Session 2 – Telerobotics and Autonomous Vehicles

Summary of General Discussion

Professor Stone opened the session discussion with a summary of the themes that had emerged, focusing on the exploitation of games technology, emerging military applications for telerobotics and autonomous vehicles and the importance of human factors research in system design. A vigorous discussion ensued. A summary is given below:

- VR modeling and design – how is the real world best represented for accurate user interpretation. Specific reference was made to the Trouvain presentation where he noted that the view presented to the operator by the robot was at odds with normal human perceptual parameters; 'humans never navigate two inches off the ground as a robot does'. It was postulated that robots should be used in combination as relative value of ego and exo-centric points of view are task dependent. However multiple views could cause other complications. Data fusion and subsequent interpretation may pose significant challenges to the user, especially in a fast-paced air domain. It was concurred that VR system designers should focus on the user-requirement, particularly the aspects of the system that may required to support mission critical decisions. Cognitive task analysis may be a useful tool, but military judgment and subject matter expert input is likely to be of greater value.

- There is a growing interest in the exploitation of 'serious games' for military applications. Gaming technology also offers many opportunities for human factors research. Further discussion ensured regarding the functionality inherent in games developed purely as entertainment. Would such functionality be redundant in serious games designed to support a military need e.g. trauma trainers, rescue of wounded personnel, or, would the entertainment dimension provide additional training benefits and increase their attractiveness within the military user community? Some felt that games may be useful for training individuals, but not teams, because the underlying models are not good enough to deal with emergent behaviors. Finally it was concluded that a pedagogical approach is as important as the technical approach in creating an effective training system.