The **Bayly Lab** has developed a novel strategy to visualize and quantify strain fields within the brain and spinal cord during skull acceleration, and to relate strain levels to cell death and injury. The approach is based on tagged magnetic resonance imaging (MRI) of the brain during controlled head motion. Scanning is synchronized with motion with an optical trigger. They are also using MRI and mechanical micro- and nano-indentation to study mechanical changes in the developing brain. This work has been supported by several NIH grants, a grant from the NSF program in Mathematical Biology, as well as smaller grants from the McDonnell Centers at Washington University, the Southern Consortium for Injury Biomechanics, and the Children's Discovery Institute.

Bayly Lab: http://research.engineering.wustl.edu/~baylyp/index.html