# PITTSBURG STATE UNIVERSITY
# DEPARTMENT OF MATHEMATICS
# COLLOQUIUM

# David Enke
### Department of Finance and Operations Management
### The University of Tulsa

# A Hybrid Derivative Trading System Based on Volatility and Return Forecasting

## ABSTRACT

The colloquium speaker will discussed a methodology that utilizes a generalized regression neural network to develop a hybrid option trading system that incorporates both volatility and return forecasting. This study focuses on the S&P 500 stock index as being representative of the market. Two different hybrid systems are discussed. The first hybrid system applies a signal from the volatility forecasting as a primary signal, and then uses long and short straddle, strip, and strap strategies to take advantage of the volatility signal. The second hybrid system applies a signal from the return forecasting as a primary signal, and then uses long calls and puts, and bull and bear spread strategies to take advantage of the forecasting signal. Results show that the hybrid options trading model can improve the overall trading return and can outperform trading models using merely return forecasting or volatility forecasting in isolation.

## Thursday, March 5, 2009
## 2:00 p.m.
## Yates Hall 215

There will be cookies and conversation afterwards in Yates 210.