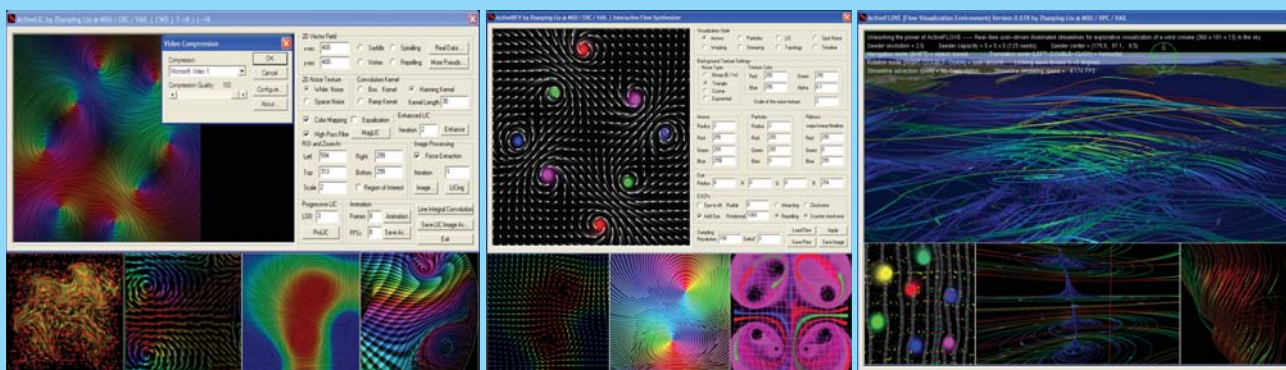


Flow Visualization From Texture-based back to Geometry-Based

2:00-4:00 p.m. Tuesday, May. 29th, 2012

Zhanping Liu (Assistant Professor)

Room 2736, Science Building No. 2, Peking University Kentucky State University



Flow visualization plays an important role in a wide variety of areas such as computational fluid dynamics simulation, oceanographic-atmospheric modeling, and electro-magnetic field analysis, to name only a few, by providing deep insight into the pattern underlying large-scale data. The last two decades have seen many geometry-based and texture-based algorithms for visualizing flows ranging from steady to unsteady and from 2D to 3D. As we seek the most effective representations for exploring surface and volume flows, there is a trend of revisiting geometry-based methods from texture-based approaches.

This talk presents Dr. Liu's efforts along with this trend in flow visualization, involving *AUFLIC* (Accelerated Unsteady Flow Line Integral Convolution), *VAUFLIC* (Volume AUFLIC), *ADVESS* (ADVanced Evenly Spaced Streamline placement), *IVDESS* (Interactive View-Driven Evenly Spaced Streamline placement), and the ongoing work on *RAPSA* (Repeated Asymmetric Pattern for Streamlines Animation). Also demonstrated are three 'Active' systems that he developed for flow visualization, i.e., *ActiveLIC*, *ActiveIBFV* (Image-Based Flow Visualization), and *ActiveFLOVE* (Flow VisualizationEnvironment).



Dr. Zhanping Liu received the BS degree in mathematics from Nankai University (1992) and the PhD degree in computer science from Peking University (2000). He is an assistant professor of computer science at Kentucky State University. Previously, he was a research scientist with the School of Medicine at the University of Pennsylvania (2010~2011), Kitware, Inc. ("Leaders in Visualization Technology", 2008~2010), and the High-Performance Computing Collaboratory (HPC2: formerly NSF Engineering Research Center for Computational Field Simulation) at Mississippi State University (2001~2008), and much earlier a post-doctoral associate with the School of Medicine at the University of Iowa (2000~2001). His research interests lie in computer graphics and scientific visualization, particularly flow/vector field visualization. More information about Dr. Liu is available at www.zhanpingliu.org.

时间：2012年5月29日（星期二）下午2:00-4:00

地点：北京大学理科2号楼 2736