Opportunity Title: Socio-technical systems to facilitate information sharing amongst teams in complex work environments
Opportunity Reference Code: IC-16-31

Organization	Office of the Director of National Intelligence (ODNI)
Reference Code	IC-16-31
How to Apply	**Create and release your Profile on Zintellect** – Postdoctoral applicants must create an account and complete a profile in the on-line application system. **Please note: your resume/CV may not exceed 2 pages.** **Complete your application** – Enter the rest of the information required for the IC Postdoc Program Research Opportunity. The application itself contains detailed instructions for each one of these components: availability, citizenship, transcripts, dissertation abstract, publication and presentation plan, and information about your Research Advisor co-applicant.
Application Deadline	4/15/2016 6:00:00 PM Eastern Time Zone
Description	In both academia and industry, there has been much research in workplace design focused on increasing collaboration, productivity and facilitating work processes. Operations centers are unique workplaces that serve as central nodes at which functional representatives can maintain situational awareness and coordinate their response efforts. Information sharing (which, in this context, is defined as the exchange of information unknown by an entire team) can be an integral factor in efficient decision-making processes. Research has shown that information sharing amongst teams of diverse members is a performance driver and can be enhanced by tools that facilitate information processing (Mesmer-Magnus, 2009, Huber, 2010). Most operations centers have a number of common technological characteristics. Unfortunately, problems arise in operations center functionality because it is not clear which capabilities best support particular types of cognitive work, team collaboration and decision-making processes. As a result, high-end, and often highly expensive, information processing technology (i.e. smartboards, wall monitors, interactive touch surfaces, etc.) installed in operations centers are either underutilized, or utilized for unintended purposes. Therefore support tool factors (i.e. device type, placement, interaction mediums, accessibility, etc.) must be analyzed in conjunction with in-house research data in order to contribute to the design of a workspace configuration that will support optimal integration and use of information processing technology into the operations center workspaces. This research will apply new technological solutions in information sharing to complex work environments, and 24/7 operations centers in particular. The overall technical objective is to develop a prototype tool or technique with a corresponding

floorplan and interaction framework that facilitates the flow of data from one op center representative to another and decreases breaks in task continuity resulting from temporary face-to-face collaboration.

Example Approaches:

The following are example approaches that could contribute to the technical objective:

- Creative models for integrating information processing technologies based on current in-house research that provides analysis of patterns in team cognitive processes and personnel interactions. How can the existing displays best be used by a team to facilitate decision-making and response?
- Conceptual designs and/or prototype technological solutions that mitigate information sharing barriers between team members (i.e. walls, equipment size, proximity, etc.). What technologies can we add to facilitate time-sensitive interaction between team members while decreasing distraction, task interruption and cognitive load?
- Analysis that systematically compares and evaluates the effectiveness and efficiency of team members using innovative technologies for information sharing in each of four target workspace models: den, club, hive, cell (Lee, 2010).

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Business** (11 👁)
  - **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (6 👁)
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Other Non-Science & Engineering** (13 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)
  - **Social and Behavioral Sciences** (28 👁)