Special Notice (SN) DARPA-SN-18-23: Epigenetic CHaracterization and Observation (ECHO) Proposers Day

DATE: Friday February 23, 2018
LOCATION: Executive Conference Center (ECC), 4075 Wilson Blvd, Arlington, VA 22203
REGISTRATION WEBSITE: https://events.sa-meetings.com/ECHOProposersDay
REGISTRATION DEADLINE: Friday February 16, 2018 at 12:00 PM ET (in person), Wednesday, February 21, 2018 at 12:00 PM ET (webcast)
TECHNICAL POC: Dr. Eric Van Gieson, DARPA/BTO
Email: DARPA-SN-18-23@darpa.mil

The Biological Technologies Office (BTO) of the Defense Advanced Research Projects Agency (DARPA) is sponsoring a Proposers Day for the planned proposer community in support of the **Epigenetic CHaracterization and Observation (ECHO)** program. DARPA is interested in diminishing the threat posed by state or non-state actor use of weapons of mass destruction (WMD) and improving diagnostics for troops who may have been exposed to threat agents. The ECHO program aims to develop technologies that enable the use of an individual's epigenome to reveal their history of exposure to WMD and WMD precursors. The Proposers Day will be held on Friday February 23, 2018 at the ECC in Arlington, VA. Advanced registration is required.

The Proposers Day objectives are:

- To introduce the science and technology community (industry, academia, and government) to the ECHO program vision and goals;
- To facilitate interaction between investigators that may have capabilities to develop elements of interest and relevance to ECHO goals; and
- To encourage and promote teaming arrangements among organizations that have the relevant expertise, research facilities and capabilities for executing research and development responsive to the ECHO program goals.

The Proposers Day will include brief overview presentations by government personnel, an information session to respond to questions from participants, a poster session, "lightning" talks (three minutes, one PowerPoint slide), and private sidebar meetings between the DARPA government team and potential proposer teams. Participant presentations and sidebar meetings must be scheduled via the registration website.

DARPA encourages participation in the ECHO program and at the Proposers Day by all eligible applicants, including non-traditional performers, academic institutions, not-for-profit institutes, and industrial partners of all sizes. Attendance at this event is not a requirement for submission of a proposal or selection for funding. Information relayed during the Proposers Day will be

made available on the BTO section of the DARPA Opportunities Page:
http://www.darpa.mil/work-with-us/opportunities

Program Objective and Description

Weapons of mass destruction (WMD) production is proliferating around the world, specifically among terror groups and non-state actors. Current forensic practice uses residues associated with WMD manufacture or exposure, which are often transient and in such low concentrations making them virtually undetectable in field forward austere conditions. Addressing the emerging WMD threat requires a capability that can move beyond the state of the art to forensically link an individual to WMD manufacture, and diagnose WMD exposure, with high specificity and temporal resolution with respect to the timing of the exposure event.

The Epigenetic CHaracterization and Observation (ECHO) program aims to reveal an individual's WMD and WMD precursor exposure history, recorded in their own epigenome. ECHO will build a new forensic and diagnostic platform that provides an advantage over current methods, as the epigenome is imprinted in the genome and detectable even when physical evidence has been erased. ECHO will build signatures that incorporate the pattern of unique epigenetic changes associated with a specific exposure to a single compound or agent. The exposure-specific epigenetic signatures will contain information that denotes the specific exposure and time since exposure. Ultimately, ECHO will integrate the final epigenetic signature panel into a point-of-need forensic and diagnostic system.

Success in this program will require groundbreaking approaches to characterize epigenetic signatures from WMD exposure events, and new bioinformatics tools to perform forensic analysis and disease diagnostics with high sensitivity, specificity and temporal resolution. Proposing teams should be multidisciplinary with expertise in WMD threat agents, chromatin biology, epigenetics, gene expression, bioinformatics, microfluidics, next generation sequencing, forensics, circulating biomarker discovery, point-of-care diagnostic device development, infectious disease surveillance, and computational modeling. Proposing teams are strongly encouraged to include expertise across these fields, as well as with industry partners that can develop commercial applications based on outputs of the ECHO program.

Attendee Posters and Presentations

Interested attendees are invited to present a brief **one-slide** PowerPoint summary of their interests and capabilities (**see Attachment 1**). These will be presented during 3-minute "lightning" presentations at Proposers Day. Presentations consisting of multiple slides will not be granted a time slot. Attendees may also choose to present a poster (**see Attachment 2**) describing their research interests that will be available for viewing and interaction for the duration of Proposers Day – those interested may submit both a lightning talk and a poster.

Lightning talk and/or poster submissions will be accepted on a first-come, first-served basis until time constraints (lightning talks) or physical capacity (posters) is reached. Lightning talk submissions are restricted to those attending the physical meeting. All presentations and posters must be emailed to DARPA-SN-18-23@darpa.mil no later than **12:00 PM EDT on February 19, 2018.**

Teaming Profiles

DARPA highly encourages teaming before proposal submission and, as such, will facilitate the formation of teams with the necessary expertise. Potential proposers may choose to be included on the (optional) Proposer Profile List by submitting a one-page profile consisting of their contact information (name, organization, email, telephone number, mailing address and, if applicable, organization website); a brief description of their technical competencies; and, if applicable, their desired expertise from other teams/organizations (**Attachment 3**). All profiles must be emailed to DARPA-SN-18-23@darpa.mil no later than **12:00 PM EDT on February 19, 2018.** Following the deadline, the consolidated teaming profiles will be sent via email to the interested parties who submitted a valid profile (following the format provided and not exceeding the single page limit). Specific content, communications, networking, and team formation are the sole responsibility of the participants. Neither DARPA nor the DoD endorses the information and organizations contained in the consolidated teaming profile document, nor does DARPA or the DoD exercise any responsibility for improper dissemination of the teaming profiles.

Registration Information

PLEASE NOTE: Registration for physical participation closes on February 16, 2018 at 12:00 PM ET or when venue capacity is reached. Registration for webinar participation will close on February 21, 2018 at 12:00 PM ET or when webinar capacity is reached.

Participants must register in advance through the registration website. Registration is limited by the venue capacity, therefore early registration is strongly recommended. Physical attendance is limited to no more than two representatives per division/department. The registration cutoff date is February 16th or once attendance capacity is met, whichever comes first. Due to space limitations, attendance for the Proposers Day will be limited to the first 110 registrants. Remote participation via webcast is limited to 500 participants. Individuals who are unable to register because the deadline has occurred or capacity has been reached, will be added to a waitlist. If slots remain open after registration closes or become available due to cancellations, the slots will be filled on a first-come, first-served basis from the waitlist. There will be no on-site registration, and there is an optional $25 meal fee. If a proposer is unable to attend, FAQ's from the meeting will be posted to the DARPA Opportunities Page.

An online registration form, foreign national visit request form, and various other meeting details can be found at the registration website, https://events.sa-meetings.com/ECHOProposersDay. All attendees are required to present government-issued photo identification upon entry to the event. Non-US citizens are required to submit a DARPA Form 60 "Foreign National Visit Request," which is available on the registration website. The DARPA Form 60 must be completed by February 16th at 12:00 PM ET.

All administrative and technical questions should be directed to DARPA-SN-18-23@darpa.mil. Please refer to the ECHO Special Notice number (**DARPA-SN-18-23**) in all correspondence. This announcement is not a request for proposals and any so sent will be disregarded.

This SN is issued solely for information and potential new program planning purposes; the SN does not constitute a formal solicitation for proposals or proposal abstracts. In accordance with FAR 15.201(e), responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. Submission is voluntary and is not required to propose to subsequent Broad Agency Announcements (if any) or research solicitations (if any) on this topic. DARPA will not provide reimbursement for costs incurred in responding to this SN. Respondents are advised that DARPA is under no obligation to acknowledge receipt of the information received, or provide feedback to respondents with respect to any information submitted under this SN. NO CLASSIFIED INFORMATION SHOULD BE INCLUDED IN THE SN RESPONSE.