennie on the "[Underwater Munitions Expert System \(UnMES\) for Remediation Guidance](#)," the model SERDP is developing to guide installation managers in their management of underwater munitions. This was followed by a number of experimental and modeling projects that are supporting the development of UnMES.

Day two day opened with presentations on two additional new projects - Dr. Art Trembanis reported on "[Unexploded Ordnance Characterization and Detection in Muddy Estuarine Environments](#)," and Dr. Andy Stewart presented his initial results on "[Augmented Co-Robotics for Remediation of Military Munitions Underwater](#)."

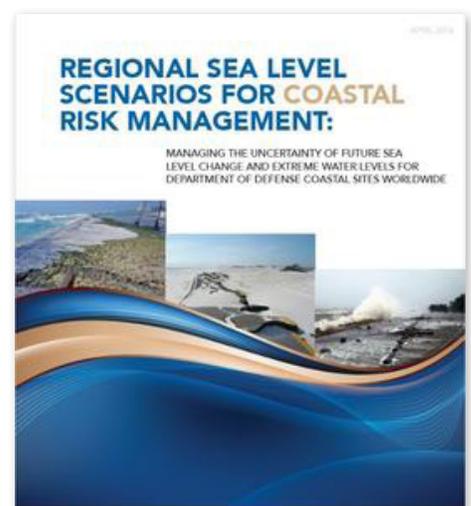
The Program Area is starting to support more projects focused on remediation of underwater unexploded ordnance (UXO) so there will be more presentations like Andy's at future IPRs.

The final morning of the IPR was devoted to projects developing sonar systems for detection and classification of underwater UXO. Among these analysis presentations was one of the favorites of the Technical Committee—a presentation by Dr. Lane Owsley on "[Elastic Target Modeling for Physics-Based Automatic Classification](#)." The Program Area would like to thank all the presenters (to include those not mentioned here) for their efforts and quality presentations. [MORE](#)



SERDP REPORT WINS RECOGNITION FOR EXCELLENCE IN TECHNICAL COMMUNICATIONS

The Society for Technical Communication is the world's largest and oldest professional association dedicated to the advancement of the technical communication field. Recently, the association presented the distinguished award of "User Materials Category Best in Show" to the groundbreaking SERDP report entitled, [Regional Sea Level Scenarios for Coastal Risk Management: Managing the Uncertainty of Future Sea Level Change and Extreme Water Levels for Department of Defense Coastal Sites Worldwide](#).



**STRATEGIC ENVIRONMENTAL
RESEARCH AND DEVELOPMENT
PROGRAM (SERDP)
ENVIRONMENTAL SECURITY
TECHNOLOGY CERTIFICATION
PROGRAM (ESTCP)**

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The report authored by John Hall, Stephen Gill, Jayantha Obeysekera, William Sweet, Kevin Knuuti, and John Marburger provides regionalized sea level and local extreme water level scenarios for 2035, 2065, and 2100 for >1,500 DoD sites worldwide. A main objective of the report is to enhance and increase the efficacy of screening-level vulnerability and impact assessment for DoD coastal sites worldwide that contain permanent or enduring assets. The report contains detailed sections documenting the authors' approach, results, application, as well as case studies. [MORE](#)

SHIPBOARD ULTRAFILTRATION

Naval Surface Warfare Center, Carderock Division (NSWCCD), [WP-201708](#), has begun the laboratory evaluation of a High Shear Rotary Membrane System (HSRMS) for treatment of shipboard-produced bilgewater. Expectations of HSRMS are to reduce both the cost of operation and shipboard footprint—in comparison to the bilgewater treatment systems aboard Armed Forces vessels.

Bilgewater is the wastewater from a variety of sources that accumulates in the lowest part of the vessel (the bilge). Bilgewater consists of water and other residue that accumulates in a compartment of the vessel's hull or is collected in the oily waste holding tank or any other oily water holding tank. The primary sources of drainage into the bilge are the main engine room(s) and auxiliary machinery room(s), which house the vessel's propulsion system and auxiliary systems (i.e., steam boilers and water purification systems), respectively. [MORE](#)

