

Bios

Chapter 1

Giuseppe Riva, Ph.D., is Director of the Interactive Communication and Ergonomics of New Technologies Laboratory (ICE-NET Lab.) at the Catholic University of Milan, Italy, and Head Researcher of the Applied Technology for Neuro-Psychology Laboratory (ATN- P Lab.) at the Istituto Auxologico Italiano, Milan, Italy. He also Professor (tenure position) of General Psychology and Communication Psychology, and member of the steering committee of the Ph.D. programme in Psychology at the Catholic University of Milan, Italy. According to the scientific databases ISI Web of Science, PubMed/Medline and PsycInfo, Riva is the scholar who authored the highest number of peer-reviewed scientific publications in the fields of “Virtual Reality” in the world (as of July 2014). These papers range from specialistic journals such as “Presence: Teleoperators and Virtual Reality” (MIT Press) to general scientific journals such as “Science” (AAAS). In its first decade, Riva pioneered much of the applications that enabled the diffusion of Virtual Reality and Internet in the field of health care. Specifically, his research work led to the development of a new scientific discipline - Cyberpsychology - integrating innovative research ranging from usability and ergonomics, clinical psychology and cognitive science, to mobile devices and simulation apparatus. Through the analysis of the cognitive processes involved in simulated realities he expanded the concept of “Presence” the feeling of being there - originally developed by communication and technology scholars.

Fabrizia Mantovani, Ph.D., is Research Professor of Communication Psychology at the Università degli Studi di Milano-Bicocca. She is also Senior Researcher of the Centre for Studies in Communication Sciences (CESCOM) and member of the international research network on “Methodology for the Analysis of Social Interaction” (MASI). Her research work focuses on the concepts of “presence” and “human adaptability” embedding the bits of the digital realm with the atoms of our physical world. Specifically, the main contribution of her research work is related to the impact of serious games - computer or video games, considering also the involvement of emotions in this learning process.

Chapter 2

Eva Lindh Waterworth is manager of the Q-Life research group and a full professor of informatics (since 2010) at Umeå University in Sweden. Her own research focuses on the relationship between quality of life and IT, with a particular interest in creating technology that meets the needs of special groups such as the elderly, the young and

the physically and mentally disadvantaged. She has a PhD in Informatics (2001), and a first degree in informatics and business administration.

John Waterworth is a full professor of Informatics (since 2001) and a member of the Q-life research group at Umeå University in Sweden. His funded research focuses on actual and potential effects of using ICT on quality of life and health, especially among the elderly. He has a PhD in Experimental Psychology (1984) and is a Chartered Psychologist of the British Psychological Society. With almost 200 publications to his name, he is best known for his work on topics such as information exploration, the experience of presence and creativity in mediated environments.

Chapter 3

Daniel Sjölie has a Ph.D. in Computing Science with a focus on human-computer interaction and cognitive neuroscience in a context of virtual realities and interactive 3d-graphics. Building on several years of practical experience of virtual reality as a research engineer, his research has focused on the foundations of presence in cognitive neuroscience, including brain imaging studies, and on how this may guide the design of VR applications and complex visualizations.

Chapter 4

Andrea Stevenson Won is a Ph.D. candidate in the Department of Communication at Stanford University, currently working in the Virtual Human Interaction Lab on the capture and expression of nonverbal behavior and the physical and psychological effects of mediated embodiment. Her interests include homuncular flexibility and health applications for virtual reality. Her M.S. in Biomedical Visualization from the University of Illinois at Chicago focused on modeling anatomy for virtual reality applications.

Antal Haans is assistant professor of Environmental Psychology in Human-Technology Interaction at Eindhoven University of Technology (TU/e) in The Netherlands. He received his Ph.D. from TU/e in 2010 on the topic of embodiment and corporeal awareness in media technologies. His research interest is in understanding the interplay between humans and their everyday socio-physical surroundings, including those offered by media technologies. Part of his work involves the scientific investigation of telepresence, and the potential of media technologies in the aid of psychological research; investigating the use and validity of immersive virtual environments for urban lighting research, or the potential of mediated social touch technologies for touch research.

Wijnand A. IJsselsteijn has a background in cognitive neuropsychology and artificial intelligence. In 2004, he received his PhD from Eindhoven University of Technology (TU/e) on the topic of telepresence. Since 2012, he is full professor of Cognition and Affect in Human-Technology Interaction at Eindhoven University of Technology in The Netherlands. Wijnand's focus is on conceptualizing and measuring human experiences in relation to advanced media environments (immersive 3D media, serious games, affective computing) in the service of human learning, communication, health, and wellbeing. Wijnand has a keen interest in technological innovations (e.g., sensor-enabled mobile technologies, virtual environments) that make possible novel forms of human behaviour tracking, combining methodological rigor with ecological validity.

Jeremy Bailenson is founding director of Stanford University's Virtual Human Interaction Lab, an Associate Professor in the Department of Communication at Stanford, and a Senior Fellow at the Woods Institute for the Environment. He explores the manner in which people are able to represent themselves when the physical constraints of body and veridically-rendered behaviors are removed. Furthermore, he designs and studies virtual reality systems that allow physically remote individuals to meet in virtual space, and explores the manner in which these systems change the nature of verbal and nonverbal interaction. In particular, he explores how virtual reality can change the way people think about education, environmental behavior, and health.

Chapter 5

John M. Carroll is Distinguished Professor of Information Sciences and Technology at Pennsylvania State University. Recent books include *Learning in Communities* (Springer, 2009), *The Neighborhood in the Internet: Design Research Projects in Community Informatics* (Routledge, 2012), and *Creativity and Rationale: Enhancing Human Experience by Design* (Springer, 2012). Carroll is editor of the Synthesis Lectures on Human-Centered Informatics. Carroll received the Rigo Award and CHI Lifetime Achievement Award from ACM, the Goldsmith Award from IEEE. He is a fellow of AAAS, ACM, APS, HFES, and IEEE. In 2012, he received an honorary doctorate in engineering from Universidad Carlos III de Madrid.

Patrick C. Shih received the B.S. degree in Computer Science and Engineering from the University of California, Los Angeles, in 2003, the M.S. degree in Information Networking from Carnegie Mellon University in 2005, and the Ph.D. degree in Information and Computer Science from the University of California, Irvine in 2011. In 2012, he joined the College of Information Sciences and Technology at The Pennsylvania State University as a Research Associate. His current research interests

include community informatics, healthcare informatics, virtual communities, and educational technologies. Dr. Shih is a member of IEEE and ACM.

Blaine Hoffman is a user experience researcher. He earned a Bachelor of Science degree from Denison University, majoring in Computer Science and in Communication. Blaine went on as a graduate student within the College of Information Sciences and Technology at the Pennsylvania State University, exploring the roles of technology in social interaction. As a researcher, his interests and work included communication structures in open-source software communities, virtual communities, mobile computing, civic engagement and awareness, and user experience. Since completing his Ph.D. research and graduating in the summer of 2013, Blaine has been exploring career opportunities in industry to evaluate and inform design of more useful and engaging software.

Jing Wang received her Ph.D. degree in Information Sciences and Technology at Pennsylvania State University in 2013. Her research interests include human-computer interaction, computer-supported cooperative work, social computing, online communities, persuasive technologies, and creativity. She has published studies in a variety of domains, such as software development, education, and healthcare.

Kyungsik Han is a Ph.D. candidate in Information Sciences and Technology at Pennsylvania State University. He is interested in HCI and CSCW, especially the application of mobile technology in a geographical community context. Han received his B.S. in Computer Science from Kyungpook National University (2009) and M.S. in Computer Science from UCLA (2011).

Chapter 6

Dr. **Paul Cairns** is a Reader in Human-Computer Interaction at the University of York. He has a long-standing interest in immersion in digital games as well as broader gaming experiences. He was formerly at UCL where, with Anna Cox, he produced the first book on Research Methods for Human-Computer Interaction. His favourite cheese is Norwegian Jarlsberg.

Matthew Hudson is an Engineering Doctorate student at the University of York. His studies focus on Social Presence in virtual environments, specifically team-based games and mixed reality training simulations. He is supervised by Paul Cairns and sponsored by BAE Systems. He enjoys miniature compressors and avoiding virtual artillery.

Chapter 7

Dr. **Henry Moller**, B.Sc. (Hons.), MD, MSc, MPP, FRCPC, is a physician, researcher and theorist, board-certified in psychiatry, somnology and holistic/integrative medicine. His career began with a keen interest in the neuroscience of consciousness, and the impact of technology on wellbeing. Researching human-environment design vis-a-vis personal and public health promotion, he has successfully pioneered integration of immersive wellbeing programs in health and wellness settings. Current academic affiliations include University of Toronto's Faculty of Medicine, Music and Health Research Collaboratory and Knowledge Media Design Institute, as well as University of Waterloo Faculty of Applied Health Sciences.

Harjot Bal, M.Des., is an interdisciplinary designer in the emergent field of wellbeing technology, with an affiliation to OCAD University (Toronto, Ontario, Canada), Digital Futures Initiative Program. Interaction design works that aid in fostering empathy, sense of self, and wellbeing make up the range of his most recent work. Current focus is holistic health practices brought to technology in the form of audiovisual interaction pieces.

Kunal Sudan, B.Sc., studied psychology, neuroscience and behavior at McMaster University (Hamilton, Ontario, Canada), where he furthered his knowledge with studies in addictions and mental health at Ryerson University (Toronto, Ontario, Canada). He has a particular interest in neurochemistry, and integration of music into health care. He also has an interest in the neuroscience of sleep consciousness and interrelationships between immersive virtual realities and mental health therapies.

Luke R. Potwarka, Ph.D., is an Assistant Professor in the Department of Recreation and Leisure Studies at the University of Waterloo, in Ontario Canada. Luke earned his B.A. from the University of Waterloo (2002), his MA from Brock University (2004), and his Ph.D. from the University of Waterloo (2011). All of his degrees were completed in Recreation and Leisure Studies. His research is focused on understanding the behaviors and experiences of sport spectators and leisure participants. He is particularly interested in exploring relationships between cognitive function and sport and leisure participation.

Chapter 8

Sheryl Brahnam (M.F.A. Intermedia, Ph.D. Computer Science, and psychoanalytic candidate) is a full professor in the department of Computer Information Systems at Missouri State University and is the Director/Founder of the Infant COPE (Classification Of Pain Expressions) project. Her interests focus on medical decision support systems,

machine learning, embodied conversational agents, computer abuse, and, recently, virtual reality psychotherapy. She has served as guest editor of several books and special issues on virtual reality and rehabilitation, technologies for inclusive well-being, agent abuse, and computational systems for medicine. She has published extensively in such journals as *Pattern Recognition*, *Artificial Intelligence in Medicine*, *Amino Acids*, *Journal of Theoretical Biology*, *Expert Systems with Applications*, *Decision Support Systems*, *PLOS ONE*, and *Interacting with Computers*, as well as in many conferences and workshops devoted to human-computer interaction and artificial intelligence.

Chapter 9

Daniela Villani is a researcher in General Psychology at the Faculty of Educational Science, Catholic University of the Sacred Heart of Milan. She received a Ph.D. in Psychology in 2008 with a thesis entitled “Virtual Experiences support real emotions: Three experimental studies”. Her research focus is directed mainly in the field of Communication Psychology and to the application of mediated communication tools for the Psychology of Well-being. She has international collaborations and is author of contributions at national and international conferences as well as of national and international publications in peer-reviewed journals.

Pietro Cipresso is author and editor of several scientific publications and books such as “*Modeling Emotions at the Edge of Chaos*”, “*Computing Paradigms for Mental Health*”, “*The Psychology of Social Networking*” and “*Virtual Reality: Technologies, Medical Applications and Challenges*”, and also an editor of international peer-reviewed scientific journals. He received his Ph.D. in Communication and new technologies, Major in Psychology, from IULM University of Milan. He has been a Visiting Researcher at Massachusetts Institute of Technology (MIT) and is Principal Investigator or Co-Investigator on several international, European, and national projects on Emotions, Psychometrics, Psychophysiology, Brain Computer Interface (BCI), Stress and Virtual Reality.

Claudia Repetto is a psychologist and cognitive psychotherapist. After working as a researcher in neuropsychology, in 2013 she obtained a Ph.D. degree in Psychology from the Catholic University of Sacred Heart of Milan. Her research interests include memory, language and new technologies. She is author of contributions at national and international conferences as well as of national and international publications in peer-reviewed journals.

Chapter 10

Anna Felnhofer is a Research Associate in the Faculty of Psychology at the University of Vienna, Austria. Her research focuses on individual differences in physical and social presence in collaborative virtual environments, as well as on the nature of the relationship between self-reported emotional states and physiological arousal such as heart rate and skin conductance level and presence.

Oswald D. Kothgassner is a Research Associate in the Faculty of Psychology at the University of Vienna, Austria. His scientific focus is on social interaction in virtual environments and related issues such as physiological and hormonal changes during aversive and threatening social interactions, as well as social presence and social exclusion via media systems.

Chapter 11

Jesse Fox (M.A., University of Arizona; Ph.D., Stanford University) is an Assistant Professor in the School of Communication at The Ohio State University and the founder of the Virtual Environment, Communication Technology, and Online Research (VECTOR) Lab. Her research has appeared in *Communication Research*, *Media Psychology*, *Computers in Human Behavior*, and *PRESENCE*. Her current work focuses on the effects of virtual representations and social interaction on attitudes and behaviors, particularly in the contexts of health, environmentalism, and sex, gender, and sexuality.

Katheryn R. Christy (M.A., Purdue University) is a student in the Ph.D. program in the School of Communication at The Ohio State University. Her research has appeared in *Communication Methods and Measures* and the *Journal of Communication*. Her current work focuses on the use of new technologies for education and persuasion, with a special focus on issues surrounding sex and gender.

Mao H. Vang (M.A., The Ohio State University) is a student in the Ph.D. program in the School of Communication at The Ohio State University. Her research has appeared in *Cyberpsychology, Behavior, and Social Networking* and *Computers in Human Behavior*. Her current work focuses on the effects of identity, social categorization, and prejudice on user attitudes in computer-mediated contexts.