



**NSF REU 2010**  
**Rice University-Texas Medical Center**

***UNDERGRADUATE SUMMER INTERNSHIP IN***  
***THEORETICAL & COMPUTATIONAL NEUROSCIENCE***

We aim to attract a diverse pool of bright mathematically inclined undergraduates with demonstrated aptitude for modeling, imaging or cell biology and provide them with

- 1) a common grounding in existing and emerging neuro-imaging modalities and the subsequent computational challenges that arise from the analysis, synthesis & eventual guidance of such experiments,
- 2) a closely mentored experience of the joy of discovery in a field of research with clear intellectual reward (no one with a brain lacks in wonder of their brain) and potential for broader impact on the fields of biology, health, and mathematics, and
- 3) strong training in the best practices of oral and written communication of science.

Our participants will receive an advance mailing comprising a common reading text, imaging and

modeling tutorials, and detailed project descriptions. They will spend the first of their 10 weeks (June 1-August 6, 2010) in tutorials with ample time to interact with our mentor pool at Rice University, Baylor College of Medicine and the University of Texas Health Science Center at Houston. This will permit them to make an informed choice of mentor and project by the close of the first week.

Sample projects include:

- Mathematical modeling of the biochemical basis of memory,
- Computational modeling of cochlear mechanics,
- Electrophysiological, computational and functional imaging approaches to processing of visual information in the cerebral cortex of alert behaving primates, and
- Neural mechanisms of time perception

**PROGRAM FEATURES INCLUDE:**

Research training in theoretical and computational neuroscience  
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Leadership, mentorship and social retreats  
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Special seminars and career development workshops  
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A \$4,650 stipend and up to \$800 in travel support  
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On-campus housing

**APPLICATION DEADLINE IS FEBRUARY 15, 2010**

*This program is limited to US citizens and US permanent residents. To apply, send your resume detailing your educational, fellowship and work experience (including your current educational level), current transcripts, two letters of recommendation and a brief letter explaining your rationale in applying to: Gulf Coast Consortia, NSF REU Summer Internship Program, Attn: Amy Jackson, Rice University, MS-141, 6100 Main Street, Houston, TX 77005. Email [amyjackson@rice.edu](mailto:amyjackson@rice.edu). More information at: [www.gulfcoastconsortia.org](http://www.gulfcoastconsortia.org)*

Permanent residents should provide documentation. No foreign student applications can be accepted for this program.