Some Possible Presentation Topics

Statistical Learning Theory: Local Rademacher Complexities, Bousquet, Bartlett, and Mendelhson, to appear, available on Peter Bartlett's homepage, see page 24 of Lugosi for an intro to the topic.

VC-Dimension, see page 27 of Lugosi and the references there, in particular the book by Devroye et al.

Van Vu (and J.H.Kim): Concentration of polynomials and applications: see references 14 and 15 on Kim's publication list: www.math.ucsd.edu/ vanvu/CV/publications.pdf Don't try to get there from his home page as the link is wrong.

Jansen+Rucinski The Infamous upper tail, Random Structures and Algorithms 20, vol 3 May 2002. Catchy title huh? Check the abstract on the acm portal or just type the title into google.

Random Eigenvalue: Alon, Krivelevich, and Van Vu: Concentration of eigenvalues of random matrices, Israel Journal of Mathematics 2002.

McDiarmid's extension of Talagrand. Extends Talagrand to products of permutations. Probably not too much more than the original proof. Not highly recommended.

Hayward and McDiarmid: Large deviation for quicksort, Journal of Algorithms, Vol 21 number 3, 1996. An application to one of the classical algorithms of computer science.

Colouring Triangle Free graphs. A chapter of Molloy and Reed. Entropy is used to bound concentration.

Applications in mathematical physics: Talagrand has written a book.