LIVE, VIRTUAL AND CONSTRUCTIVE

The research domains at the Wright State Research Institute (WSRI), including Clinical Trials, Autonomy, Sensor Exploitation, Neuroscience, and Behavioral Engineering, are structured to find improved (or higher) levels of human performance.
Live, Virtual and Constructive (LVC) simulations, in particular, are a major factor when studying improved response and execution in human performance. As a staple of the Institute’s work, LVC expertise has helped WSRI land five human performance contracts with the Department of Defense (DoD) in seven years. One example is WSRI’s collaborations with the Air Force Research Laboratory (AFRL) where Modeling and Simulation (M&S) is implemented. These collaborations have shown improved results in human performance, and because of this, LVC ongoing research continues between the two entities for flight testing exercises and aerospace research.

Modeling and Simulation enables innovative decision making in the areas of technology research, concept development, environmental sensing, system development and production, and even personnel training. A ground-breaking approach to M&S is the integration of Live, Virtual and Constructive simulation.

These three methods, in combination with the latest sensing technology and computing power, offer tools to deliver some of the most effective and advanced simulation possible for military, medical and nursing, disaster-response training, and more. New networking technologies have created training situations where multiple-trainee teams can operate together in a simulated environment or battlefield to solve a problem or confront a common threat. WSRI’s interests lie in understanding and quantifying the human performance aspects of LVC simulation.

The goal is to measure and understand the effectiveness of different training modalities by leveraging simulation to enhance education, training, and skill retention for specific tasks, i.e. better performance, faster response times, and more optimal workload. WSRI has the human performance expertise, and the monitoring hardware and software expertise, to assess and evaluate the operator performance across a range of mission areas.

WSRI is interested in other possible applications for its research, knowing that the Institute can offer considerable experience with M&S and top-flight equipment and facilities for LVC exercises.

The Wright State Research Institute, which began as a small-scale industry of research and study, is now growing into a tour de force of collaboration among military customers, government offices, and corporations as the capabilities of the Institute’s training simulation increases.

Live, Virtual and Constructive Researchers:

- David Malek, MS Research Psychologist and Program Manager
- Bruce Preiss, Lead Research Engineer, M&S
- Doug Hodge, MSPA
- James Gruenberg, EMT-PMA
- Subhashini Ganapathy, Ph.D.

About the Wright State Research Institute

Wright State Research Institute (WSRI), a department of Wright State University, is at the forefront of where science and technology combine to develop innovative customer-focused solutions. With an emphasis on use-inspired and applied research, new product development, and program management in the human and health sciences, the Institute applies emerging technologies to difficult problems facing industry and government partners. As one of the region’s leading research institutions, WSRI pursues a mission that facilitates technology development, job creation, and the economic revitalization of the Dayton region and the State of Ohio.

About Wright State

Wright State University is a comprehensive public university with strong doctoral, research and undergraduate programs and is ranked among the 260 Best National Universities listed in the annual “America’s Best Colleges” rankings by U.S. News and World Report. Wright State is located in Fairborn, Ohio, a suburb of Dayton. The university has a branch campus on the north shore of Grand Lake St. Marys, near Celina, Ohio. Wright State’s current enrollment is a combined 17,595 students on both campuses, of which 15,665 are undergraduate students. Wright State became an accredited independent university in 1967. It is named after Dayton’s famed native sons, Wilbur and Orville Wright, the pioneers of aviation.

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