

1035-M1-51 **Mason Alexander Porter*** (mason@caltech.edu), 24-29 St Giles', Oxford, OX1 3LB.
Computational Linear Algebra and Social Networks.

The mathematical study of social networks provides an excellent class of real-world examples in linear algebra. These applications offer three very important classroom benefits: first, they are accessible to students because of their "real life" nature; second, they provide opportunities to learn skills in both abstract and computational linear algebra; and third, they are actively studied in the research literature of a wide variety of disciplines (including mathematics, computer science, and physics). In this talk I will focus on three social network problems that can be used to as examples in linear algebra classes: ranking systems of NCAA football teams, collaborative communities in the United States Congress, and online social networks such as Facebook. Each of these projects involved significant research by undergraduate students, illustrating their educational utility both inside and outside the classroom. (Received June 23, 2007)