# Matrix Computations & Scientific Computing Seminar

Organizer: James Demmel & Ming Gu

Wednesday, 11:10AM–12:00PM, 380 Soda Hall

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Feb. 26 **Grey Ballard**, Sandia National Lab

*Reconstructing Householder Vectors from TSQR*

The Tall-Skinny QR (TSQR) algorithm is much more communication efficient than the standard Householder algorithm for QR decomposition of matrices with many more rows than columns. However, TSQR produces a different representation of the orthogonal factor and therefore requires more software development to add functionality with the new representation. We discuss how to perform TSQR and then reconstruct the original representation (a set of Householder vectors) with the same communication efficiency and some extra computational cost.