

**Department of Computer Science
University of Houston
SEMINAR – SUMMER 2010**

WHEN: FRIDAY, JULY 23, 2010
WHERE: PGH 550
TIME: 10:00 AM

SPEAKER: Dr. Shantenu Jha, Louisiana State University

Host: Dr. Lennart Johnsson

TITLE: Expeditions in Applied Computing: A Computational Science Perspective

ABSTRACT:

In this talk, I will discuss a series of cross-disciplinary research project that I have been involved in since early 2002. The ultimate aim of these projects has been to further scientific understanding. But the aim has not been confined to performing leading domain science; it has also been to develop the algorithms, formalisms and infrastructure to enable such science, at scales, with a sophistication and efficiency that would not be possible otherwise. I posit that this requires working at the triple point of Computer Science, Computational Science and Cyber-infrastructure Research. As an example, I will discuss how these three strands are coming together to enable advances in the Grand Challenge problem of in-silico Personalized and Predictive Health-Care -- that will have profound if not truly revolutionary impact on our lives.

I will also discuss SAGA -- which provides a simple, high-level POSIX-inspired API to the most commonly required distributed functionality, independent of the underlying distributed environment details. I will highlight several examples of how SAGA, and simple extensible abstractions built using SAGA, have been used by a range of different applications, tools and frameworks to effectively develop and execute distributed applications on a variety of production distributed cyber-infrastructure. I will show how SAGA provides a fresh perspective to developing distributed scientific applications by addressing many limitations of the traditional modes of development.

BIO: Dr. Shantenu Jha is the Director for Cyberinfrastructure Development at the Center for Computation and Technology (CCT), and a Research Professor in Computer Science at Louisiana State University (LSU). He is also a theme-leader at the e-Science Institute, Edinburgh and a Visiting Researcher at UC-London. His research interests lie at the triple point of Computational Science, Cyberinfrastructure Development and Computer Science. Dr. Jha leads the SAGA project and is currently working on co-writing a book on "Abstractions for Distributed Applications and Systems: A Computational Science Perspective" to be published by Wiley in 2010.