REPPERGER RESEARCH INTERN PROGRAM

RESEARCH PROJECT #: AFRL-RHW-21-05

MULTISENSORY INTERACTIONS IN VIRTUAL ENVIRONMENTS

PROJECT DESCRIPTION A host of related displays (augmented, mixed, and virtual reality – xR) have become in the last several years much more cost effective to be considered for use in potential operational environments. However, there are known limitations of these displays such as limits of resolution which must be understood when actually considering application. To that end, we have begun assessing the quality of xR systems to know what they could (or if they could) replace, for example, a standard display. Once understood, it is a logical step to take current well known experimental paradigms (e.g., attention, search, etc.) and use xR to extend past results as a first order approximation for where they may be used in the operational world. The current project would address the creation and use of multisensory stimuli (e.g., audio-visual) in a traditional paradigm (e.g., attention) to better understand how these displays may be used in the future of Air Force operations.

ACADEMIC LEVEL: Bachelors, Masters, PhD

DISCIPLINE NEEDED: Psychology, Cognitive Science, Human Factors

RESEARCH LOCATION: Wright-Patterson AFB Dayton, OH

RESEARCH ADVISER: Paul Havig, PhD
Experimental Psychology, University of Texas at Arlington, 1997

Dr. Paul Havig is a Senior Engineering Research Psychologist in the 711th Human Performance Wing. He is in the Sensory Systems Branch which has a focus on multisensory stimuli from the basic to the applied realms. His current research includes both psychophysical experiments with multisensory stimuli as well as explorations into how best to use xR (augmented, mixed, and virtual Reality) for both the assessment of the use of these technologies in the laboratory to be able to more effectively field them in the future.