

# Workshop on Emerging Technologies, Military Operations, and National Security

**10 October 2009 – Day 2: Location Cleveland, OH**

Possible addition of GA Tech to result in four centers of research for consortium

Consortium will seek funding for overarching activities; individual teams will seek own project funding

Observation: no internet/communication technology representation, no medical doctors, heavy emphasis on robotics

Cross-cutting teams: social sciences/ethics to approach NSF, legal approach to the same

Next workshop: 4-6 February in Scottsdale, AZ

21-23 April meeting in Washington, DC

## **Notes from brainstorming session:**

Funding opportunities: Project Minerva, Dana Foundation, NEH-HTS, Battle Lab, NSF-STC, NIH-ELSI, NSF-Sct/Eng, Dept of Homeland Security, PMCs, National Labs (intel), NAE, Other Conferences, AAAS, Lockheed Martin/Boeing/Northrup Grumman, Net Assessment (BAA), Lux Research

Additional Themes: Solidiers/Warriors, Biomimicry, How do we get other institutions to think about this?, Civil/Military relations, Science fiction vision, attitudes of the military, emerging combat systems, neuro/brain/memory enhancement, roadmap-2025 (timelines relative to technology, ethics, governance, law, international law/arms control, plausible alternative futures, PMCs, Training workshops for post docs/grad students, Tension between research/implementation ethics, technology transfer in military/civilian culture, public/private sectors

Who else should be here (and from whence will they come?)? MDs (military MDs (Kurt Henry), physicians in neuroscience, etc who are seeing patients involved), International perspective, science fiction authors (from Joel), Claire Gordon (from Clark), Global Business Network (from Joel), ONR/DARPA (From Ron and Ed), JAGs (Rick), Funders, Psychologists/Social Scientists (From Tony, Shannon and Clark), Military personnel, Military Historian, DoD Budget Expert like CSBA/Todd Harrison(from Karl and Shannon), David Koplou (from Orde), Kurt Henry (from Joel)

Next Meeting: Funders panel, UAV pilots, congressional panel

Potential Audiences: DoD, PMCs, Politicos, Defense Industry

## **Agenda for February Meeting:**

Presentation from new folks, presentation on consortium structure, group presentation on planned grants and funding, discussion of next steps and momentum, McCain Conference, George Post keynote

## **Groups:**

International Law, Ethics and Governance on Robotics and National Security: guidelines for how they should be used in military combat, Identify stakeholders - **Gary Marchant**, Ron Arkin, Orde Kittrie, Rick O'Meara, Max Mehlman, George Lucas, Patrick Lin, Ed Barrett

International Law, Ethics and Governance on Neural Technologies - **Chris Buneo, Steve Tillery**, Veronica Santos, Jason Robert, Hunter Peckham, Clark Miller

New Military Technologies: Implications for state/society relationships and questions of democracy and political theory (flying insects, autonomous robots, neuroenhancements, etc) - **Clark Miller**, Richard O'Meara, Stuart Youngner, Brad Allenby, Elizabeth Corley

Interdisciplinary Roadmap 2050: develop a realistic image of where technology might actually be implemented in the intermediate range, evaluating other existing roadmaps - **Patrick Lin, Samara Firebaugh, Joel Garreau**, Karl Hasslinger, Shannon French, Brad Allenby, Ron Arkin

Enhanced Warfighters: ethics, law and governance implications of human enhancement including genetic technology - **Max Mehlman**, George Lucas, Ed Barrett, Jessica Berg, Tony Jack, Joel Garreau, Jason Robert, Stuart Youngner, Insoo Hyun, Patrick Lin

Surveying Perceptions of Emerging Technology - **Tony Jack**, Elizabeth Corley, Gary Marchant, Clark Miller

Training and Education- **Brian Smith**, Rick O'Meara, Shannon French, Orde Kittrie, Clark Miller, Tony Jack

Emerging Genetic Technologies in the Military and Issues with Human Subjects Research in the Military - **Max Mehlman**, Jessica Berg, Gary Marchant

Internet and Communication Technology - **Brad Allenby**, Ed Barrett, George Lucas, Yano the Greek, Orde Kittrie

Nonlethal Weapons - **Ed Barrett**, Shannon French, David Koplou (Georgetown, invite), Orde Kittrie, Gary Marchant, Brad Allenby, John Canning