Exercise affects cell loss from epileptic seizures

**Synopsis:** Exercise is a behavioral manipulation that has been shown to benefit peripheral organs, muscles and tissues, produce robust plasticity, and can be neuroprotective to regions of the brain (e.g. the hippocampus). Although exercise is said to be protective, it also has the potential to be damaging particularly to the hippocampus, which is vulnerable to cell loss following seizure activity. Hippocampal cell loss can be modeled via administration of Kainic acid (KA) which mimics damage seen in the human form of temporal lobe epilepsy (TLE). Currently, we are using TUNEL staining to identify whether the cell loss following seizures is the result of apoptosis or necrosis, and to identify the timing of cell loss. Preliminary data suggests that cell loss occurs between 24 and 72 hours after insult. Once the pathway to cell loss is identified, we can seek to identify exercise-induced factors that moderate cell loss after moderate seizures.

**Brief Biography:** Shayri Greenwood is currently a third year graduate student in the Biological Psychology area at Stony Brook under the advisement of Dr. Brenda Anderson. In her first two years of graduate study, she was awarded the Bridge to Doctorate Fellowship under SUNY LSAMP. Recently, she was awarded the W. Burghardt Turner Fellowship to complete her graduate studies. She is an alumnus of Stony Brook University graduating with a B.S. in Biology with a specialization in Neuroscience. She recently received her Master's degree in Psychology from Stony Brook. Her current research focuses on understanding how behavior can influence activation of cell death pathways. She is currently testing whether exercise precondition can influence the activation of apoptosis after moderate seizures.

**June 18, 2009 at 12:00pm**
Center for Inclusive Education—Melville Library E-1340
Hosted by: Doreen Hopkins, Turner Fellow
RSVP requested: SUNYAGEP@notes.cc.sunysb.edu