Inaugural Workshop of
Washington Area Battery Center of Excellence (WABCOE)

November 25, Tuesday, 2014
Auditorium, Army Research Lab, Adelphi Laboratory Center
2800 Powder Mill Road, Adelphi, MD
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Background:

Energy storage technology is of critical importance, not only for vehicle electrification and integrating smart grid technologies with renewable energy sources, but also for military applications ranging from microgrid-storage at installations and forward bases, auxiliary power units for vehicular, ship and autonomous platforms, to extended duration energy for dismounted Soldiers and small units. Integrated and bulk energy storage demands are expected to dramatically increase over the next several decades, driven by the rising costs of energy and fossil fuels in the civilian sector, as well as increasing military demand for reliable, extended duration energy and power for operational environments where grid access is not accessible.

The Greater Washington, DC Region is the home of world-class research facilities and expertise in energy storage technologies and material science. This includes fundamental research at University of Maryland at College Park (UMCP), Johns Hopkins University (JHU) and University of Maryland at Baltimore County (UMBC), and unique analytical facilities and expertise at National Institute of Standards and Technology (NIST). In addition, there are substantial groundbreaking applied research programs at Army Research Lab (ARL), Naval Research Lab (NRL), and NASA's Goddard Space Flight Center (NASA). Moreover, a major defense battery manufacturer, Saft America Inc., and the top chemical/materials manufacturer, DuPont, are also located in the DC area.

Taking advantage of the above geographically rich capabilities, we propose the establishment of a Washington D C Regional Battery Center of Excellence (WRBCOE) for Advanced Battery Research. It will be led by ARL (physically located at Adelphi Laboratory Center (ALC)), and co-led by University of Maryland College Park (UMCP) as a strategic partner. It will be an integral part of ARL's Open Campus construct for ALC. This regional alliance will integrate and leverage the diverse resources, approaches, and scientific disciplines of partnered federal, academic, and industrial research activities, with the goal of overcoming critical scientific and technical challenges to the next generation energy storage technologies.

Mission of the Center:

This center aims at solving tangible battery technology limitations, while allowing the members to conduct first class scientific research, in order to accelerate development of next generation approaches, including "beyond lithium-ion". It encourages the discovery of new materials, new chemistries as well as new insights in interpreting the mechanisms that govern the operation of

battery chemistries. Furthermore, when a chemistry or technology reaches certain maturity stage, the center would support technology transition into practical devices.

Workshop Objectives

- Establishing Washington Region Battery Center of Excellence: formalizing alliances and creating the collaborative environment among members.
- Forming close alliance and creating the chemistry of collaboration among members.
- Identify key challenges for advanced battery chemistries to develop technical goals for the center.
- Synergize the diverse regional expertise into a strong and unified force in energy storage research and to expand our mutual capabilities and leverage efficiencies.

Format:

The meeting will consist of a series of invited presentations from different institutions on their battery research programs, their capabilities, interests and expectations for the Center. An open forum will follow at the end of the sessions for questions/discussion. By the end of the workshop, the vision, mission statement, initial goals, and potential collaborative activities will be refined for further consideration among the partners within the Washington D. C. Regional Excellence Center for Advanced Battery Research.

Invitees/Participants:

Researchers, developers and integrators from DoD and federal labs, other government agencies, battery/materials industries, and universities which are active in battery research in Greater Washington D.C. region.

Registration:

Register on-line at: http://www.arl.army.mil/wabcoe