

Editorial

CyberTherapy 2005

THIS ISSUE of *CyberPsychology & Behavior* features abstracts from the 10th Annual CyberTherapy Conference: A Decade of VR. Organized by the Interactive Media Institute, (IMI) a 501(c)(3) nonprofit organization, in cooperation with ALMA Advice, LLC, the conference was held June 6–10, 2005, in Basel, Switzerland. This year's conference attracted clinicians from 21 countries, including Switzerland, Spain, Italy, Canada, Germany, Japan, Greece, Israel, Great Britain, Romania, Ireland, the Canary Islands, Chile, Portugal, Australia, China, Austria, Korea, Hungary, the Netherlands, France, and the United States.

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. We are 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 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.

A "Cyberarium" was held for 2 days as a part of the conference. The exhibits were free and open to the public and representatives of the press on June 8th and 9th, allowing individuals to experience the simulations first-hand and learn more about their healthcare options. The show-and-tell presentation featured interactive exhibits, VR products, and demonstrations. At the Cyberarium, student awards for outstanding poster presentations were given to three students showing excellence in their research studies. In addition, an award was given by Dr. Stéphane Bouchard to the New Researcher in VR presenting results for the most rigorous research at this year's conference.

The highlights of CT05 were our first annual CyberTherapy Award and our two distinguished keynote speakers. The CT05 outstanding researcher

award was given to the person who has done the most to advance the area of advanced technologies and behavioral healthcare this year. The participation of our two keynote speakers was invaluable. Prof. Dr.-Ing.Hans-Jörg Bullinger, President of the Fraunhofer-Gesellschaft, and Dr. Greg T. Mogel, Director, Telemedicine and Advanced Technology Research Center West both offered us the opportunity to gaze into the past, while keeping our vision firmly fixed on what lies ahead in the future.

This year's conference topics included VR application to such varied disorders as anxiety, eating disorders and obesity, addictions, 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. In addition to VR, the conference's focus has expanded to include such cutting-edge technologies as robotics, non-invasive physiological monitoring, videogames, e-health, and adaptive displays.

A feature of last year's conference that was continued this year was the pre-conference workshops. Our workshop chair, Stéphane Bouchard, once again provided a variety of both beginning and advanced pre-conference workshops, allowing those new to the area as well as more seasoned researchers to gain additional knowledge. Workshop 1, Basic Issues about Virtual Reality and its Clinical Applications, chaired by Drs. Stéphane Bouchard and Evelyne Klinger, aimed to introduce the concepts that are essentials to understand if one is interested in using virtual reality in clinical applications as well as offer practical guidelines to conduct safer virtual immersions. Workshop 2, Miniaturization, chaired by Oliver Stefani and Dr. Alex H. Bullinger, discussed the improvements and technical specifications of one miniaturized and mobile VR-system and one optimized desktop-like VR-system, as well as the miniaturization of Advanced Sensors for attention, stress, vigilance and sleep/wakefulness monitoring. Drs.

Roland Blach and Karin Hamann chaired Workshop 3, Collaborative VR, which introduced contemporary collaborative virtual environments from a technological and a psychological point of view. In Workshop 4, Virtual Reality and Pain Reduction, Drs. Hunter Hoffman, Brenda K. Wiederhold, Bertus Faber, Sarah Miyahira, Dave Patterson, as well as Sam Sharar and Gretchen Carrouger, addressed the mechanisms leading to pain reduction and potential moderating variables and presented a wide range of applications, from severe burn pain to dental procedures. In Workshop 5, Virtual Reality and the Treatment of Anxiety Disorders, Drs. Brenda K. Wiederhold, Stéphane Bouchard, and Cristina Botella, reviewed the literature on VR exposure therapy, presented treatment packages, and provided tips to conduct effective exposure. Drs. Giuseppe Riva and Rosa-Maria Banos chaired Workshop 6, Virtual Reality and the Treatment of Eating and Body-Image Disorders, and presented their work and results from empirical studies for eating disorders and obesity. In Workshop 7, VR and Addictions, Drs. Azucena Garcia-Palacios, Steve Baumann, and Ken Graap discussed how virtual reality can be integrated in cognitive-behavioral treatment packages to conduct cue-exposure exercises with substances and situations, or to perform cognitive-restructuring while the patient is engaged in the addictive activities. Finally, Drs. Albert "Skip" Rizzo and Tamar "Patrice" Weiss chaired Workshop 8, VR and Neurological Assessment/Rehabilitation, to survey the vast number of neuropsychological and rehab applications, along with their strengths and limitations.

The 4-day conference featured an unprecedented 21 special sessions. Symposium 1, chaired by Drs. Alex H. Bullinger and Brenda K. Wiederhold, featured presentations on the use of Virtual Reality to treat Anxiety Disorders. Symposium 2, also chaired by Drs. Wiederhold and Bullinger, introduced a wide array of presentations on the topic of Physiological Measurements and Imaging during VR. Symposium 3, chaired by Dr. Richard Satava, offered extensive presentations on the use of Robotics in Health Care. In session 4, Dr. Nate Appel led a discussion panel on the maturing of technology to treat addictions. Professor Paul Sharkey and Dr. Albert "Skip" Rizzo chaired the Neuropsychological Assessment, Rehabilitation and Disabilities symposium. During Symposium 6, Dr. Giuseppe Riva and his colleagues thoroughly discussed the use of VR in the treatment of Eating Disorders and Obesity. In Symposium 7, Dr. Greg Mogel and Ben Sawyer led a team of international collaborators to speak about the use of Videogames for Health Applications.

Symposium 8, chaired by Dr. Jean-Louis Belard, focused on enhancing training through the addition of advanced simulations. Symposium 9, chaired by Drs. Russell Shilling and G. Dammann, focused on VR and Posttraumatic Stress Disorder. Dr. Dave Thomas chaired a session on the topic of Pain and Pathological Grief in Symposium 10. Symposium 11, chaired by Drs. M. Fernanda Cabrera and Angelos Amditis, dealt with Integrated Systems for Long Distance Psychiatric Assistance and Non-conventional Distributes Health Services. In Symposium 12, Drs. Cheryl Trepagnier and Sarah Parsons focused on Autism research using VR and related technologies. Symposium 13, chaired by Drs. Sun I. Kim and Jae Jin Kim, focused on the remarkable advances being discovered in VR and Schizophrenia Research currently being conducted in Korea. Symposium 14, chaired by Dr. Cristina Botella, dealt with Case Studies and Clinical Application Examples of Virtual Therapies. Drs. Ulrich Meise and Maria Teresa Arredondo-Waldmeyer chaired symposium 15 on E-health. Symposium 16, Rehabilitation of the Future/Prosthetics, chaired by Drs. Richard Satava and Mark D. Wiederhold, focused on advanced as well as low-cost possibilities for incorporation into Rehabilitation for the future. Symposium 18, chaired by Dr. Kay Howell, expanded on the topic of low-cost simulation and internet-based technologies for education. Drs. Christine Youngblut and Stéphane Bouchard co-chaired a symposium on Presence, a condition considered equally important for therapeutic efficacy and training transfer to occur. Dr. Elmar Schmeisser shared his expertise as the chair of the Adaptive Displays symposium, helping us all to understand the importance of the human-machine interface for future applications. Finally, Drs. Alex H. Bullinger and Angelos Amditis concluded the conference with a symposium on the exciting future possibilities in Next Generation VR.

This is the first year that the CyberTherapy Conference has been held outside of the United States, and we would like to take this opportunity to thank this year's Scientific Chairs: Drs. Botella, Riva, and Rizzo, who brought together an excellent technical program, as well as Dr. Stéphane Bouchard, for his continuous effort in organizing an outstanding series of workshops. We appreciate all the CT05 Program Committee members who promoted the conference tirelessly throughout the year and assisted in reviewing submitted abstracts. A conference such as this would not be possible without the generous support of our funding agencies, and we thank them for their belief in our mission; specifically, the Center of Applied Technologies in Mental

Health (COAT-Basel); Army Research Office; Defense Advanced Research Projects Agency, DSO; Hanyang University; Istituto Auxologico Italiano; Mary Ann Liebert, Inc. publishers; National Institute on Drug Abuse; Telemedicine and Advanced Technology Research Center (TATRC); The Virtual Reality Medical Center (VRMC); and the Université du Québec en Outaouais. Finally, thank you to the attendees who chose to participate in CT05.

We hope you will find the abstracts from this year's conference beneficial. Their quality reaffirms VR's key role in the future of health care. A select number of full scientific papers from this year's conference are also printed in the third volume of

the *Annual Review of CyberTherapy and Telemedicine: A Decade of VR*, available at our website <www.interactivemediainstitute.com>.

The 11th annual CyberTherapy conference will be held June 12–15, 2006, in Gatineau, Canada. We hope you will consider attending, and it is our sincere wish that this conference will continue to serve as a platform for internationally renowned clinicians and researchers, as well as representatives from both governmental and private funding agencies.

Brenda K. Wiederhold, Ph.D., M.B.A.

Alex H. Bullinger, M.D., M.B.A.

2005 CyberTherapy Conference Co-Chairs