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Steven J Cox* (cox@rice.edu), CAAM MS 134, Rice University, 6100 Main, Houston, TX 77005, and **Jessica C Joyce, Kathryn Ward** and **Jay Raol**. *WRAP - The Worthing Rice Apprenticeship in Computational Neuroscience*.

WRAP is an outreach effort between Rice University and Worthing High School in Houston TX. We exploit the student's native fascination with the brain to develop skills in both the mathematical modeling of brain function and the computational analysis of neural data. With respect to modeling our students build networks of Boolean neurons and so gain concrete experience with adjacency matrices and interpret matrix-vector products in terms of the propagation of activity through a network. With respect to the analysis of neural signals our students learn statistical methods in order to detect salient features in Electroencephalogram data coming from both normal and diseased individuals. The apprentices conduct this work at Rice during weekly 3 hour sessions, in MATLAB, under the guidance of dedicated undergraduate and graduate mentors. In this talk we survey the content covered and discuss the leverage provided by a computational environment that provides students with the ability to simulate and visualize complex phenomena. (Received July 05, 2010)