

Spring 2016 Distinguished Speaker Series

ACHIEVING PHOTOREAL DIGITAL ACTORS

TUESDAY, APRIL 5, 2016

10:30 AM – HEC 101

We have entered an age where even the human actors in a movie can now be created as computer generated imagery. Somewhere between “Final Fantasy: the Spirits Within” in 2001 and “The Curious Case of Benjamin Button” in 2008, digital actors crossed the “Uncanny Valley” from looking strangely synthetic to believably real. This talk describes how the Light Stage scanning systems and HDRI lighting techniques developed at the USC Institute for Creative Technologies have helped create digital actors in a wide range of recent films. For in-depth examples, the talk describes how high-resolution face scanning, advanced character rigging, and performance-driven facial animation were combined to create “Digital Emily”, a collaboration with Image Metrics (now Faceware) yielding one of the first photoreal digital actors, and 2013’s “Digital Ira”, a collaboration with Activision Inc., yielding the most realistic real-time digital actor to date. A recent project with USC's Shoah Foundation is recording light field video of interviews with survivors of the Holocaust to allow interactive conversations with life-size automultiscopic projections.

More Information: <http://www.debevec.org/>

DR. PAUL DEBEVEC University of Southern California

Paul Debevec is a Research Professor at the University of Southern California and the Chief Visual Officer at USC's Institute for Creative Technologies. From his 1996 P.h.D. at UC Berkeley, Debevec's publications and animations have focused on techniques for photogrammetry, image-based rendering, high dynamic range imaging, image-based lighting, appearance measurement, facial animation, and 3D displays. Debevec is an IEEE Senior Member and Co-Chair of the Academy of Motion Picture Arts and Sciences' (AMPAS) Science and Technology Council. He received a Scientific and Engineering Academy Award® in 2010 for his work on the Light Stage facial capture systems, used in movies including Spider-Man 2, Superman Returns, The Curious Case of Benjamin Button, Avatar, Tron: Legacy, The Avengers, The Avengers, Oblivion, Gravity, Maleficent, and Furious 7. In 2014, Debevec was profiled in The New Yorker magazine's "Pixel Perfect: the scientist behind the digital cloning of actors" article by Margaret Talbot. He also recently worked with the Smithsonian Institution to digitize a 3D model of President Barack Obama.

Hosted by: Dr. Sumanta Pattanaik

