Agenda
Day 1: October 4, 2012

0800 - 0830  Doors open at 8:00 a.m.
Arrival and check in at USC ICT
Continental Breakfast (prior RSVP required)

0830 - 0835  Welcome
Dr. Randall W. Hill, Jr., Executive Director, USC ICT and Research Professor, USC Computer Science Department

0835 - 0840  Welcome
Dr. Randolph Hall, Vice President for Research, USC

0840 - 0845  TAB Intent
Mr. Jeffrey Singleton, Director for Basic Research OASA (ALT), USC ICT TAB Co-chair

0845 - 0855  Expected Outcomes for TAB
Dr. John Pellegrino, Director (Acting) Army Research Laboratory, USC ICT TAB Co-chair

0900 - 0920  FY13 Proposal Process
Mr. John Hart, Chief, Creative Technologies Branch and PM, USC ICT ARL-HRED, STTC

0920 - 0944  ICT Mission: Core Competencies, Research Threads and Accomplishments, Transitions and ICT's Impact on the Army
Dr. Randall W. Hill, Jr., Executive Director, USC ICT and Research Professor, USC Computer Science Department

0950 - 1010  Virtual Human Overview
Dr. Jonathan Gratch, Associate Director for Virtual Human Research, USC ICT and Research Associate Professor, USC Computer Science Department

1015 - 1030  Virtual Human Emotions and Virtual Human Assessment
Dr. Jonathan Gratch, Associate Director for Virtual Human Research, USC ICT and Research Associate Professor, USC Computer Science Department

1035 - 1050  Multimodal Behavior Understanding and Machine Learning
Dr. Louis-Philippe Morency, Research Scientist, USC ICT and Research Assistant Professor, USC Computer Science Department

1055 - 1110  Break

1110 - 1125  Virtual Human Embodiment
Dr. Stacy Marsella, Associate Director for Social Simulation, USC ICT and Research Associate Professor, USC Computer Science Department

1130 - 1145  SmartBody Animation
Dr. Ari Shapiro, Research Scientist, USC ICT
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<td>1150 - 1210</td>
<td>Natural Language Processing</td>
<td>Dr. David Traum, Research Scientist, USC ICT and Research Assistant Professor, USC Computer Science Department</td>
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<td>1215 - 1230</td>
<td>Integrated Virtual Humans</td>
<td>Mr. Arno Hartholt, Computer Scientist, USC ICT</td>
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<td>1235 - 1300</td>
<td>Lunch</td>
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<td>1305 - 1405</td>
<td>Next Generation Cognitive Architecture for Virtual Humans</td>
<td>Dr. Paul Rosenbloom, Professor, USC ICT and USC Computer Science Department</td>
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<td>1410 - 1430</td>
<td>Computational Simulation and Modeling of Society (COSMOS)</td>
<td>Dr. Stacy Marsella, Associate Director for Social Simulation, USC ICT and Research Associate Professor, USC Computer Science Department, Dr. David Pynadath, Research Scientist, USC ICT</td>
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<td>1435 - 1450</td>
<td>Graphics: Photoreal Face and Body Acquisition</td>
<td>Dr. Paul Debevec, Associate Director for Graphics Research, USC ICT and Research Professor, USC Computer Science Department</td>
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<td>1450 - 1455</td>
<td>Graphics: Scan Correspondence for Animated Faces</td>
<td>Mr. Graham Fyffe, Computer Scientist, USC ICT</td>
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<td>1455 - 1500</td>
<td>Graphics: Advanced Surface Reflectance Capture</td>
<td>Dr. Abhijeet Ghosh, Research Assistant Professor, USC ICT and USC Computer Science Department</td>
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<td>1500 - 1520</td>
<td>Graphics: Universal Scanning and Immersive Displays</td>
<td>Dr. Paul Debevec, Associate Director for Graphics Research, USC ICT and Research Professor, USC Computer Science Department</td>
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<td>1520 - 1540</td>
<td>Room Transition</td>
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<td>1540 - 1600</td>
<td>Break</td>
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<td>1600 - 1645</td>
<td>Applied Research 6.2</td>
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<td>1600 - 1620</td>
<td>Authoring Realistic Learning Environments with Stories (ARLES)</td>
<td>Dr. Andrew S. Gordon, Research Scientist, USC ICT and Associate Research Professor, USC Computer Science Department</td>
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<td>1625 - 1645</td>
<td>Situated Pedagogical Authoring for Virtual Human-based Training</td>
<td>Dr. H. Chad Lane, Research Scientist, USC ICT</td>
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<td>1650 - 1735</td>
<td>Seedling Proposal Presentations</td>
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<td>1740 - 1825</td>
<td>Interactive Demonstrations</td>
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<td>1830 - 1900</td>
<td>Dinner at ICT (by invitation only)</td>
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Day 2: October 5, 2012

0815 - 0830  Arrival and Check In  Continental Breakfast (prior RSVP required)

0830 - 0835  Welcome
Dr. Randall W. Hill, Jr., Executive Director, USC ICT and Research Professor, USC Computer Science Department

0835 - 0915  Seedling Proposal Presentations
Distance Learning Instructional Aid (DLIA)
Mr. Mike Birch, Programmer Analyst, USC ICT

FlashMob: Portable, Low-Cost, Near-instant Facial Capture
Mr. Graham Fyffe, Computer Scientist, USC ICT

Tutoring During Exploratory Learning (TUDEL)
Mr. Daniel Auerbach, Programmer Analyst, USC ICT

Cloud Computing Virtual Human Toolkit
Mr. Thomas Amundsen, Programmer Analyst, USC ICT

Questions from the audience

0920 - 0940  Stress Resilience in Virtual Environment Involving Loss and Grief (STRIVE-Loss)
Dr. Albert 'Skip' Rizzo, Associate Director for Medical Virtual Reality, USC ICT and Research Professor, USC Davis School of Gerontology and USC Keck School of Medicine Department of Psychiatry & Behavioral Sciences

Dr. John Galen Buckwalter, Research Scientist, USC ICT

0945 - 1005  Data-driven Enhancement of Virtual Humans Using the SimCoach Architecture
Mr. Eric Forbell, Computer Scientist, USC ICT

Dr. Kenji Sagae, Research Assistant Professor, USC ICT and USC Computer Science Department

1010 - 1030  Avatar Investment Metrics (AIM)
Dr. Jacki Morie, Research Scientist, USC ICT

1035 - 1055  Mixed Reality Research and Development
Mr. Mark Bolas, Associate Director for Mixed Reality Research and Development, USC ICT and Associate Professor, USC School of Cinematic Arts Interactive Media Division

Dr. David Krum, Computer Scientist, USC ICT

Dr. Evan Suma, Senior Research Associate, USC ICT

1100 - 1115  Break

1115 - 1130  Immersive Commander's Environment (ICE)
Mr. Dan Wright, J.D., Project Director, USC ICT
Ms. Julia Kim, Project Director, USC ICT

1135 - 1155  Emergent Leader Immersive Training Environment (ELITE)
Mr. Matthew Timmer, Project Director, USC ICT

Dr. Julia Campbell, Research Associate, USC ICT

1200 - 1210  Break & Distribution of Box Lunches (For Guests Only)

1210 - 1300  Government Only Meeting
Dr. Randall W. Hill, Jr.
Executive Director
hill@ict.usc.edu

Randall W. Hill, Jr. became the executive director of the USC Institute for Creative Technologies in 2006. A leader in understanding how classic storytelling and high-tech tools can create meaningful learning experiences, Hill steers the institute’s exploration of how virtual humans, mixed reality worlds, advanced computer graphics, dramatic films, social simulations and educational video games can augment more traditional methods for imparting lessons. He oversees a diverse team of scientists, story tellers, artists and educators as they pioneer and evaluate new ways to deliver effective teaching and training in areas including leadership, cultural awareness, negotiation and mental health treatment and assessment.

Hill is also a research professor of computer science at the USC Viterbi School of Engineering. His research focus is on using intelligent tutoring systems and virtual humans to create immersive learning environments.

Hill’s career at USC began in 1995 at the USC Information Sciences Institute where he worked on the development of models of human behavior and decision-making for real-time simulation environments. He joined the USC Institute for Creative Technologies in 2000 as a senior scientist. Prior to his work at USC, Hill served as a group supervisor and the work area manager for network automation in the Deep Space Network Advanced Technology Program at NASA’s Jet Propulsion Laboratory.

Hill graduated with a bachelor of science degree from the United States Military Academy at West Point and subsequently served as a commissioned officer in the U.S. Army for six years with assignments in field artillery and military intelligence. He earned M.S. and Ph.D. degrees in computer science from the University of Southern California.

He is a member of the American Association for Artificial Intelligence and has written over 50 technical publications, including a co-authored article, “Toward Virtual Humans” featured in AI Magazine in the summer of 2006.

Ms. Cheryl Birch
Director of Finance, Operations and Human Resources
birch@ict.usc.edu

Attracted by the opportunity to combine her Hollywood experience and high-tech, Cheryl Birch joined the USC Institute for Creative Technologies shortly after its inception, where she serves as director of finance, operations, and human resources.

Birch oversaw the development of the Business Office Services System, a web-based system that supports the administration of research at ICT. She currently serves on the executive steering committee overseeing the implementation of Kuali administrative information systems at USC (administrative software created by a consortium of universities). She chairs both the semi-annual UARC business managers’ meeting and the Kuali Financial Systems user functional council. She was nominated in 2008 and 2009 for the Los Angeles Business Journal’s CFO of the Year award in the nonprofit category.

Prior to joining ICT, Birch spent 15 years in the entertainment industry, working in the network television divisions of MCA Inc./Universal Studios and Paramount Pictures. Rising to vice president of business affairs, she negotiated deals for such popular series as Murder, She Wrote, Coach, Quantum Leap, Star Trek: Voyager, JAG and Wings. Birch started her career in public accounting, practicing for the then Big-8 firm, Ernst & Whinney. She earned an MBA from UCLA with a focus on management information systems.

Birch has always been motivated by her belief that one person truly can make a difference. She co-founded the national nonprofit organization, Compassion in Action: The Twilight Brigade, which is dedicated to the mission that no one need die alone. Through that organization, which is headquartered at the VA Hospital in West Los Angeles, volunteers are recruited, trained and placed at the bedside of the terminally ill.

Dr. William Swartout
Director of Technology
rwuartou@ict.usc.edu

William Swartout has been involved in the research and development of artificial intelligence systems for over 30 years. He is the director of technology at the USC Institute for Creative Technologies and a research professor of computer science at the USC Viterbi School of Engineering. His particular research interests include virtual humans, explanation and text generation, knowledge acquisition, knowledge representation, intelligent computer based education and the development of new AI architectures. At ICT, Swartout provides overall direction for the institute’s research programs.

In 2009, Swartout received the Robert Engelmore Award from the Association for the Advancement of Artificial Intelligence (AAAI) for seminal contributions to knowledge-based systems and explanation, groundbreaking research on
Biographies

Senior Management Team

Ms. Lori Weiss
Director of Communications and Research Administration
weiss@ict.usc.edu

Lori Weiss came to ICT in 2003 with a desire to return to her research and development roots. As ICT’s director of communications and research administration, she works closely with institute scientists and government administrators to create and refine policies and procedures in support of research objectives. She also oversees marketing and public relations efforts, including VIP visits, public tours and media relations.

Weiss joined ICT in 2003 as a special project manager for the virtual human program, a newly created position that capitalized on her experience facilitating and transitioning technology research to improve training and education. She was named a member of the senior management team in 2007 and has led and co-led several projects, including Gunslinger, a virtual human integration demonstration, and the National Training Center’s Comprehensive Enhanced Fidelity Program.

Her career in technology and education research began in 1985 when she joined Apple Computer’s advanced technology group, working with computer pioneer Alan Kay. For over a decade, Weiss served as program manager for several educational research projects at Apple, including the Vivarium program, which provided sophisticated, yet easy-to-use, simulations and programming languages for children, along with training support for classrooms and teachers.

Weiss was also the business manager for the East/West Consortium, an Advanced Research Projects Agency (ARPA) matching-funded Technology Reinvestment Project in Apple Computer’s authoring tools group. This multi-year project with a consortium including Apple Computer, Houghton Mifflin and four prestigious universities, developed tools to empower non-programmers to create interactive content, training and educational software.

Weiss then joined Walt Disney Imagineering’s research and development group as director of business management, where she worked to transition projects out of R&D and into Disney stores, theme parks and Disney’s animation division. She went on to work with two strategic consulting firms in marketing and program development and served as vice president of program development for Technology Transfer Institute’s Vanguard program.

She has served on advisory boards for UC Santa Cruz Life Lab Science Program, Marlboro College’s Education of program development for Technology Transfer Institute’s Vanguard program.

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She has served on advisory boards for UC Santa Cruz Life Lab Science Program, Marlboro College’s Education of program development for Technology Transfer Institute’s Vanguard program.

Weiss earned a bachelor’s degree in political science from UCLA and an MBA from Pepperdine University.

Biographies

Associate Directors

Mr. Mark Bolas
Associate Director for Mixed Reality Research and Development
bolas@ict.usc.edu

Mark Bolas is a researcher exploring perception, agency and intelligence. His work focuses on creating virtual environments and transducers that fully engage one’s perception and cognition and create a visceral memory of the experience.

He is the associate director for mixed reality research and development at ICT. He is also an associate professor of interactive media in the Interactive Media Division of the USC School of Cinematic Arts. In addition Bolas is the chairman of Fakespace Labs in Mountain View, California, which he co-founded to build instrumentation for research labs to explore virtual reality.

He has been a professor at Stanford University and Keio University, exploring tangible interfaces, augmented reality and computational illumination. These projects have explored context sensitive audio interfaces, socially interactive toys, augmented reality, confocal illumination and mobile phone logging.

His work has been exhibited in many venues including six Emerging Technology exhibits at SIGGRAPH, starting in 1991 with Flatland, which used the illusion of perspective to transform a sculpture into Mandelbrot’s “Composition with Line; the music-driven worlds of Vauui and StillLife created with Christian Greuel and Niko Bolas; and the invisibly structured Snared Illumination created with Perry Hobberman and Ian McDowell.

Bolas majored in physics and minored in music at University of California, San Diego. He holds an M.S. in mechanical engineering from Stanford University. His 1988-89 thesis work “Design and Virtual Environments” was done under the direction of Rolf Faste in Stanford’s design program and Scott Fisher at NASA Ames Research Center. It was among the first efforts to map the breadth of virtual reality as a new medium. This effort led Bolas toward a basic model for immersive experience design, concluding that the medium’s power to deeply transport a user is closely tied to finding an appropriate balance between realism and abstraction.

Dr. Paul Debevec
Associate Director for Graphics Research
debèvec@ict.usc.edu

Paul Debevec is a research professor of computer science at the University of Southern California and the associate director of graphics research at the USC Institute for Creative Technologies. Debevec’s Ph.D. thesis (UC Berkeley, 1996) presented Façade, an image-based modeling and rendering system for creating photoreal architectural models from photographs. Using Façade he led the creation of virtual cinematography of the Berkeley campus for his 1997 film, The Campanile Movie, whose techniques were used to create virtual backgrounds in The Matrix.

Subsequently, Debevec pioneered high dynamic range image-based lighting techniques in his films Rendering with Natural Light (1998), Fiat Lux (1999), and The Parthenon (2004). He also leads the design of HDR Shop, the first high dynamic range image editing program. At ICT, Debevec has led the development of a series of Light Stage devices for capturing and simulating how objects and people reflect light. They have been used to create photographic digital actors in films such as Spider-Man 2, Superman Returns, The Curious Case of Benjamin Button and Avatar.

Debevec received ACM SIGGRAPH’s first Significant New Researcher Award in 2001 and co-authored the 2005 book High Dynamic Range Imaging from Morgan Kaufmann. In addition, he chaired the SIGGRAPH 2007 Computer Animation Festival and is Vice President of ACM SIGGRAPH. In 2010, he received a Scientific and Engineering Academy Award® for his work on the Light Stage systems.

(Debevec continued) virtual human technologies and their applications, and outstanding service to the artificial intelligence community. He is a Fellow of the AAAI, has served on their Board of Councillors and is past chair of the Special Interest Group on Artificial Intelligence of the Association for Computing Machinery. He is a past member of the Air Force Scientific Advisory Board and the Board on Army Science and Technology of the National Academies and the JFSCOM Transformation Advisory Group. Prior to joining ICT in 1999, Swartout was director of the Intelligent Systems Division at USC Information Sciences Institute. He received his Ph.D. and M.S. in computer science from MIT and his bachelor’s degree from Stanford University.

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Biographies

Associate Directors

**Dr. Jonathan Gratch**
Associate Director for Virtual Human Research
gratch@ict.usc.edu

Jonathan Gratch’s research focuses on virtual humans and computational models of emotion. He studies the relationship between cognition and emotion, the cognitive processes underlying emotional responses, and the influence of emotion on decision-making and physical behavior.

He is the associate director for virtual humans research at the USC Institute for Creative Technologies, a research associate professor in the Department of Computer Science at the USC Viterbi School of Engineering and co-director of USC’s Computational Emotion Group. He completed his Ph.D. in computer science at the University of Illinois in Urbana-Champaign in 1995.

A recent emphasis of his work is on social emotions, emphasizing the role of contingent nonverbal behavior in the co-contraction of emotional trajectories between interaction partners. His research has been supported by the National Science Foundation, DARPA, AFOSR and RDECOM. Along with ICT’s Stacy Marsella, Gratch received the Association for Computing Machinery’s Special Interest Group on Artificial Intelligence 2010 Autonomous Agents Research Award, an annual award for excellence for researchers influencing the field of autonomous agents.

Gratch is the editor-in-chief of the journal IEEE Transactions on Affective Computing and a member of the editorial boards of the journals Emotion Review and Journal of Autonomous Agents and Multiagent Systems. He is the president of the HUMAINE Association for Research on Emotions and Human-Machine Interaction, and a frequent organizer of conferences and workshops on emotion and virtual humans. He belongs to the American Association for Artificial Intelligence and the International Society for Research on Emotion. Gratch is the author of over 150 technical articles.

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**Dr. Stacy Marsella**
Associate Director for Social Simulation
marsella@ict.usc.edu

Stacy Marsella, associate director for social simulation at ICT, is a research associate professor of computer science at the University of Southern California, heads the Social Simulation Group at ICT and co-directs USC’s Computational Emotion Group. He has a Ph.D. from Rutgers University with a focus on AI and human problem solving. He is well known for his work in computational models of human cognition and emotion. He also has extensive experience in the design and construction of simulations of social interaction for a variety of research, education and analysis applications. This includes his work on virtual humans for immersive training environments such as ICT’s MRE and SASO-ST systems and the DARPA-sponsored Tactical Language System.

He leads several projects related to virtual humans including NVBG, a nonverbal behavior generation system, and PsychSim, a model of social interaction based on theory-of-mind modeling. He is also the co-developer of the EMA emotion model with Jon Gratch. He has worked on psychotherapeutic applications of emotion models, including his work on Carmen’s Bright Ideas, a system that teaches coping strategies to parents of cancer patients.

Marsella plays a leadership role in organizing conferences on virtual humans, social intelligence and emotion modeling. He has published over 150 technical articles and is on the editorial boards of the Journal of Experimental and Theoretical Artificial Intelligence, IEEE Transactions on Affective Computing and the Journal of Intercultural Communication. He is member of the Association for the Advancement of Artificial Intelligence, a fellow in the Society of Experimental Social Psychologists, and a member in the International Society for Research on Emotions. Along with ICT’s Jonathan Gratch, Marsella received the Association for Computing Machinery’s Special Interest Group on Artificial Intelligence 2010 Autonomous Agents Research Award, an annual award for excellence for researchers influencing the field of autonomous agents.

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**Dr. Albert “Skip” Rizzo**
Associate Director for Medical Virtual Reality
rizzo@ict.usc.edu

Psychologist Skip Rizzo conducts research on the design, development and evaluation of virtual reality (VR) systems targeting the areas of clinical assessment, treatment rehabilitation and resilience. This work spans the domains of psychological, cognitive and motor functioning in both healthy and clinical populations.

Rizzo is the associate director for medical virtual reality at the USC Institute for Creative Technologies. He also holds research professor appointments with the USC Department of Psychiatry and Behavioral Sciences and at the USC Davis School of Gerontology. Rizzo and colleagues received the American Psychological Association’s 2010 Award for Outstanding Contributions to the Treatment of Trauma for their work using virtual reality exposure therapy. In 2012 he received the Medicine Meets Virtual Reality Satava Award in recognition of his understanding and realization of the potential of VR as a therapeutic tool to help patients overcome mental and physical disabilities.

Rizzo is working with a team that is creating artificially intelligent virtual patients that clinicians can use to practice skills required for challenging clinical interviews and diagnostic assessments and is a leader on the SimCoach project, which aims to create online virtual human healthcare guides for breaking down barriers to care with service members and veterans. His cognitive work has addressed the use of VR applications to test and train attention, memory, visuospatial abilities and executive function. In the motor domain, he has developed VR game systems to address physical rehabilitation post stroke and traumatic brain injury and for prosthetic use training. He has also investigated the use of VR for pain distraction at L.A. Children’s Hospital. Rizzo is currently examining the use of VR applications for training emotional coping skills with the aim of preparing service members for the stresses of combat via the STRIVE project.

Rizzo is the associate editor of the journal, The International Journal of Virtual Reality. He is senior editor of the MIT Press journal, Presence: Teleoperators and Virtual Environments. He also sits on a number of editorial boards for journals in the areas of cognition and computer technology (Cognitive Technology, Journal of Computer Animation and Virtual Worlds; Media Psychology) and is the creator of the Virtual Reality Mental Health Email Listserve.

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**Dr. Julia Campbell**
Research Associate
campbell@ict.usc.edu

Dr. Julia Campbell is a research associate at the USC Institute for Creative Technologies. In this role, she develops and implements VR training systems for a variety of real-world applications. She has worked on projects that range from healthcare training to military simulation.

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**Dr. John Galen Buckwalter**
Research Scientist
ggbuckwalter@ict.usc.edu

Galen Buckwalter is a research scientist at the Institute for Creative Technologies at the University of Southern California (USC). Buckwalter began his career as an assistant research professor at USC and transitioned to being a director of research and evaluation at So. Calif. Kaiser Permanente. Buckwalter was also the founding researcher for the online relationship-building company eHarmony.com, where he served as chief scientist. He is currently a member of the National Board of Medical Examiners. Buckwalter also was a principle in the award winning documentary, Rolling, which portrayed the vicissitudes of life in a wheelchair.

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**Dr. John Galen Buckwalter**
Research Scientist
ggbuckwalter@ict.usc.edu

Galen Buckwalter is a research scientist at the Institute for Creative Technologies at the University of Southern California (USC). Buckwalter began his career as an assistant research professor at USC and transitioned to being a director of research and evaluation at So. Calif. Kaiser Permanente. Buckwalter was also the founding researcher for the online relationship-building company eHarmony.com, where he served as chief scientist. He is currently a member of the National Board of Medical Examiners. Buckwalter also was a principle in the award winning documentary, Rolling, which portrayed the vicissitudes of life in a wheelchair.

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**Dr. Julia Campbell**
Research Associate
campbell@ict.usc.edu

Dr. Julia Campbell is a research associate at the USC Institute for Creative Technologies. In this role, she focuses on instructional design, incorporating cognitive task analyses and learning sciences to inform training system development. She has provided instructional design support for: the Mobile Counter IED Interactive Trainer, the Immersive Naval Officer Training System, the Emergent Leader Immersive Training Environment, the Intelligence, Surveillance and Reconnaissance Online Trainer, and the Dismounted Interactive Counter IED Environment for Training.

Campbell joined ICT in 2004 and has contributed to a number of institute projects including: the Joint Fires
Mr. Eric Forbell
Computer Scientist
forbell@ict.usc.edu
Eric Forbell is a principal software engineer at USC's Institute for Creative Technologies and currently directs the research and development of the SimCoach virtual human platform, bringing virtual characters to the web to support a variety of applications including helping to break down barriers to behavioral healthcare. With a strong background in modeling and simulation and enterprise computing, his expertise enables the building of complex integrated solutions that govern lifelike, conversational characters and supporting authoring tools. His earlier ICT work includes the BiLAT negotiation and resilience training systems — the former a U.S. Army Simulation of the Year in 2008 — currently deployed at training centers around the nation and abroad and helping to drive technical research through applied technical achievement.

Forbell has 15 years of experience in designing and developing complex software systems of varying scales. As a senior systems engineer at the MITRE Corporation’s Air Force Center, work included the development of human-oriented virtual trainers, decision support systems and solutions to improve information operations across command and control battle environments for the U.S. Air Force’s Electronic System’s Center. Forbell received two B.A. degrees from Bowdoin College in computer science and neuroscience.

Mr. Graham Fyffe
Computer Scientist
fyffe@ict.usc.edu
Graham Fyffe is a computer scientist in the Graphics Lab of the USC Institute for Creative Technologies. He previously worked at Sway Studio in Los Angeles, CA, during which time he received a Visual Effects Society award in 2007 for Outstanding Visual Effects in a Music Video. He received his masters and master's degrees. He was one of a select few to receive a prestigious Fortis IT Student scholarship. He first came into contact with ICT in 2003 as part of his computer science internship program, resulting in a paper presented at the Workshop on Affective Dialogue Systems in Germany, 2004. After graduating, Hartholt worked as a project coordinator at the quickly expanding Sqills IT Revolutions. There, he led a team of designers and programmers, developing an online self-service ticketing system for the Dutch and Belgian International Railway Companies.

Hartholt studied computer science at the University of Twente in the Netherlands where he earned both bachelor’s and master’s degrees. He was one of a select few to receive a prestigious Fortis IT Student scholarship. He first came into contact with ICT in 2003 as part of his computer science internship program, resulting in a paper presented at the Workshop on Affective Dialogue Systems in Germany, 2004. After graduating, Hartholt worked as a project coordinator at the quickly expanding Sqills IT Revolutions. There, he led a team of designers and programmers, developing an online self-service ticketing system for the Dutch and Belgian International Railway Companies.

Mr. Arno Hartholt
Computer Scientist
hartholt@ict.usc.edu
Arno Hartholt is the project leader of the Integrated Virtual Humans group and of the central ICT art group. As such, he bears responsibility for much of the technology, art, processes and procedures related to virtual humans. These include the integrated research prototype SASO, the mixed-reality Gunslinger project, and the Virtual Human Toolkit, which is freely available to the research community and U.S. government. He is also involved in a variety of other projects, including SimCoach, INOTS/ELITE, NSF Museum Guides, Coach Mike, BraveMind and Strive.

Mr. Andrew Jones
Research Programmer
jone@ict.usc.edu
Andrew Jones has been a researcher in the Graphics Lab of the USC Institute for Creative Technologies since 2002. During his graduate studies, he contributed to the ICT Parthenon project and high dynamic range sky photography. More recently, Jones has led a multi-year effort to design new autostereoscopic 3D displays. This research was published at ACM SIGGRAPH in 2007 and 2009, was awarded “Best Emerging Technology” at SIGGRAPH 2007 and won “Best Paper” at PROCAS 2011. Another major research effort for Jones has been the development of the ICT Light Stages for facial and full body scanning. His latest project is a new light-weight head-mounted camera system that allows simultaneous capture of detailed facial geometry with full-body motion capture.

Dr. Andrew S. Gordon
Research Scientist
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Andrew S. Gordon is a research associate professor of computer science at the University of Southern California Institute for Creative Technologies. He leads interdisciplinary research on storytelling and the human mind, exploring how people experience, interpret, and narrate the events in their lives. A central focus of his research is on the abstract knowledge that enables interpretation of experiences, including the expectations that people have of everyday activity contexts and the commonsense theories that people have of their own psychology. In support of his research goals, he has pioneered methods for collecting and analyzing personal storytelling on a massive scale, identifying tens of millions of narratives posted to Internet weblogs. He has used this collection in a variety of innovative applications using novel information retrieval and natural language processing techniques, particularly in the areas of commonsense casual reasoning, story-based learning environments, and comparative analyses of health-related personal experiences. He is the author of the 2004 book, Strategy Representation: An Analysis of Planning Knowledge. He received his Ph.D. in 1999 from Northwestern University.
Guides project where he directed the development of Coach Mike, a pedagogical agent that teaches programming at the Center, a corporate research lab for the Bosch Group. He was previously a software engineer at Motorola and a software engineer before joining ICT.

Krum graduated from the California Institute of Technology with a B.S. in engineering and applied science. After earning an M.S. in computer science at the University of Alabama in Huntsville, he began his Ph.D. work in computer science at the Georgia Institute of Technology. His Ph.D. research focused on how wearable computers, combined with 3-D visualizations could enhance spatial cognition, that is, help individuals more quickly learn the structure of their surrounding environment.

Before joining ICT, Krum was most recently a researcher and project manager at the Bosch Research and Technology Center, a corporate research lab for the Bosch Group. He was previously a software engineer at Motorola and a software consultant to a location based media start up. Krum is a member of the Institute of Electrical and Electronics Engineers and the Association for Computing Machinery.

H. Chad Lane's research involves applications of artificial intelligence to educational problems. He joined the USC Institute for Creative Technologies in 2004 where his work has focused on issues related to learning in game-based and informal learning environments. The central aim of this effort has been to augment systems with automated guidance and feedback, in order to ensure that learners acquire the knowledge that the systems intend to teach. Recently, Lane was a co-PI on the Responsive Virtual Human Museum Guides project where he directed the development of Coach Mike, a pedagogical agent that teaches programming at the USC Institute for Creative Technologies, where he helps lead the Mixed Reality Research and Development Group.

Dr. David Krum
Computer Scientist
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Dr. H. Chad Lane
Computer Scientist
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Dr. Jacquelyn Ford Morie
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Dr. Louis-Philippe Morency
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Biographies

**Ms. Julia Kim**
Project Director
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Julia Kim is a project director at the University of Southern California Institute for Creative Technologies. She is co-leading the Immersive Commander’s Environment project. She oversees multi-disciplinary efforts that integrate technology and media, mostly for military training and education. She works with basic research staff to define and develop research technologies that work with off-the-shelf and custom-built solutions. In addition, she collaborates with creative talent to design the experience and content for ICT’s systems. She has extensive experience working with Soldiers and Marines as well as civilian staff. Current projects include Game of Tradeoffs for the Naval Postgraduate School Department of Defense Analysis and Cognitive Cartography for TATRC. Previous projects include CHAOS, BiLAT, and Army Excellence in Leadership.

Kim first worked as a programmer for companies small and large, then became a management consultant with the Internet firm iXL, developing technology and product strategies for clients. She studied the history of science at Harvard University (B.A. and M.A.), with a focus on the history of information science and technology. While in graduate school, she served as a Harvard University Presidential Information Technology Fellow, advising faculty on the use of new technology and media in teaching.

Dr. David Krum
Computer Scientist
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David Krum is a researcher in the fields of human-computer interaction, virtual reality, 3-D interaction, and wearable computing. His work combines an engineering approach of building technical artifacts with a scientific approach of experimentation and user evaluation. He is currently a computer scientist at the USC Institute for Creative Technologies, where he helps lead the Mixed Reality Research and Development Group.

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Dr. H. Chad Lane
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(Lane continued)

Boston Museum of Science.

Because of the interdisciplinary nature of his research, Lane has ongoing collaborations with cognitive and educational psychologists from the Army Research Institute, the USC Rossier School of Education, and the Keck School of Medicine at USC. In addition, he has worked closely with U.S. Army instructors and subject-matter experts to both understand their pedagogical approaches, as well as to integrate computer-based training support into Army programs of instruction.

The tutoring team, lead by Lane and Mark Core, will next shift their focus to pedagogical authoring tools for virtual-human based systems. The approach, called Situated Pedagogical Authoring, will allow a non-expert to populate models of expert performance and feedback by interacting with a system as the learner will see it. Authors will be asked to simulate expert and novice performance, and from this it will infer appropriate intelligent tutoring interventions.

Lane earned his Ph.D. in computer science from the University of Pittsburgh in 2004 and has over 40 publications in AI and the learning sciences. For the past two years he has served on the executive committee for the AIED Society and on the Senior Program committee for the AIED and ITS conferences. He is also serving on the advisory board (of 8 members) and is editor for the prestigious NSF Cyberlearning Summit coming in January of 2012, and in November will serve as a reviewer for the European Commission.

Dr. Louis-Philippe Morency
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Louis-Philippe Morency specializes in the computational study of nonverbal social communication, a multi-disciplinary research topic that overlays the fields of multi-modal interaction, computer vision, machine learning, social psychology and artificial intelligence. He is currently a research assistant professor of computer science at the University of Southern California Viterbi School of Engineering and research scientist at the USC Institute for Creative Technologies where he leads the Multimodal Communication and Machine Learning Laboratory.

During his Ph.D. research, Morency received two best paper awards for his work on context-based visual gesture recognition and audio-visual speaker adaptation. Morency was then selected in 2008 by IEEE Intelligent Systems as one of the “Ten to Watch” for the future of AI research. He later received four best paper awards in multiple ACM- and IEEE-sponsored conferences for his work on automatic facial analysis, multimodal fusion and computational modeling of human communication dynamics. His work was reported in The Economist, New Scientist and Fast Company magazines. Morency received his Ph.D. in computer science from the MIT Computer Science and Artificial Intelligence Laboratory in 2006.

Dr. Louis-Philippe Morency
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Dr. Jacquelyn Ford Morie
Research Scientist
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Jacquelyn Ford Morie has been with ICT since its inception in 1999, and has led several projects over this time, including the Sensory Environments Evaluation project, which measured participant physiological reactions to a multisensory immersive VR, including smell. Most recently she has pioneered the use of virtual worlds as an advanced form of tele-health care in the Coming Home effort. This project, now in its third year, creates innovative healing modalities in online virtual worlds for veterans in partnership with the National Intrepid Center of Excellence in Psychological Issues and TBI in Bethesda, MD. Her research interests include immersive worlds, social networking, and especially how people connect and relate to their avatars within these technologies. Prior to joining ICT, Morie spent six years in the animation and effects industry at Disney Feature Animation, Blue Sky/VIFX and the award-winning Rhythm & Hues. From 1990 to 1994, she was a researcher at the University of Central Florida's Institute for Simulation and Training doing pioneering work in affective virtual reality environments designed to evoke emotional responses from their participants.

She is co-founder of the game collective, Ludica, and speaks at many international venues on the subjects of games for experiential learning, virtual worlds and the effects of online identities. She is a long-standing ACM SIGGRAPH member and is a current director on its executive council. In addition she has held several key positions within the annual conferences over the last 25 years, and founded the Digital Arts Community of the SIGGRAPH organization.
Biographies

TAB Presenters


Morie is also a member of the International Visual Effects Society, the Digital Games Research Association, Women and Games International, DARPA’s IAST Study Group, and the International Society of Presence Research.

Morie holds both an MFA and an M.S. degree in computer science from the University of Florida. She earned her doctorate in computer information from the University of East London. Her dissertation focused on theories of space, embodiment and meaning in immersive virtual environments.

Paul S. Rosenbloom is a professor of computer science at the USC Viterbi School of Engineering and is currently working with the USC Institute for Creative Technologies on the Sigma cognitive architecture. Rosenbloom was a co-developer of the Soar architecture, co-leading the distributed Soar project from 1983 until 1998. He was a key member of the USC Information Sciences Institute for two decades, leading the institute’s new directions activities over the second decade, and finishing up as deputy director in 2007. His book on computing, On Computing: The Fourth Great Scientific Domain, which was originally inspired by this work, is due out from MIT Press in November of 2012.

He was elected a Fellow of the Association for the Advancement of Artificial Intelligence (AAAI) in 1994 and has served as both councilor and conference Chair for AAAI, and as the chair of the Association for Computing Machinery Special Interest Group on Artificial Intelligence.

Before arriving at USC in 1987, he spent a year as research faculty at CMU and three years as an assistant professor of computer science and psychology at Stanford.

Rosenbloom received a B.S. degree from Stanford University in mathematical sciences in 1976 (with distinction) and M.S. and Ph.D. degrees in computer science from Carnegie Mellon University in 1978 and 1983, respectively.

Dr. Ari Shapiro
Research Scientist
shapiro@ict.usc.edu

Ari Shapiro has nearly two decades of professional experience in the computer field as an engineer, consultant, manager and scientist. He currently works as a research scientist at the USC Institute for Creative Technologies, where his focus is on synthesizing realistic animation for virtual characters.

At ICT, he heads the Character Animation and Simulation group, which performs animation research and develops the SmartBody platform. SmartBody serves as an animation system for synchronizing speech, facial animation, body motion and gesturing for many of ICT’s real time virtual human applications.

For several years, he worked on character animation tools and algorithms in the research and development departments of visual effects and video games companies such as Industrial Light and Magic, LucasArts and Rhythm and Hues Studios. He has worked on many feature-length films and received credits in The Incredibles Hulk and Alvin and the Chipmunks 2. In addition, he holds video games credits in the Star Wars: The Force Unleashed series.

Shapiro has published many academic articles in the field of computer graphics in animation for virtual characters, and is a five-time SIGGRAPH speaker.

He completed his Ph.D. in computer science at UCLA in 2007 in the field of computer graphics with a dissertation on character animation using motion capture, physics and machine learning. He also earned an M.S. in computer science from UCLA, and a B.A. in computer science from the University of California, Santa Cruz.

Dr. Kenji Sagae
Research Assistant Professor
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Kenji Sagae is a research assistant professor in the Department of Computer Science at the University of Southern California and a research scientist in the USC Institute for Creative Technologies. He received his Ph.D. from Carnegie Mellon University in 2006. Prior to joining USC in 2008, he was a research associate in the computer science department of the University of Tokyo. His main areas of research are natural language processing and computational linguistics, focusing on data-driven approaches for syntactic parsing, predicate–argument analysis and discourse processing. His current work includes the application of these techniques in various application areas, such as dialogue systems, modeling of human communication dynamics, and analysis of personal narrative in blog posts.

Dr. Evan Suma
Senior Research Associate
suma@ict.usc.edu

Evan A. Suma is a senior research associate at the USC Institute for Creative Technologies. As one of the principal members of the Mixed Reality Lab, his work focuses on techniques and technologies that enhance virtual experiences and address important challenges in the domains of training, education, health, and rehabilitation. His research interests include studying perceptual illusions that enable infinite walking through expansive virtual environments, as well as exploring novel interaction metaphors incorporating body motion and gesture. He is also the author of the Flexible Aversion and Skeleton Toolkit (FAAST), a software framework for integrating full-body interaction with virtual environments and video games that has been widely adopted by the research and hobbyist communities.

Suma has written or co-authored over 40 papers in the areas of virtual environments and 3-D user interfaces with multiple best paper awards at academic conferences. He also serves on the organizing/program committees for CHI, IEEE VR, IEEE 3DUI, ACM VRST, and FDG.
Mr. Matthew Trimmer
Project Director
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Matthew Trimmer has led several mixed reality and game-based training efforts at the USC Institute for Creative Technologies. He is currently the project leader for the Immersive Officer Leadership Training and the Emergent Leadership Immersive Training Environment projects. These efforts provide the ICT and its academic and military collaborators with a unique opportunity to test the effectiveness of virtual human technology and mixed reality training systems when teaching and practicing core leadership skills. In addition, Trimmer has successfully delivered and transitioned ICT technology to the government on the following projects: Joint Fires and Effects Trainer System, the Cognitive Air Defense – Training System, the Self-Directed Learning Internet Module – Every Soldier a Sensor Simulation (SLIM-ES3) and the Distribution Management Cognitive Training Initiative (DMCTI). SLIM-ES3 and DMCTI were recipients of the Army Modeling and Simulation Award for training excellence in 2006 and 2008, respectively. He received his B.S. and MBA degrees from USC’s Marshall School of Business in 2002 and 2007, with concentrations in cinema-television and technology commercialization.

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Dr. David Traum
Principal Scientist
traum@ict.usc.edu

David Traum is a principal scientist at ICT and a research faculty member at the Department of Computer Science at USC. At ICT, Traum leads the Natural Language Dialogue Group, which consists of seven Ph.D.s, four students, and four other researchers. The group engages in research in all aspects of natural language dialogue, including dialogue management, spoken and natural language understanding and generation and dialogue evaluation. In addition, the group collaborates with others at ICT and elsewhere on integrated virtual humans, and transitioning natural language dialogue capability for use in training and other interactive applications.

Traum’s research focuses on dialogue communication between human and artificial agents. He has engaged in theoretical, implementational and empirical approaches to the problem, studying human-human natural language and multi-modal dialogue, as well as building a number of dialogue systems to communicate with human users. He has pioneered several research thrusts in computational dialogue modeling, including computational models of grounding (how common ground is established through conversation), the information state approach to dialogue, multiparty dialogue, and non-cooperative dialogue.

Traum is author of over 200 technical articles, is a founding editor of the Journal Dialogue and Discourse, has chaired and served on many conference program committees, and is currently the president emeritus of SIGDIAL, the international special interest group in discourse and dialogue. He earned his Ph.D. in computer science at University of Rochester in 1994.

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Core Competencies

Immersion
Basic, applied, and advanced research, exploratory, and advanced development and systems integration of hardware and software for virtual reality immersion, including presentation of two- and three-dimensional visual, auditory, tactile/haptic, olfactory, and gustatory information; supporting two- and three-dimensional mobility and action; and position-sensing.

Scenario Generation
Basic, applied, and advanced research, exploratory, and advanced development of hardware and software that supports the setup and configuration of simulations, the creation of the simulation environment, terrain, and entity models, the development of agent characters and their behaviors, and the definition of scenarios.

Content Creation
Research and development and production of video, television, film and static and interactive media including: writing, cinematography, directing, editing, sound, producing, production management, studio operations, visual effects, computer animation, visualization, graphics, still photography, visual arts, music and sound composition, interactive game development, and digital media.

Graphics
Basic, applied, and advanced research, exploratory, and advanced development of hardware and software for computer graphics, including: 1) hardware and software for capturing, manipulating, rendering and presenting images, animations, videos and movies; 2) hardware and software for creating, manipulating, rendering and presenting 2D and 3D graphical models and databases; 3) hardware and software for creating, manipulating, rendering and presenting animations.

Artificial Intelligence
Basic, applied, and advanced research, exploratory, and advanced development of hardware and software for artificial intelligence, including natural language processing, automated reasoning, perception and spatial reasoning, knowledge representation, machine learning, virtual humans, simulation execution monitoring and direction, and emotion modeling.

Sound
Basic, applied, and advanced research, exploratory, and advanced development of hardware and software for immersive audio, three-dimensional sound acquisition and adaptive rendering – including video-based, listener movement tracking for adaptive crosstalk cancellation, virtual acoustic environment simulation using multiple channels, and acoustical and psychoacoustical issues relating to high quality audio. This area also includes sonification—the use of sound for data and information presentation.

Knowledge Integration
Basic, applied, and advanced research, exploratory, and advanced development of hardware and software in methods to integrate knowledge from one or more of the above research disciplines in support of training, education, operations, health and other arenas where the research and technology may be applied.

Creative Technologies
Basic, applied, and advanced research, exploratory, and advanced development of hardware and software in methods to synthesize creative content with simulation technologies to make immersive learning environments more engaging and effective. Basic, applied, and advanced research, exploratory, and advanced development of hardware and software in concepts of human perception, entertainment theory, and game theory in support of customized and feedback-based self directed learning environments.

Evaluation
The development and use of techniques and systems for instrumentation, data collection, measurement and analysis of the effects of various sensory inputs on learning, performance and behavior. Evaluation of the learning and performance effectiveness of simulations and other computer-based environments for training and education.

Learning Sciences
Basic, applied, and advanced research, exploratory, and advanced development of hardware and software on new paradigms for effective learning and therapy with interactive digital media, including instructional design, the use of narrative, the use of immersive environments, guidance in experiential learning environments, tutoring systems, intelligent coaching, explainable artificial intelligence, and tools for after action review.

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• Talbot, T.B., Sagae, K., John, B., Rizzo, A.A. Sorting out the Virtual Patient: How to exploit artificial intelligence, game technology and educational practices to create engaging role-playing simulations. International Journal of Gaming and Computer-Mediated Simulations.


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• Hays, M.J. Campbell, J.C., Poore, J.C., Welsh, A.K., King, T.K. & Trimmer, M.A. Can role-play with virtual humans teach interpersonal skill?


Book Chapters


• Suma, E., Krum, D, Bolas, B. Redirected Walking in Mixed Reality Training Applications. In Human Walking in Virtual Environments.

• Lane, H.C., Wray, R. Individualized cultural and social skills learning with virtual humans. In P. Durlach & A. Lesgold (Eds.), Adaptive Technologies for Training and Education (pp.204-221). New York, NY: Cambridge University Press.


Publications and Honors

**Book Chapters**


**Editorships**

- David Traum, Editorial Board, Computational Linguistics
- David Traum, Editor-in-Chief, Dialogue and Discourse
- Louis-Philippe Morency, Editorial Board, Journal on Multimodal User Interfaces
- Louis-Philippe Morency, Associate Editor, International Journal of Computer Vision & Signal Processing
- Louis-Philippe Morency, Guest Editor, ACM Transactions on Interactive Intelligent Systems, Special issue on Affective Interaction in Natural Environment
- Chad Lane, Associate Editor, Journal of Interactive Learning Environments
- Jonathan Gratch, Editor-in-Chief (founding), IEEE Transactions on Affective Computing
- Jonathan Gratch, Associate Editor, Emotion Review
- Jonathan Gratch, Associate Editor, Journal of Autonomous Agents and Multiagent Systems
- Bill Swartout, Associate Editor, Entertainment Computing
- Bill Swartout, Editorial Advisory Board, Open Virtual Reality Journal
- Bill Swartout, Editorial Board, IEEE Transactions on Affective Computing
- Stacy Marsella, Associate Editor, IEEE Transactions on Affective Computing
- Stacy Marsella, Editorial Board, Journal of Experimental & Theoretical Artificial Intelligence
- Stacy Marsella, Editor, Journal of Intercultural Communication
- Chad Lane, Editorial Board, Cognitive Technology Journal
- Paul Rosenboom, Editorial Board, World Scientific Publishers Series on Intelligence Science
- Paul Rosenboom, Editorial Board, International Journal of Intelligence Science
- Paul Rosenboom, Editorial Board, Journal of Artificial General Intelligence

**Major Boards**

- David Traum, SIGDial, President Emeritus
- David Traum, Semdial Advisory Board
- Ron Arstein, Semdial Advisory Board
- David Traum, Spoken Dialogue Challenge Advisory Board
- David Traum, Dialog State Tracking Challenge Advisory Board
- Jonathan Gratch, HUMAINE Association (2007-2013) Executive Committee Member
- Skip Rizzo, National Academies of Science Committee for the Institute of Medicine on Assessment of Ongoing Efforts in the Treatment of PTSD
- Chad Lane, NSF Cyberlearning Summit 2012 Advisory Committee
- Chad Lane, Panel on Technology-enhanced Learning European Commission
- Patrick Kenny, Intelligent Virtual Agents (IVA) Paper Review Committee
- Thomas Parsons, International Society for Virtual Rehabilitation Founding Member
- Jacki Morie, DARPA ISAT
- Jacki Morie, ACM SIGGRAPH Executive Committee
- David Traum, Dialogue and Discourse Founding Executive Board Member
- David Traum, SIGDIAL (ACL/ISCA Special Interest Group on Discourse and Dialogue Board Member
- Stacy Marsella, Icelandic Institute for Intelligent Machines Associate Director
- Kenji Sagae, SIGPARSE: The International Special Interest Group on Natural Language Parsing Information Officer
- John Galen Buckwalter National Board of Medical Examiners
- Stacy Marsella, Society of Experimental Social Psychologists Fellow
- Stacy Marsella, Association for the Advancement of Artificial Intelligence (AAAI)
- Stacy Marsella, Intelligent Virtual Agents Conference Steering Committee

**Conferences Chaired**

- Andrew Gordon, Co-Program Chair of the 2013 International Conference on Knowledge Capture
- Andrew Gordon, Track Co-Chair of the 2012 ACM Hypertext and Hypermedia Conference, Narrative Connections track (Hypertext 2012)
- Andrew Gordon, Task Co-Organizer of the 2012 Semantic Evaluations Conference
- Kallirroi Georgila, Area Chair of Discourse Dialogue and Pragmatics for the Conference of the European Chapter of the Association for Computational Linguistics
- Kenji Sagae, Area Chair for Syntax and Parsing for the Conference of the European Chapter of the Association for Computational Linguistics
- Kallirroi Georgila, Mentoring Service Chair for the Annual SIGDial Meeting on Discourse and Dialogue
- David Traum, Area Chair of the End-to-end Language Processing Systems for North American Association for Computational Linguistics Human Language Technologies Conference
- David Traum, Co-Chair of the NAACL-HTL 2012 Workshop on Future Directions and Needs in the Spoken Dialog Community: Tools and Data
- David Traum, Co-Chair of the IVA Workshop on Real-time virtual agents, held in Santa Cruz CA, Sept. 2012
- Louis-Philippe Morency, Senior Program Committee for the 2011 International Conference on Intelligent User Interfaces
- Louis-Philippe Morency, Senior Program Committee for the 11th International Conference on Autonomous Agents and Multiagent Systems
- Jackie Morie, Chair of the IEEE VR Tutorials Working Group
- Jackie Morie, Program Committee for HCI IN
- Morteza Dehghani, Conference Chair of the 26th International Workshop on Qualitative Reasoning
- Peter Khoshabeh, Conference Chair of the ACM Symposium on Applied Perception
Publications and Honors

Conferences Chaired

- Louis-Philippe Morency, General Chair of the ACM International Consortium on Multimodal Interaction
- Louis-Philippe Morency, General Co-chair of the Workshop on Multimodal Behavior Understanding
- Louis-Philippe Morency, General Co-chair of the Interdisciplinary Workshop on Feedback Behaviors in Dialog, co-located with Interspeech 2012
- Chad Lane, Conference Chair of the Florida Artificial Intelligence Research Society Conference
- Louis-Philippe Morency, Program Co-chair of the 10th International Conference on Creating, Connecting, and Collaborating through Computing
- Chad Lane, Program Co-chair of the 10th International Conference on Creating, Connecting, and Collaborating through Computing
- Evan Suma, Organizing Committee and Program Committee for IEEE Virtual Reality 2012
- Evan Suma, Contest Co-Chair for the IEEE Symposium on 3D User Interfaces 2012
- Evan Suma, Area Chair of the Internal Conference on Multimodal Interaction 2012
- Evan Suma, Program Committee for ACM Virtual Reality Software and Technology 2012
- Evan Suma, Program Committee for Foundations of Digital Games
- Evan Suma, Program Committee for the Workshop on Perceptual Illusions in Virtual Environments 2012
- Evan Suma, Real-Time Live Subcommittee for SIGGRAPH 2012
- J. Adam Jones, Organizing Committee for IEEE Virtual Reality 2012
- Jacki Morie, Strategic Executive Committee for ACM SIGGRAPH
- Jacki Morie, Chair of the ACM Digital Arts Committee
- Lori Weiss, Conference Co-chair of the 10th International Conference on Creating, Connecting, and Collaborating through Computing
- Paul Rosenbloom, Executive Committee of the NSF project to develop a Field Guide for the Science of Computation ACM-AAAI Allen Newell Award Committee
- Paul Rosenbloom, Second International Conference on Biologically Inspired Cognitive Architectures
- Paul Rosenbloom, AAAI Fall Symposium on Advances in Cognitive Systems
- Paul Rosenbloom, Fifth Conference on Artificial General Intelligence
- Paul Rosenbloom, First Annual Conference on Advances in Cognitive Systems
- Paul Rosenbloom, Annual International Conference on Biologically Inspired Cognitive Architectures

ICT Workshops Organized

- 26th International Workshop on Qualitative Reasoning Conference. Chair: Mortezasehghi (USC ICT)

Keynote Talks


Best Poster Award

- Celso de Melo, Best Poster for Technical Strength at the USC Computer Science Department Annual Research Review 2012

Best Paper Award


Books

Publications and Honors

Other Major Achievements

- Skip Rizzo, 2011 UCLA Help Group Professional Achievement Award
- Skip Rizzo, 2012 Winner of the 18th Annual Satava Award for Lifetime Achievement in Medical Simulation
- Morteza Dehghani, Air Force Office of Scientific Research Young Investigator Award
- Matthew Trimmer, Julia Campbell and Kip Haynes, the Maneuver Center of Excellence Award for Excellence in recognition of ELITE. December 8, 2011.

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Academic Collaborators

- Aichi Shukutoku University
- Auckland University
- Bar Ilan University
- Bielefeld, Germany
- Carnegie Mellon University
- Chinese Academy of Sciences
- College of the Canyons
- Columbia University
- DFKI German Research Center for Artificial Intelligence
- Draper Laboratory
- Emory University
- Georgetown University
- GIST Korea
- Gotland University of Sweden
- Imperial College
- Institute for Collaborative Biotechs, UCSB
- Institute Superior Tecnico
- Johns Hopkins University
- Kaplan University
- Kent State University
- Massachusetts Institute of Technology
- New School
- Northeastern University
- Northwestern University
- Ohio State University
- Old Dominion University
- ParisTech
- Pomona College
- Reykjavik University
- Rockefeller University (Bruce McEwen)
- Rutgers University
- Saint-Cyr Military Academy, France
- San Diego Mindfulness Center
- San Diego State University
- Situation, Agent, Intention, Behavior, Animation (SAIBA)
- Stockholm University, Sweden
- Tilburg University
- Trinity College, Dublin
- University of Augsburg (Elizabeth Andre)
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- University of Duisburg, Essen
- University of Edinburgh
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- USC Davis School of Gerontology
- USC Dornsife College of Letters, Arts and Sciences, Dept of Psychiatry
- USC Dornsife College of Letters, Arts and Sciences, Brain and Creativity Institute
- USC Keck Medical School
- USC Marshall School of Business
- USC Rossier School of Education
- USC School of Dentistry
- USC School of Social Work, Military Social Work program
- USC Shoah Foundation Institute
- USC Viterbi School of Engineering
  - Center for Risk and Economic Analysis and Development (CREATE) (Also part of School of Policy, Planning, and Development)
  - Computer Science
  - Information Sciences Institute (ISI)
  - Signal and Image Processing Institute (SIPI)
- Virginia Tech
- Wisconsin University
- Worcester Polytechnic Institute (WI)
- Xiamen University
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Government Collaborators

- AFSOR
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- Army Medical Department Center and School (AMEDDC&S)
- Army Research Institute (ARI)
- Army Research Lab (ARL) Human Research and Engineering Directorate (HRED) Cognitive and Neuroergonomics Collaborative Technology Alliance ARL HRED AMEDD (Dr. Valerie Rice) Ft. Sam Houston, San Antonio Simulation and Training Technology Center (STTC)
- Assistant Secretary of the Army for Acquisitions, Logistics and Technology (ASA(ALT))
- Centers of Excellence:
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  - U.S. Army Fire Center of Excellence, Fort Sill
  - U.S. Army Intelligence Center of Excellence (USAICoE), Fort Huachuca
  - U.S. Army Maneuver Center of Excellence (MCoE) Maneuver Captains Career Course (MC3), Fort Benning
- Joint IED Defeat Organization (JIEDDO) Center of Excellence
  - Army: Fort Campbell, Fort Jackson, Fort Shelby, Schofield Barracks
  - Navy: Gulfport, Imperial Beach, Point Magu, Yorktown Marines: Camp LeJeune, Camp Pendleton, Kaneohe Bay, 29 Palms Directorate of Training and Doctrine (DOTD)
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- Telemedicine and Advanced Technology Research Center (TATRC)
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- Naval Health Research Center (NHRC)
- Office of Naval Research (ONR)

Industry Partnerships

- Pacific Regional Medical Command (PRMC)
- Tripler Army Medical Center (TAMC)
- Program Executive Office for Simulation, Training & Instrumentation (PEO STRI)
- Program Manager Constructive Simulation (PM ConSim)
- Research, Development & Engineering Command (RDECOM)
- Reserved Officers’ Training Corp (ROTC): US Army and US Navy
- Saint-Cyr French Military Academy
- School of Command Preparation (SCP), CGSC, Fort Leavenworth
- TATRC Amputee Virtual Env. Support Space (AVESS)
- Training and Doctrine Command (TRADOC)
- Army Capabilities Integration Center (ARCIC)
- Army Training Support Center (ATSC)
- Combined Arms Center – Training (CAC-T), Fort Leavenworth
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- Non-Commissioned Officer Training Academy (NCOA), Fort Benning, GA
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- University of Southern California (USC) ROTC

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- AnthroTonix, Inc.
- AT&T
- Avon
- BBN Technologies
- Biomind LLC
- Blind Spots Content
- Blue Marble Game Company
- Boston Museum of Science
- Careprosc Ltd
- Charles W. Bowman
- Children’s Hospital Los Angeles
- Children’s Hospital of Philadelphia
- Cogni Health Ltd
- Draper Laboratory
- Expand Interactive
- FaceFX
- Fixture One
- Game-Based Rehab
- General Dynamics
- Google
- Headington Institute (Non-Profit)
- Institute for Learning Innovation
- International Business Machines (IBM)
- Isolated Ground
- Jim O’Keefe
- Lockheed Advanced Technology Laboratories (ATL)
- Major League Baseball (Atlanta Braves)
- Medical CyberWorld
- Microsoft Game Studios
- Microsoft Health Solutions
- Microsoft Research
- Naomi House (Non-Profit)
- Naughty Dog, Inc.
- Novamente LLC
- nVidia
- Omron Corporation, Japan
- PhaseSpace
- Precision Rehabilitation
- Proctor & Gamble
- Rancho Los Amigos Nat’l Rehabilitation Center
- SAIC
- Samsung
- SoarTech
- SRA International
- T2 – AfterDeployment.org
- Quest Diagnostics
- Unity 3D
- Volunteers of America
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• Digital Domain - Mothership (game)
• Digital Media Works
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• Icon Imaging Studio
• Indian Arts
• iPost, LLC
• Isolated Ground
• Lakeshore Entertainment
• Lightstage LLC
• Luma Pictures
• Microsoft Game Studios
• Next Media Animation
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• Quicksilver Software, Inc.
• Pandemic Studios
• Realtime Associates, Inc.
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• Stranger Entertainment
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• Walt Disney Studios Motion Picture Production (c/o Briar Rose Productions)
• Warner Bros
• Weta Digital

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• CIS Vancouver
• Digital Domain
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• Industrial Light and Magic (ILM)
• Method Studios
• Moving Picture Company
• Pixomondo
• Rising Sun
• Scanline
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