

## Inventing the future of theatre performance

### The Challenge

Research into new forms of theatre in today's competitive entertainment market is looking at ways of making traditional theatrical productions more interactive, collaborative and technologically sophisticated. Researchers at the University of Waterloo and their international colleagues are exploring the potential of new technologies to stage a live performance in real time from several remote locations.

### Background

Advanced networks are critical to ensuring high quality, low-latency transmission of video and sound to produce theatre in real time. Researchers are working on staging more complex productions, pushing the limits of the current audio, visual and network technologies. They are also designing devices to allow remote audiences to respond with instantaneous feedback.



### ORION Makes a Difference

The University of Waterloo's ORION connection has allowed the school to be among the global pioneers in a new form of theatre, no longer facing bandwidth as a barrier and enabling spontaneous, uninterrupted interaction audiences associate with theatrical discourse. It is all made possible because of high-speed advanced networks linking researchers and students in Ontario, the US and in Europe, using state-of-the-art DVTS (Digital Video Transport System) software.

### Results

A fully interactive live performance was staged from Waterloo in April 2005, with actors sharing a virtual stage with actors at Bradley University in Illinois, connecting at very high speeds over ORION, CANARIE and Internet2. A more recent production, staged and performed in 2007, earned the University of Waterloo and its partners in Illinois and Florida the prestigious Internet2 IDEA Award for their groundbreaking collaborative live theatre production of the Elmer Rice play, "The Adding Machine". It used virtual scenery, recorded video, avatar performers, photographs, graphics and sound, all made possible by the partners' interconnectivity over the ORION and other advanced networks. More recently, another similar production of "Alice (Experiments) in Wonderland" was staged in 2008.

### The Impact

*"To me and my fellow researchers ORION is a godsend which could not have arrived on the scene at a better time. With its Canada-wide, and indeed global network fibre optic capabilities, connectivity to CANARIE, and access to the global grid of R&E networks, it eliminates the bandwidth constraints and allows us to collaborate on research projects and performances with colleagues from all corners of the world."*

- Prof. Gerd Hauck, Chair, Drama and Speech Communication, University of Waterloo