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Other - Computer Science & Engineering Seminar

A High-resolution Spherical Imaging Pipeline for Interactive Display**Robert Kooima, Assistant Professor, LSU Division of Computer Science & Engineering**

and Center for Computation & Technology

Patrick F. Taylor Hall 3225

February 21, 2014 - 03:00 pm

Abstract:

High-performance out-of-core image processing and display mechanisms are often foiled by data sources with spherical topology. Examples include panoramic imaging and planetary data science, where quality and performance break down at the poles. This work resolves these issues giving a uniform, GPU-friendly, multi-resolution data representation built upon a heap-like hierarchy. Related activities include the creation of a novel omnistereoscopic image capture device, a suite of open source software tools for scalable image processing, and the implementation of real-time interactive rendering applications for cluster-parallel and virtual reality displays. These tools have active users in public outreach, museum, exhibition, and cultural heritage preservation.

Speaker's Bio:

Dr. Kooima is an Assistant Professor in LSU Computer Science & Engineering Division of School of EECS (joined in 2011) and a member of the faculty of CCT (joined in 2009). His research interests include real-time computer graphics, scientific visualization, interactive display technology, digital imaging, and image processing. He teaches an array of courses related to digital media. He earned a doctorate from University of Illinois at Chicago in 2008. Dr. Kooima made Business Weeks 2012 list: Forty Under 40.

