

DEPARTMENT OF COMPUTER SCIENCE
University of Houston

FACULTY SEMINAR SERIES – SPRING 2013

WHEN: FRIDAY, JANUARY 25, 2013
WHERE: PGH 232
TIME: 11:15 AM

SPEAKER: Dr. Zhigang Deng, University of Houston

Host: Dr. Christoph Eick

TITLE: Progresses in Virtual Human Modeling and Animation: from Microscopic Scale to Macroscopic Scale

Abstract:

Realistic faces/avatars, lifelike characters, and large-scale complex crowds have been important yet challenging research topics in computer graphics and animation community for decades due to their enormous applications in entertainment, computer-mediated communication, teleconferencing, and virtual worlds. In this talk, I will present some latest efforts in my research group on virtual human modeling and animation from microscopic scale to macroscopic scale. Specifically, I will present the following three selected recent works: (1) live speech driven eye and head motion generation: automatically generating novel and speech-synchronized eye and head animations based on live or pre-recorded speech as the only input; (2) smooth skinning decomposition with rigid bones: automated algorithm to extract a set of rigid bones from a set of example mesh poses; (3) sketch-based large-scale crowd formation generation and control: a novel sketching system to generate large-scale crowd formations at runtime. The presented research was done in collaboration with several my current and former PhD students, including Binh H. Le (current PhD student), Qin Gu (PhD graduated, at Industrial and Light Magic), and Xiaohan Ma (PhD graduated, at AMD Research).

Speaker Biography:

Dr. Zhigang Deng is currently a tenured Associate Professor of Computer Science at the University of Houston and the Founding Director of UH Computer Graphics and Interactive Media Lab (<http://graphics.cs.uh.edu>). His research interests include Computer Graphics, Computer Animation, Virtual Human Modeling and Animation, GPU computing, Human Computer Interaction, and Visual-Haptic Interfacing for Medical Computing. He received his Ph.D. in Computer Science at the University of Southern California in May 2006. He also received his B.S. degree in Mathematics from Xiamen University (China) in 1997, and his M.S. in Computer Science from Peking University (China) in 2000. His current research has been funded by the National Science Foundation, Texas Norman Hackerman Advanced Research Program, Google, Nokia, and other industry resources. More information can be found at <http://graphics.cs.uh.edu/zdeng>