

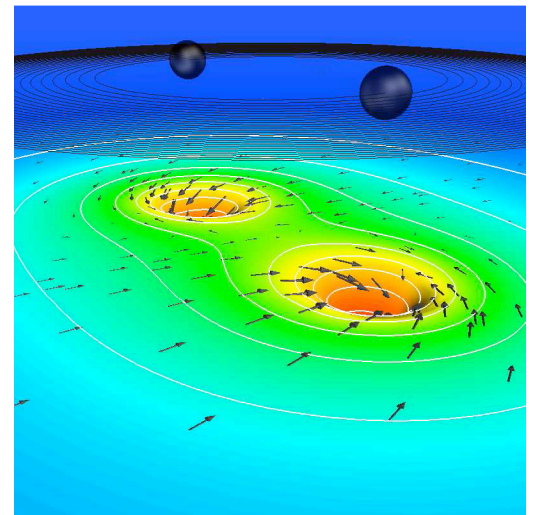
CHELLURI LECTURE

A special Oliver Club offered in memory of Raju Chelluri

Saul Teukolsky, Cornell University

Einstein's Equations, Black Holes, and Gravitational Waves

Gravitational wave detectors like LIGO are poised to begin detecting signals. One of the prime scientific goals is to detect waves from the coalescence and merger of black holes in binary systems. Confronting such signals with the predictions of Einstein's General Theory of Relativity will be the first real strong-field test of the theory. Until very recently, theorists were unable to calculate what the theory actually predicts. I will describe recent breakthroughs that have occurred in the numerical simulations. Mathematical notions of hyperbolicity have played an important role in these breakthroughs. I will explain these connections and describe how things are now set up for an epic confrontation between theory and experiment. The talk will be accessible to undergraduates with no knowledge of general relativity.



Following the lecture, a reception and musical performance will be held at the A.D. White House.

Thursday, April 9, 2009 at 4:25 PM in 251 Malott Hall

The Chelluri Lecture series is offered in memory of Thyagaraju (Raju) Chelluri, a brilliant student, gifted scholar, and wonderful human being who graduated magna cum laude in mathematics from Cornell in 1999 and was awarded a Ph.D. posthumously from Rutgers University in 2004.