Perinatal Imaging: Imaging and Post-processing Tasks and Challenges
Lilla Zollei, Massachusetts General Hospital

The development of automated tools for brain morphometric analysis in infants and young children has lagged significantly behind analogous tools for adults. This reflects the greater challenges in this domain due to increased motion-corruption, regional changes in geometry due to heterochronous growth, and regional variation in contrast properties that reflects ongoing myelination and other maturation processes. The result of these and other factors is that automated analysis of data from infants during the perinatal period of life is a much more difficult problem than the corresponding analysis of adult data. During my talk I will introduce new image processing solutions applicable directly to pediatric brain images, propose a framework to bridge the gap between established frameworks and developmental studies, as well as describe our recent effort to obtain high resolution postmortem images that will allow us to investigate the developmental process (and its failures) in a more detailed way.