

Recent developments in the solution of indefinite systems

workshop TU Eindhoven, April 17, 2012



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Welcome!

- *This workshop brings together experts on the continuous and discrete formulation of saddle point problems from several areas of computational science, both for specific and general problems, and on efficient (parallel) solution techniques for the resulting systems of equations.*
- *This workshop will be useful both to researchers dealing with applications that give rise to saddle point problems and to developers of effective solution techniques for the resulting equations.*

“Zwarte Doos” = Black Box appropriate!?

Sponsors



The applied mathematics institute of the 3 TU's in The Netherlands (Delft, Eindhoven, Twente)

Scientific director: Kees Vuik



One of the 4 clusters in which mathematics in The Netherlands is organized: *Nonlinear Dynamics of Natural Systems + Scientific Computing*



Centre for Analysis, Scientific Computing and Applications at TU/e

A dense programme!

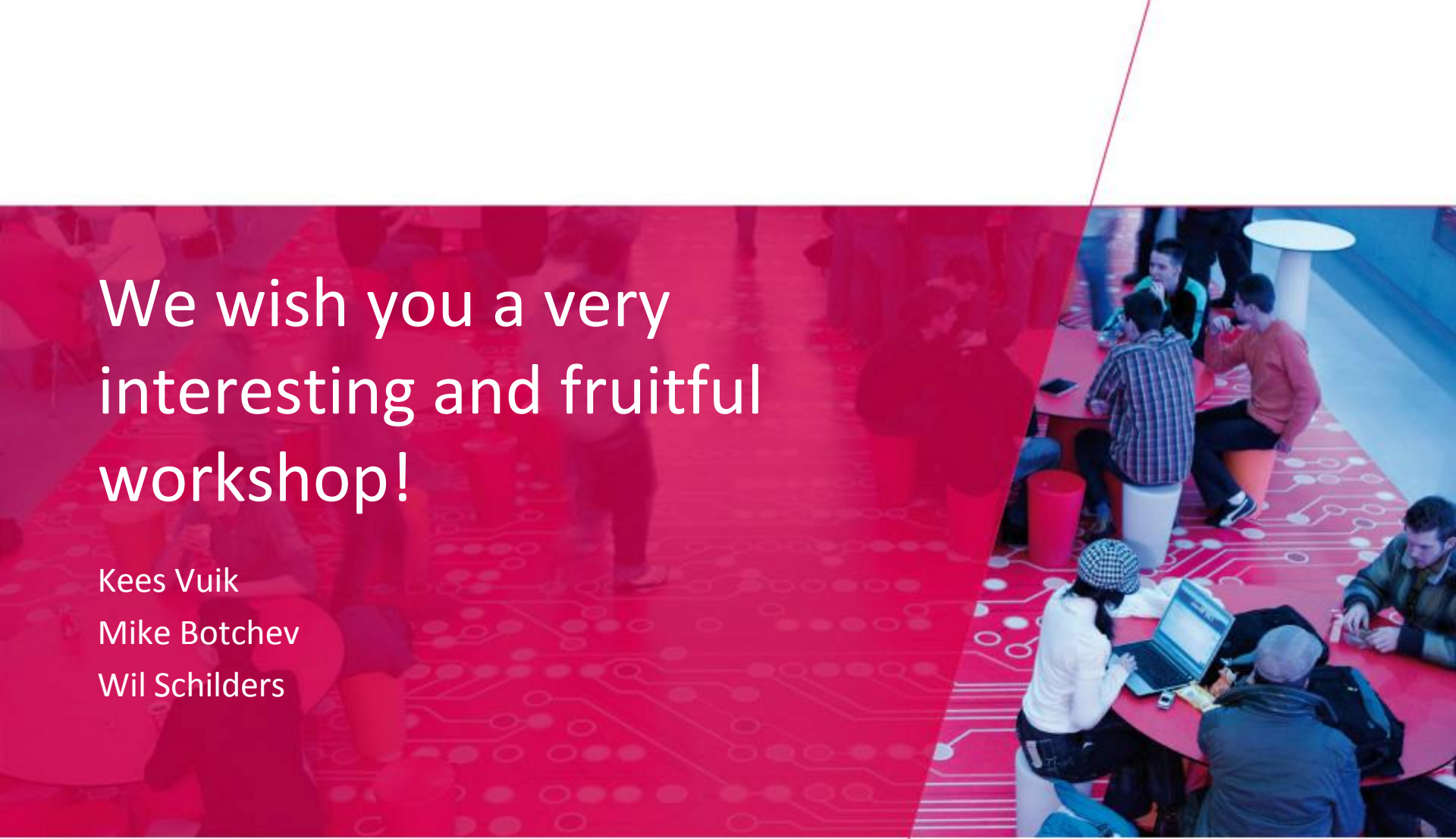
- 10.30-11.15: **Michele Benzi**: “New block preconditioners for saddle point problems”
- 11.15-11.30: Coffee break
- 11.30-12.15: **Andy Wathen**: “Combination Preconditioning of saddle-point systems for positive definiteness”
- 12.15-12.30: Jos Maubach: ““Micro- and macro-block factorizations for regularized saddle point systems”
- 12.30-12.45: Karl Meerbergen: “A shifted preconditioner for the damped Helmholtz equation”

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- 13.45-14.30: **Miroslav Rozloznik**: “Implementation and numerical stability of saddle point solvers”
- 14.30-14.45: Fred Wubs: “Structure preserving preconditioner for the incompressible Navier-Stokes equations”
- 14.45-15.00: Christiaan Klaij: “The use of SIMPLE-type preconditioners in maritime CFD applications”

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- 15.30-16.15: **Marc Baboulin**: “A parallel tiled solver for dense symmetric indefinite systems on multicore architectures
- 16.15-17.00: **Luca Bergamaschi**: “Relaxed mixed constraint preconditioners for Ill-conditioned symmetric saddle point linear systems”
- 17.00-17.15: Pawan Kumar: “A Purely algebraic domain decomposition method for the incompressible Navier-Stokes equation”
- 17.15-17.30: Sebastiaan Breedveld: “Optimization in cancer treatment: indefinitely a problem?”



We wish you a very
interesting and fruitful
workshop!

Kees Vuik

Mike Botchev

Wil Schilders

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