Office of Naval Research
ONR
Science & Technology

Data Science for Decision-Making in Support of Naval Tactical Missions:
The evolution of Big Data and semantic web technologies has now matured to the point where they are no longer considered major science and technology challenges. From a science and technology perspective, the time has come to move beyond the big data and semantic web technology foundation and to begin concentrating on the data science challenges that lie ahead. First and foremost is the challenge of developing the underlying data science constructs that will enable the Naval community to pull data out of today's stove-piped systems and integrate it into a data ecosystem that will support cross-warfare area data sharing and analytics. For the military services operating in tactical environments the data science professional faces an additional set of challenges that must be addressed, as is noted in the graphic below.

What it is:
The forum is designed to assist ONR in developing the scientific foundation and advanced technologies in the area of data science. It will support tactical decision-making by bringing together researchers and naval/Department of Defense stakeholders to exchange ideas and discuss research directions and challenges.

How it Works:
The Office of Naval Research (ONR) leadership and decision makers will deliver updates on operational issues, S&T challenges and ongoing efforts in the area of data sciences. There will be an unclassified session in the morning and a classified session in the afternoon. In parallel with the classified session attendees can participate in brief one-on-one sessions with ONR program managers, which can be requested during registration, to discuss new ideas and innovations.

Why is it important:
Assured information for naval forces relies heavily on extracting actionable knowledge for tactical decision-making from often heterogeneous data. The disciplines of data science and decision-making provide a technological framework that enables the foundations of information dominance.

The challenge is: to automatically make use of this rich data -- with its varying degrees of quality, assurance, and uncertainty -- in the context of a mission to support tactical warfighting objectives.
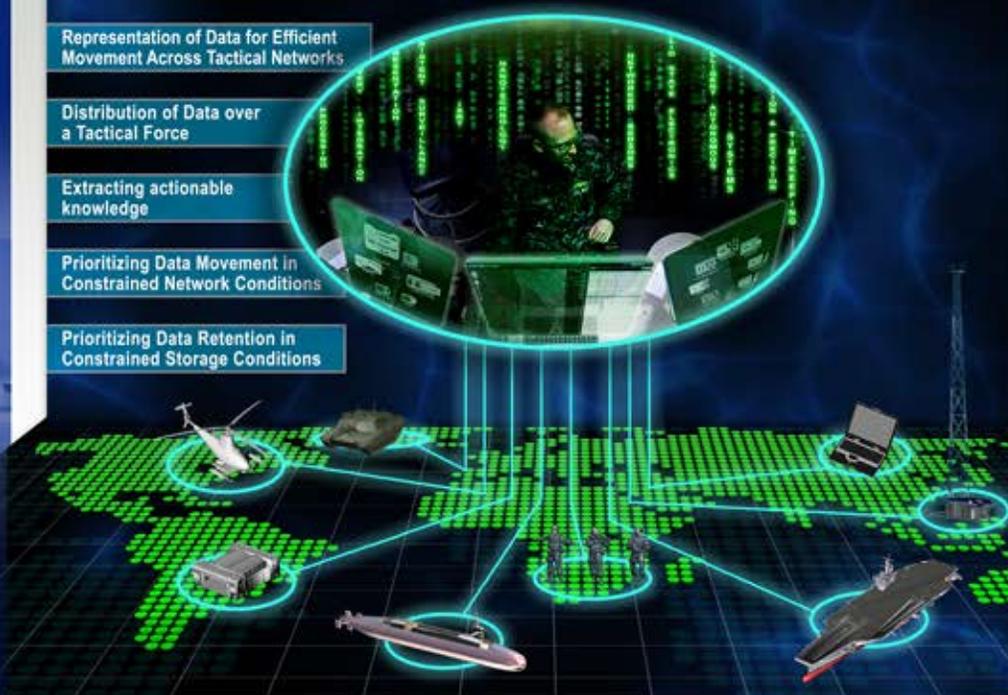
When and Where:
- June 25, 2014 from 0800 to 1600
- Office of Naval Research
  875 N. Randolph Street, Arlington VA
- Metro accessible: Ballston

Data Science Objectives:

- Representation of Data for Efficient Movement Across Tactical Networks
- Distribution of Data over a Tactical Force
- Extracting actionable knowledge
- Prioritizing Data Movement in Constrained Network Conditions
- Prioritizing Data Retention in Constrained Storage Conditions

Data science is the combination of how data is represented, organized, processed, shared and interpreted under relevant context and with necessary assurance. Decision-making is the art of applying current and historical data relevant to a given scenario to predict, with a level of certainty, potential future outcomes to aid in the determination of courses of action.

To fully realize the Navy's information dominance vision requires that significant strides be made in developing a naval data science foundation that enables integrated cross-warfare area naval operations.

More information:
Web: www.onr.navy.mil/forums
Email: onr_events@navy.mil