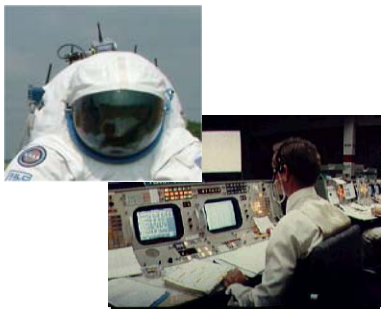
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Human Systems integration division

Ames Research Center

MISSION



Advanced Controls and Displays Group

The Advanced Controls and Displays Group supports NASA-mandated goals for Exploration and Aeronautics by identifying critical design issues for safe and effective interaction and communication between humans and systems.

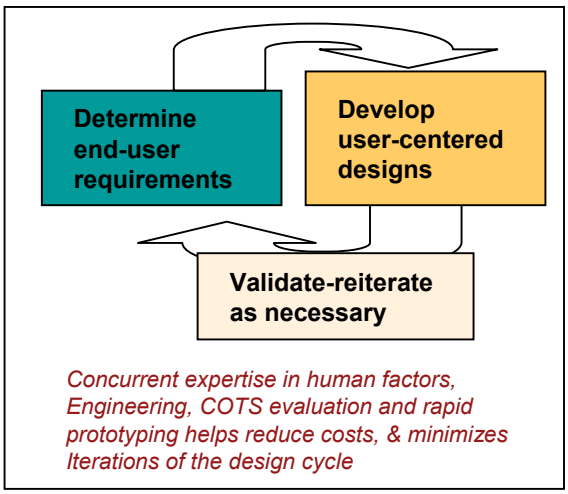
The group's combination of engineering and human factors expertise allows for bottom-up and top-down formulation of solutions for the design of controls and displays.

This unique capability, combined with resources for rapid prototyping and evaluation, is applied to both NASA missions and to help customers in aerospace, defense, and homeland security.

PERSONNEL

Group comprised of 7 PIs balanced between Engineering and Human Research

Mary K. Kaiser, Ph.D.
Deputy Division Chief (Acting), Human Systems Integration Division
Stephen M. Ellis, Ph.D.
Visual displays, virtual interfaces for training and telerobotics
Elizabeth M. Wenzel, Ph.D.
Branch Chief
Bernard D. Adelstein, Ph.D.
Haptic Interfaces; Mulitmodal synchronization in virtual displays;
Durand R. Begault, Ph.D.
Auditory displays; speech analysis; multimodal display integration
Barbara T. Sweet, Ph.D.
Visual displays, flight controls; Aerospace Engineer
Robert B. Welch , Ph.D.
Vestibular and multimodal research, human adaptation

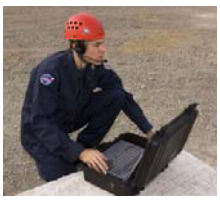


Concurrent expertise in human factors, Engineering, COTS evaluation and rapid prototyping helps reduce costs, & minimizes Iterations of the design cycle

EXAMPLES OF CURRENT PROJECTS

Performance-based recommendations for flat panel displays and microphones for voice recognition in EVA space suits; demo at Desert RATS

High fidelity virtual environment interface for orbiter inspection



Helmet CAM multi-channel audio-video communication command center (patent pending)

+ FACILITIES

Unique facilities at ARC include high dynamic fidelity virtual environment facility; rapid prototyping laboratory for developing new interfaces; Intelligent Spacecraft Interface Lab simulator; collapsed structure simulator

+ TECHNOLOGY

Patented technologies for auditory and haptic interfaces, aerospace navigation,visual display latency minimization and speech communication

+ CONTACT

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