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Interactive Media in Training and Therapeutic Intervention

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Editorials

Welcome to the third volume of *Annual Review of CyberTherapy and Telemedicine*. A decade ago, CyberTherapy, then still in its infancy, only existed as a specialized Virtual Reality and Behavioral Healthcare Symposium at the Medicine Meets Virtual Reality (MMVR) Conference. At that first session, Dr. Ralph Lamson presented a small study on virtual reality (VR) exposure for treatment of acrophobia in ten participants. It is now clear that in 1996, we had only begun to realize what promise might lie ahead for both VR technology and the CyberTherapy Conference.

Much has changed over the past ten years and we have now tapped further into VR's potential than many of us could have ever imagined. Today, researchers from around the world are busy completing hundreds of trials, applying VR for such varied disorders as Anxiety, Eating Disorders and Obesity, Addictions, Erectile Dysfunction, Autism and Schizophrenia. In addition, VR for Neurorehabilitation and Physical Rehabilitation has shown definite success, as has VR for other such diverse areas as Pain Distraction (both acute and chronic), Education, Training, and Physical Disabilities.

I am proud to report that as VR's use in Behavioral Healthcare has grown, so has the CyberTherapy Conference. What began as a specialized symposium at MMVR concerned mainly with conceptual matters, has now grown into the largest program on controlled clinical trials of VR and other advanced technologies in the areas of behavioral healthcare, rehabilitation, disabilities, education, and training.

Along with my colleagues in the VR community, the conference's focus has expanded from simply VR to now include such cutting-edge technologies as robotics, non-invasive physiological monitoring, videogames, E-health, and adaptive displays. CyberTherapy 2005 (CT05) represents a group of outstanding international researchers and clinicians working tirelessly to improve our understanding of how advanced technologies can improve 21st century healthcare. In addition to bringing together the best clinicians and researchers from various disciplines, it is our specific intention to also facilitate their introduction to representatives from funding agencies interested in providing support for advanced technologies and healthcare.

In celebration of a decade of CyberTherapy, this year's Annual Review encompasses a state-of-the-art collection of clinical trials with an eye on the future of advanced technologies for health care. In this way, I hope that this collection can serve as a catalyst to improve the quality of life of the patients we seek to serve, and ultimately allow society to benefit from the remarkable technological revolution that is occurring.

I hope you find this volume to be both an exciting and useful addition to your bookshelf.

Sincerely,

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Editorials

Since 1986, when Jaron Lamier used the term for the first time, virtual reality (VR) has been usually described as a collection of technological devices: a computer capable of interactive three-dimensional (3D) visualization, a head-mounted display, and data gloves equipped with one or more position trackers. The trackers sense the position and orientation of the user, and report that information to the computer that updates (in real time) the images for display.

In medicine many researchers share this vision: VR is a collection of technologies that allow people to interact efficiently with 3D computerized databases in real time using their natural senses and skills.

However, if we shift our attention to behavioral sciences, we find a different vision: VR is described as an advanced form of human–computer interface that allows the user to interact with, and become immersed in a computer-generated environment in a naturalistic fashion.

In fact, psychologists use specialized technologies - head-mounted displays, tracking systems, earphones, gloves, and sometimes haptic feedback - to develop and provide a new human–computer interaction paradigm. In VR, patients are no longer simply external observers of images on a computer screen, but are active participants within a computer-generated 3D virtual world. This approach is clearly detailed in many papers of this issue: VR is used as an advanced communication interface based on interactive 3D visualization, able to collect and integrate different inputs and data sets in a single real-like experience.

This point underlines the importance of the therapeutical relationship for the efficacy of most of the approached presented: VR is a tool augmenting the possibility of relation and interaction between the therapist and the patient. However, many psychotherapists still think that in technology supported treatments, and in particular in VR therapy, there is no place for a therapeutic relationship.

To allow a widespread diffusion of communication technologies real clinical practice is critical both to counter this prejudice, and to offer training courses helping therapists in understanding how to integrate technologies in their own approach and methods.

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