



Real-Time Assessment of Group Dynamics

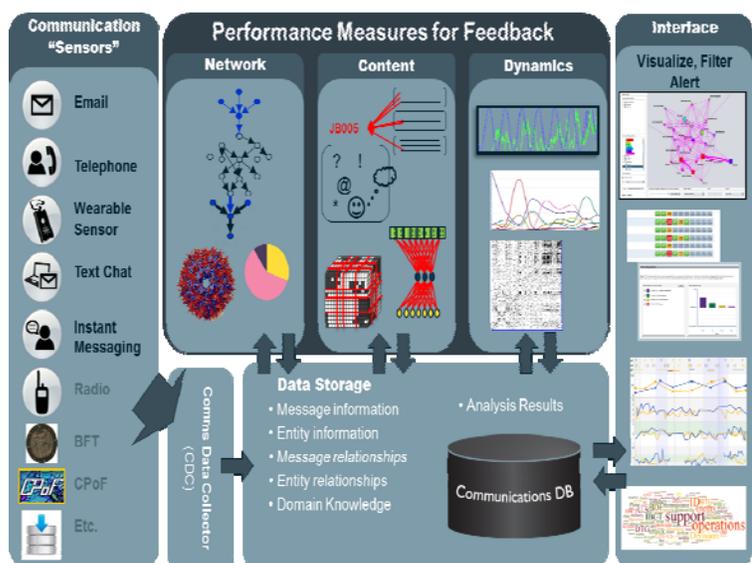


S&T Campaign: Human Sciences Human Behavior

Arwen DeCostanza, (410) 278-5856
arwen.h.decostanza.civ@mail.mil

Research Objective

- Unobtrusive assessment of team states and processes critical to performance using systems-based data and wearable sensors
- Multi-sensor integration focused on real-time, automated team-based metrics to enhance group performance in training and operational environments



Understanding Group Dynamics through Real-time Analysis and Visualizations of Systems-based Communications Data

Challenges

- Aggregation and interpretation of big data to understand group dynamics
- Measuring states, processes, and performance in complex organizational forms
- Real-world assessment in increasingly complex operational environments

ARL Facilities and Capabilities

Available to Support Collaborative Research

Partnership supporting field research within Brigade-level training exercises

- Tools to automatically collect, store, and analyze communications data (email, chat, and face-to-face)

Innovation Commons (under development) at APG, MD

- Highly sensed environment including cameras, eye tracking, keylogging, & task tracking, RFID, communications
- "Hackable" space for rapid development and prototyping of ideas

Cognitive Assessment, Simulation, and Engineering Laboratory (CASEL) at APG, MD

- Networked team experimentation facilities
- Simulated Tactical Operations Center
- Virtual Immersive 300° environment w/weapons-fire system



Dynamic Team State Assessment and Feedback

Complementary Expertise/ Facilities/ Capabilities Sought in Collaboration

- Continuous human group assessment using wearable sensors and systems-based data
- Computational Human Sciences
- Social Network Analysis
- Quantitative Methods
- Team Dynamics