

## **CREATING LIVE VIRTUAL CONSTRUCTIVE ENVIRONMENTS TO EVALUATE HUMAN AND SYSTEM RESILIENCE**

Imre Balogh

Naval Postgraduate School  
1 University Circle  
Monterey, CA 93943

### **ABSTRACT**

Live Virtual Constructive (LVC) exercises are becoming ubiquitous for training and mission rehearsal in the military domain because the use of LVC provides the most realistic environment available short of actual military operations. The mixture of live exercises with simulated components (constructive simulations and virtual simulators) allows for the creation of a context for the training or rehearsal that is richer and more representative of the real world than would be possible with only live events. This ability to embed live activity into synthetic environment to provide realism has attracted the interest of the Test and Evaluation community (T&E) and recently there are increasing efforts to start including LVC in the T&E tool suite. This talk will discuss some of the work we have been doing at the Naval Postgraduate School with LVC and how these environments can be used to assess and improve system and human resilience in operational environments.

### **AUTHOR BIOGRAPHIES**

**IMRE BALOGH** has been the Director of the MOVES Institute at NPS since 2014. The MOVES Institute is a research element of the Naval Postgraduate School focusing on the science and technology driving the development and novel application of M&S tools as is applicable to the Navy and DOD and the international M&S community. The work done at MOVES has a wide range of customers that includes training, analysis, operational planning, design methodology, acquisition, and other communities where M&S can provide a competitive advantage. Dr. Balogh has twenty-nine years of experience working on combat simulations. He was the Chief Architect and technical lead of COMBATXXI development team for seven years. COMBATXXI is a closed-form, high resolution combat simulation and is the primary analytical simulation used for analysis of the joint battlespace by the US Army and Marine Corps to support acquisition and future needs assessments. Dr. Balogh has been leading research projects at MOVES for over 13 years. These projects range from the development of combat simulations, creation of tools for modeling decision making processes, network interoperability and the use of augmented reality techniques in an operational setting.