

## Simulation Displays and Design

Overview: Research is needed on integration of UAVs in current simulations as well as research in displays for UAVs.

- Ability to take UAVs and integrate them into existing training and simulations is a major goal
  - What kind of approach should be taken to do this?
  - There is a lot of existing infrastructure in simulation and UAVs should be a part of it
- Additional tools are required
  - Programming tools need to be created to look at UAV performance
  - Operator tools need to be developed as well to help their understanding of UAV operations
    - This is especially relevant when different operator skill levels are considered
  - Supervisory level tools-tools for generals and other people in supervisory positions which will aid in understanding UAVs are needed
  - Better tools-generic but necessary all the way around
- Reduction of testing variability is needed
  - Obtained by use of standardized tools and measures and even data
  - There are existing UAV standard which we should link to
    - We need to find out if they are publicly available
- Displays
  - Standardization across platforms should be used where it can be applied
    - Mission and task dependent
  - As much standardization as possible should be used without being too restrictive
  - Control display technology-what is appropriate?
    - Depends on interaction level
    - What are the role of haptic and tactile displays?
    - Definition of UAV tasks is needed to help flesh this out
  - There are high levels of automation in UAVs today but what is needed is:
    - Methods to determine how much automation is needed and appropriate?
    - Determination of what the current state of automation in UAVs is and how much is really being used?
    - How do we begin developing displays?