

UNL Department of Physics and Astronomy presents:

## The Physics of Football

PRESENTED BY  
TIM GAY

University  
of  
Nebraska-  
Lincoln



**THURSDAY**  
**FEBRUARY 8**  
**4:00 PM**  
**IN JH 136**

### ABSTRACT

This talk is based on a series of one-minute physics lectures given to the  $\sim 9 \times 10^4$  fans that attend the University of Nebraska home football games. Lecture topics have included Newton's Laws of Motion (blocking and tackling), the Ideal Gas Law (why not fill the football with helium to get better hangtime?), and projectile motion (kicking, punting, and passing). Particular attention will be paid to the problem of the tight spiral pass: why does the axis of the ball in this case maintain tangency with its line of trajectory? If time permits, I will also discuss questions related to the tactical advantages of football deflation, and the recent discovery by the American Public and Press that football is a violent game.