

Guest Editorial

State of the Art in Virtual Rehabilitation

I WOULD LIKE TO WELCOME YOU to this special issue of *CyberPsychology & Behavior* presenting papers from the 4th International Workshop on Virtual Rehabilitation (IWVR2005). This conference was held in Avalon on the beautiful island of Catalina, 26 miles off the coast of Los Angeles in September of 2005. This year's event underscored the truly international scope of the field, with participants from Canada, Chile, Denmark, France, Germany, Ireland, Israel, England, Japan, South Korea, Mexico, Netherlands, Spain, Sweden, and the United States.

Following the Keynote Address presented by Prof. Patrice L. (Tamar) Weiss, of the University of Haifa, Israel, the IWVR2005 event commenced with six paper sessions, a demo/poster event, and two invited thematic panel sessions. This resulted in over 35 individual presentations that delivered the latest information on research and application development that is at the forefront of this rapidly growing field. From this wealth of material, 28 papers were produced for this issue.

Most regular CP&B readers are aware of the great advances that have been made over the last 10 years in the application of virtual reality (VR) technology to the research and clinical challenges that exist in both the mental health and rehabilitation domains. This direction is no longer viewed as science fiction by non-VR researchers and practitioners. As costs continue to decline and system usability improves, innovative VR approaches have emerged that are demonstrating added value for the scientific understanding and treatment of difficult clinical conditions. This collection of papers is illustrative of some of the best work being done to accomplish these aims. As you read these reports, you will see data-based VR studies across a wide range of disorders (e.g., cerebral palsy, stroke, brain

injury, vestibular dysfunction, post-traumatic stress disorder [PTSD], pain management, phobias, autism, schizophrenia). As well, novel solutions to pragmatic VR technical challenges are addressed in the areas of tracking, graphics, vibrotactile and haptic displays, database management, robotics, interfaces, brain imaging, and mixed reality approaches. Finally, throughout this collection of papers, you will note an ample share of discussion that focuses on many high-level VR conceptual themes, including game-based rehabilitation, presence, domain mapping, usability, and maximizing access for all via low-cost VR systems.

With that said, I would like to acknowledge the efforts of the 40-member Program Committee, which diligently peer-reviewed submissions and provided the valuable feedback required to maintain a high scientific standard for this issue and conference. I would also like to thank the *Cure Autism Now* foundation for their generous sponsoring of the panel entitled "Facing the Challenge of Autism with Virtual Reality," which brought together the world leaders in this area to present their work and vision for the future in this especially important application domain.

Next year's IWVR will be co-located, in New York, with the IEEE Engineering in Medicine and Biology World Congress, August 31 to September 3, 2006 <www.iwvr.org>. And for those who can't make it to New York City, the International Conference on Disability, Virtual Reality and Associated Technology (ICDVRAT2006), will take place in Esbjerg, Denmark later in the month, September 18–21, 2006 (<www.icdvrat.reading.ac.uk>). See ya there!

—Albert "Skip" Rizzo, Ph.D.
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