

# Department of Mathematics

## *Fall 2016 Colloquium Series*



### **“No Punt Intended”**

Professor Katharine Gray,  
Chico State University

**Thursday, September 22, 2016**

**Behavioral and Social Sciences Building Room 166, 4 pm**

Fourth down decision making is a contested part of football strategy. In this presentation we will examine specific fourth down strategies. NFL teams traditionally only “go for it” on fourth down in the direst of situations. Kevin Kelley, a high school football coach, has made a name for himself by almost never punting. This strategy has proven very successful for his football team. To examine whether this strategy would work well for NFL teams we used play-by-play data from the 2015/2016 NFL season to simulate football games under different fourth down strategies. Will NFL teams have success if they practice a more aggressive fourth down strategy? We will answer this question and discuss which fourth down strategy is optimal. We will also discuss how the results of the two most recent super bowls might have been different if a different fourth down strategy was employed. This talk will be accessible to anyone that has a basic understanding of the game of football.

*Kathy Gray is a Professor of Statistics at Chico State University. She often collaborates with researchers at the Fire Science Lab in Missoula, MT. She earned her PhD in Mathematics at the University of Montana. Her main focus is applied statistics and she has been involved with many REUT (Research Experience for Undergraduates and Teachers) grant projects.*

For a complete abstract, go to <http://www.humboldt.edu/math/news-and-events/math-colloquium>

***We cordially invite you to the Pre-Colloquium Tea on the third floor of the BSS  
building at 3:30 pm on Thursday.***