HYBRID SIMULATION METHODS: SIMULATING THE WORLD AROUND YOU

presented by

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Abstract:
Hybrid particle/grid numerical methods have been around for a long time, and their usage is common in some fields, from plasma physics to artist-directed fluids. He will explore the use of hybrid methods to simulate many different complex phenomena occurring all around you, from wine to shaving foam and from sand to the snow in Disney’s “Frozen.” He will also talk about some of the practical advantages and disadvantages of hybrid methods and how one of the weaknesses that has long plagued them can now be fixed.

Bio:
Craig Schroeder received his Ph.D. in computer science from Stanford University in 2011 and is currently a postdoctoral scholar at UCLA. He received the Chancellor’s Award for Postdoctoral Research in 2013, recognizing research impact and value to the UCLA community. He actively publishes in both computer graphics and computational physics. His primary areas of interest are solid mechanics and computational fluid dynamics and their applications to physically based animation for computer graphics. He began collaborating with Pixar Animation Studios during his Ph.D. and later collaborated with Walt Disney Animation Studios during his postdoctoral studies. For his research contributions he received screen credits in Pixar’s “Up” and Disney’s “Frozen.”

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