UCF DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCEINCE

Fall 2014 Seminar Series

Presented by the CS Division

MULTI-MODAL AND DATA-BASED MOTION PLANNERS FOR HUMANOID CHARACTERS

TUESDAY NOVEMBER 18, 2014

10:30 AM – HEC 101

I will present in this talk our work on multi-modal motion planning for synthesizing a variety of upper body actions in coordination with locomotion. In order to improve realism and to achieve human-like results, different approaches are developed for taking into account motion capture data. In particular, planning on blending spaces is introduced for generating results that preserve the original quality of example motions and at the same time address generic actions, environments and targets. The importance of body placement is illustrated with virtual demonstrators delivering information to generic targets and observers. Path planning and accessibility to candidate placements are efficiently computed with local clearance triangulations, a structure I have developed for fast path planning with arbitrary clearance. I will also present an overview of additional projects developed at the computer graphics group of UC Merced, in the areas of VR interfaces for immersive motion modeling and physical therapy, and as well deformable models based on fractional derivatives.

DR. MARCELO KALLMANN

University of California at Merced

Marcelo Kallmann is founding faculty and associate professor of computer science at the University of California, Merced. At UC Merced he also serves as chief scientist for the Center for Information Technology Research in the Interest of Society (CITRIS). He obtained his PhD from the Swiss Federal Institute of Technology in Lausanne (EPFL), and before moving to UC Merced in 2005 he was research faculty at the University of Southern California (USC) and a scientist at the USC Institute for Creative Technologies (ICT). His areas of research include computer animation, virtual reality and humanoid motion planning. At UC Merced he established and leads the computer graphics research group (http://graphics.ucmerced.edu/). His work has been funded by several NSF awards and his recent work on triangulations for path planning runs inside the recently announced The Sims 4.

Hosted by: Dr. Greg Welch