BACKGROUND

On the future battlefield, intelligent robots will be ubiquitous Soldier teammates. Future Intelligent Systems must conduct operations in challenging, militarily relevant environments, operate in concert with Soldiers and commanders, collaborate with other intelligent systems, and make decisions within and beyond human operational tempo. The ARL Intelligent Systems Center (ISC) will facilitate innovation by encouraging cross-disciplinary research with the focus on long-term basic and applied research. The Center will leverage the strength of its current research program by focusing on systems that interact with the physical world.

PARTICIPANTS

Open to national and defense labs, universities and industry

CONCEPT OF OPERATION

The ISC will utilize CRADAs, MOUs and/or MOAs to define the extent of collaboration under the center, the disposition of intellectual property, and the sharing of research outcomes and laboratory resources.

POINT OF CONTACT

Christopher Kroninger
Center Deputy
410-278-5690
christopher.m.kroninger.civ@mail.mil

John Fossaceca, Ph.D.
AIMM-ERP PM (A)
301-394-2767
john.m.fossaceca.civ@mail.mil

COLLABORATIVE FOCUS

Highly collaborative environment with cross-discipline opportunities in:

- Traditional Robotics (Intelligence, Perception, and Mobility/Manipulation)
- Adaptive Control
- Autonomous Networking
- Distributed Computing (HPC)
- Machine Learning
- Artificial Intelligence
- Cognitive Architectures
- Natural Language
- Semantics
- Game Theory
- Reasoning, Knowledge Engineering
- Trust and Transparence
- Testing, Evaluation, Validation and Verification

BENEFITS

- Robotic Experimental Hardware (ground & air)
- Intelligent Algorithm Software Repository
- Unique Military Data Sets
- Simulation Tools

UNIQUE FACILITIES

- Emmerman Intelligent Systems Laboratory (Adelphi, MD)
- UAV Test Flight Facility (Aberdeen Proving Ground, MD)
- Grace's Quarters

We need Intelligent Systems which are
- adaptable to new environments
- robust, resilient & reliable
- socially cognizant

Future Intelligent Systems must
- plan in real-time
- make decisions beyond human operational tempo
- exhibit common sense reasoning
  - learn dynamically
  - share resources
  - self-organize in to teams

Intelligent Software Agents
Communications & Networking
Robots
Soldiers