

# The Southwest Mechanics Lecture Series

*at*

*Texas A&M University*

## MOVING BY THINKING: PROGRESS TOWARDS A NEURAL PROSTHETIC

BY

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**Date: Wednesday 24 March 2004  
Time: 4:00 p.m.  
Location: Scoates Hall, Room No. 208**

### **Abstract**

A large group at Caltech is working to develop a neural prosthetic that can aid the handicapped. This talk will first summarize our overall efforts to develop neural prostheses based on the brain's Parietal Reach Region (PRR). The PRR, whose function is briefly reviewed, encodes the arm's reaching intentions. We then describe our experimental set-up for testing this concept on primate models, and present preliminary experimental results that demonstrate the possibility of using a cognitive neural prosthetic to control external devices by pure thought alone. The second half of the talk will focus on our efforts to develop a new class of "movable" electrodes that autonomously isolate a neural cell so as to optimize the recorded signal quality, and then maintain optimal signal quality using feedback. Such devices are likely to improve the reliability and robustness of future chronic neural prosthetic systems.

