# SIAM Student Krylov Day 2015

On February 2nd, the SIAM Student Chapter at TU Delft organized a one-day workshop on Krylov subspace methods. During the day, twelve PhD students in numerical linear algebra gave an overview of their current work and its relation to Krylov subspaces. The participants came from different universities of The Netherlands and other European countries, among them representatives of other SIAM Student Chapters like Magdeburg, Manchester, and Prague.
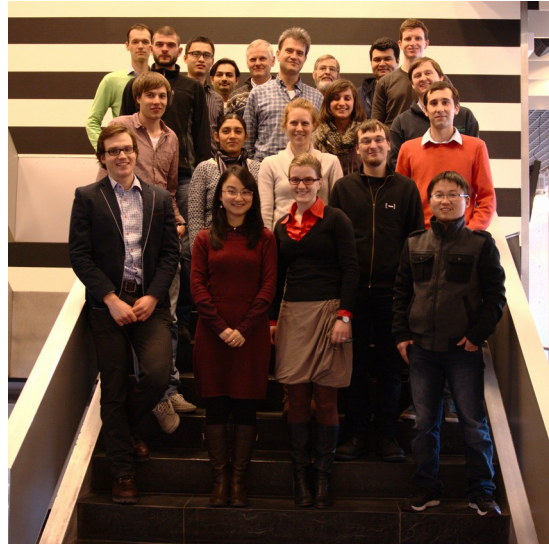
Although Krylov methods are usually associated with the iterative solution of large-scale linear systems, the workshop showed a huge variety of fields where Krylov subspaces are currently applied. The topics of the workshop covered polynomial eigenvalue problems, matrix condition number estimation, approximation of matrix functions, and applications in seismic wave propagation and flow control.

Before starting to read everything on a new subject, I always try to think about it unbiased, and so I started with (probably) re-inventing the wheel.
– Peter Sonneveld on the early development of IDR(s)

As main speaker, Peter Sonneveld from TU Delft gave a historical talk about the development of the Induced Dimension Reduction (IDR) method which is a short-recurrence Krylov method for the efficient iterative solution of linear systems with general system matrix. Sonneveld's theoretical work of the 80's has recently been translated into the IDR(s) algorithm in collaboration with Martin van Gijzen.

More information can be found online:
*   on the Krylov Day: http://sscdelft.github.io/activities/2015/02/02/krylov-day.html
*   on IDR(s): http://ta.twi.tudelft.nl/nw/users/gijzen/IDR.html