NRL BAA Announcement
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ADVERSARIAL MODELING AND DECISION SUPPORT

The Adversarial Modeling and Exploitation (AMX) Office of the Naval Research Laboratory (NRL) seeks proposals for innovative research and development in information technology. The AMX Office conducts a broad spectrum of research in the development of techniques, technology, and tools to support our understanding and modeling of adversarial behavior. Research in the Office is inherently multi-disciplinary because real-world military problems are rarely solved by a single research discipline. Current and anticipated areas of research focus include:

1) **Behavioral Characterization of Adversaries.** NRL is interested in innovative S&T for understanding the behavior of individuals, groups, societies, and cultures. These behaviors will inform models or lead to the development of models that inform military decision makers on techniques to understand and shape their non-conventional operations, such as counter-insurgency, stabilization/security/transition and reconstruction, humanitarian assistance. Current in-house research attempts to characterize DIME (Diplomatic, Information, Military, and Economic) and PMESII (Political, Military, Economic, Social, Information, and Infrastructure) considerations at the individual and group level, and secondly, to characterize individual behaviors associated with deception. NRL is particularly interested in research concepts that are amenable to web-based applications to support military/joint/coalition/interagency operations, model building, training regimens, and other capabilities to improve understanding, prediction, and methods of shaping human behavior across different cultures.
2) **Enhanced Decision Support/Analysis Capabilities.** NRL is interested in innovative S&T research in decision/analysis support to military/joint/coalition/interagency operations. S&T for this focus area could include collaborative tools, data fusion tools, data visualization and display applications, information extraction and knowledge discovery, forecasting and risk assessment, and new approaches for managing very large data sets. NRL is particularly interested in new methods for integrating geospatial data with graph analysis as well as non-homogeneous data derived from all source intelligence feeds, for analyzing with spatial statistics, and assessing and understanding the impact that uncertainty, error, and confidence in measurements have on projections and forecasts.

3) **Automated Detection of Adversarial Behavior.** NRL is interested in innovative S&T research to develop advanced capabilities for automatically identifying and alerting operational personnel to an adversary's intent to engage in insurgent and terrorist behaviors. Current S&T projects focus on sensor development to support automated remote biometric identification of uncooperative persons. NRL is interested in leveraging these sensor and data processing technologies to enable behavior identification and tracking. Specifically, NRL is interested in solutions that include the empirical derivation and validation of observable adversarial behaviors or behavior patterns that can be automatically identified through stand-off sensor technologies (e.g., video, IR, etc.). Given the surge in surveillance capabilities in recent years, approaches that leverage existing techniques and integrate ongoing video surveillance and processing research are particularly of interest.

Address White Papers (WP) to Code 5508, or e-mail , telephone (202) 404-7346. Allow one month before requesting confirmation of receipt of WP, if confirmation is desired. Substantive contact should not take place prior to evaluation of a WP by NRL. If necessary, NRL will initiate substantive contact.