- **Gravitational self-force approach to extreme mass-ratio inspirals**
  Eric Poisson (University of Guelph)

  I will present a brief overview of the gravitational self-force, a description of the motion of a small body around a much larger mass, in a treatment that goes beyond the test-mass approximation in which the small body moves on a geodesic in the background spacetime of the large mass. In this approach, the gravitational perturbation created by the small body has an influence on its motion, which is accelerated in the background spacetime. One of the motivations behind this work is the need to model gravitational waves emitted by a solar-mass black hole captured by a supermassive black hole found in a galactic core; such inspirals are a promising source of gravitational waves for spacebased detectors such as the forthcoming eLISA.