Monday, June 29

08.15-08.30	Opening **room H3**						
08.30-09.30	Christian Lubich, *Numerical approaches to quantum dynamics*, chair Gunilla Kreiss **room H3**						
Room	**H1**	**H2**	**H3**	**H4**	**A114**	**A144**	**B153**
09.30-10.00	Coffee break						
10.00-12.00	M01 High order methods in CFD	M02 Asymptotic Linear Algebra I	M04 Anisotropic adaptive meshes I	M05 Multiscale methods for differential equations I	M03 High frequency wave propagation	C01a Mathematical Finance I	C02 Interface dynamics I
12.00-13.00	Lunch						
13.00-14.00	Marco Picasso, *Adaptive finite elements with large aspect ration: theory and practice*, chair Erik Burman **room H3**						
14.00-15.00	C03 Finite element methods for flow problems I	C07 Optimal control problems I	C08 Discontinous Galerkin finite element methods I	C06 Multiphase flow	C05 High performance computing I	C04 PDE, methods and analysis, I	C01b Mathematical Finance II
15.00-15.30	Coffee break						
15.30-17.30	M07 Finite element methods for flow problems	M06 Asymptotic Linear Algebra II	M08 Anisotropic adaptive meshes II	M09 Multiscale methods for differential equations II	C09 Optimization problems I	C10 Conservation laws I	C11 Electromagnetics
Room	**H1**	**H2**	**H3**	**H4**	**A114**	**A144**	**B153**
19.00-20.30	Reception						

Monday, June 29, Morning 10:00-12:00

M01: Minisymposium: High order methods in CFD
Organizer: Bernhard Müller

10:00-10:30	N. Villedieu, Unsteady high order residual distribution schemes with applications to linearised Euler equations
10:30-11:00	Martin Larsson, High order difference method for fluid-structure interaction in human phonation
11:00-11:30	Qaisar Abbas, A stable and conservative hybrid scheme for problems involving shocks
11:30-12:00	Helen C. Yee, On challenges for hypersonic turbulent simulations

M02: Minisymposium: Asymptotic linear algebra, numerical methods, and applications I
Organizers: Marco Donatelli, Stefano Serra-Capizzano

10:00-10:30	Albrecht Böttcher, Asymptotics of spectral norms of some interesting matrix sequences
10:30-11:00	Pedro Crespo, Some applications of asymptotic results on Toeplitz matrices to communications and signal processing
11:00-11:30	Debora Sesana, Spectral features and asymptotic properties for alpha-circulants and alpha-Toeplitz sequences
11:30-12:00	Valeria Simoncini, Convergence properties of preconditioned iterative solvers for saddle point linear systems

M03: Minisymposium: High frequency wave propagation
Organizer: Olof Runborg

10:00-10:30   Olof Runborg, A fast method for solving the Helmholtz equation based on wave-splitting
10:30-11:00   Zhongyi Huang, Dynamics of Bose-Einstein condensate with dipolar interaction
11:00-11:30   Xavier Antoine, Generalized combined field integral equations for the iterative solution of the three-dimensional Helmholtz equation at high-frequency
11:30-12:00   Mohammad Motamed, Error analysis for Gaussian beam superposition

M04: Minisymposium: Anisotropic adaptive meshes: error analysis and applications I
Organizers: Thierry Coupez, Simona Perotto

10:00-10:30   Thierry Coupez, Anisotropic adaptivity by direct construction of node based metrics from the length distribution tensor
10:30-11:00   Gaetan Compère, Anisotropic mesh adaptivity for FSI applications with large deformations
11:00-11:30   Youssef Mesri, Parallel anisotropic mesh adaptation for capturing multi-phase interfaces
11:30-12:00   Abdellatif Agouzal, A posteriori error estimators and metric tensors for generation of optimal meshes

M05: Minisymposium: Multiscale methods for differential equations, I
Organizers: Mats Larson, Axel Målqvist

10:00-10:30   Axel Målqvist, Adaptive variational multiscale methods
10:30-11:00   Robert Söderlund, Adaptive variational multiscale methods: adaptivity and applications
11:00-11:30   Victor Ginting, An a posteriori analysis of operator decomposition for multiscale ODEs
11:30-12:00   Jan Nordbotten, Multiscale and iterative subspace methods

C01a: Contributed session: Mathematical finance I chair Karel in't Hout
10:00-10:20   Kim Volders, Stability of central finite difference schemes on non-uniform grids for the Black-Scholes equation
10:20-10:40   Jacob Weideman, An appraisal of a contour integral method for the Black-Scholes and Heston equations
10:40-11:00   Johan Walden, The credit channel and asset prices
11:00-11:20   Stefanie Schraufstetter, A pricing technique based on Theta-calculus and sparse grids covering different types of options
11:20-11:40   Corinna Hager, Adaptive numerical methods for the valuation of basket options and its Greeks

C02: Contributed session: Interface dynamics I chair Fredrik Edelvik
10:00-10:20   Lucia Gastaldi, The finite element immersed boundary method: model, stability, and numerical results
10:20-10:40   Pranjit Sarmah, Numerical simulation of the electrohydrodynamic generation of droplets by the boundary element method
10:40-11:00   Tomas Oberhuber, Comparison study for level set and direct Lagrangian methods for computing Willmore flow of closed planar curves
11:00-11:20   Petr Paus, Numerical solution of mean curvature flow with topological changes
11:20-11:40   Francois Bouchon, An immersed interface technique for the numerical solution of a PDE on a moving domain
11:40-12:00   Sara Zahedi, Approximating a delta function with support on a level set

Monday, June 29, Afternoon 14:00-15:00

C01b: Contributed session: Mathematical finance II chair Karel in't Hout
14:00-14:20   Christian Bayer, Cubature on Wiener space in infinite dimensions with applications in finance
14:20-14:40   Lina von Sydow, Multigrid, adaptivity and finite differences in option pricing problems

C03: Contributed session: Finite element methods for flow problems I chair Marcus Bause

14:00-14:20   Marie Billaud, Stabilized finite element method for compressible-incompressible flows

14:20-14:40   Münevver Tezer-Sezgin, Solution of Navier-Stokes equations using FEM with stabilizing subgrid

14:40-15:00   Tomas Chacon Rebollo, Finite element solution of the primitive equations of the ocean by the orthogonal sub-scales method

C04: Contributed session: PDEs - methods and analysis I chair Georgy Kobelkov

14:00-14:20   Mattias Sandberg, The forward Euler method for Lipschitz differential inclusions converges with rate one

14:20-14:40   Ercilia Sousa, Numerical approximation for the fractional diffusion equation

14:40-15:00   Kenji Tomoeda, Numerical computation to support splitting and merging phenomena caused by the interaction between diffusion and absorption

C05: Contributed session: High performance computing I chair Svetozar Margenov

14:00-14:20   Niclas Jansson, A parallel mesh adaption method for massively parallel architectures

14:20-14:40   Minh Do-Quang, High performance computing of free surface phase field simulations

14:40-15:00   Magnus Gustafsson, An implementation framework for solving high-dimensional PDEs on massively parallel computers

C06: Contributed session: Multi-phase flow chair Jan Nordbotten

14:00-14:20   Miranda van Wijngaarden-van Rossum, Modeling biogrout: a new ground improvement method based on microbial induced carbonate precipitation

14:20-14:40   Laetitia Carballal Perdiz, Multiscale finite element method for pollutant transport in urban area

14:40-15:00   Fredrik Edelvik, Simulation of coating processes in automotive industry

C07: Contributed session: Optimal control problems I chair Johan Waldén

14:00-14:20   Michelle Vallejos, Multigrid methods for control-constrained elliptic optimal control problems

14:20-14:40   Stefan Takacs, Multigrid methods for elliptic optimal control problems with Neumann boundary control

14:40-15:00   Michael Köster, A monolithic space-time multigrid solver for distributed control of the time-dependent Navier-Stokes system

C08: Contributed session: Discontinuous Galerkin finite element methods I chair Omar Lakkis

14:00-14:20   Julie Joie, A new DG method for the Stokes problem with a priori and a posteriori error analysis

14:20-14:40   Johan Jansson, Unified continuum modeling of 3D fluid-structure interaction

14:40-15:00   João Luis Gonçalves, Goal-oriented error estimation and hp-adaptivity for discontinuous Galerkin finite method applied to biharmonic equation

Monday, June 29, Afternoon 15:30-17:30

M06: Minisymposium: Asymptotic Linear Algebra, Numerical Methods, and Applications, II
Organizers: Marco Donatelli, Stefano Serra-Capizzano

15:30-16:00   Eugene Tyrtyshnikov, Spectral clusters and Toeplitz/rank structures for nonsymmetric multilevel matrices

16:00-16:30   Thomas Huckle, Auto-regularization for ill-posed inverse problems

16:30-17:00   Daniele Betraccini, Preconditioning and conditioning issues in some image restoration PDE models

17:00-17:30   Antonio Arico, Multigrid methods for structured matrices and anti-reflective boundary conditions

M07: Minisymposium: Finite element methods for flow problems
Organizer: Johan Hoffman

15:30-16:00   Johan Hoffman, Adaptive finite element methods for turbulent flow

16:00-16:30	Jean-Luc Guermond, Entropy viscosity for nonlinear conservation laws
16:30-17:00	Timothy Barth, Adaptive discretization in deterministic uncertainty quantification for compressible flow
17:00-17:30	Murtazo Nazarov, An adaptive general Galerkin finite element method for the turbulent compressible flows

M08: Minisymposium: Anisotropic adaptive meshes: error analysis and applications, II
Organizers: Thierry Coupez, Simona Perotto

15:30-16:00	Simona Perotto, Mesh adaptation driven by a metric-based optimization procedure
16:00-16:30	Geraldine Olivier, Using mesh adaptation and a new ALE-DGCL swap formulation for large-displacements moving domain simulations
16:30-17:00	Matthew Piggott, Anisotropic adaptive methods for geophysical applications in 3D
17:00-17:30	Tobias Leicht, Error estimation and anisotropic mesh refinement for aerodynamic flow simulations

M09: Minisymposium: Multiscale methods for differential equations, II
Organizers: Mats Larson, Axel Målqvist

15:30-16:00	Raimund Bürger, A multiresolution space-time adaptive scheme for the bidomain model in electrocardiology
16:00-16:30	Peter Hansbo, Discontinuous finite element methods for elasto-plasticity
16:30-17:00	Olof Runborg, A multiscale method for the wave equation in heterogeneous medium
17:00-17:30	Knut-Andreas Lie, Multiscale mixed finite elements for the Stokes-Brinkman equations

C09: Contributed session: Optimization problems chair Juan Manuel Pena
15:30-15:50	Marco Verani, An adaptive finite element method for shape optimization problems
15:50-16:10	Svetozara Petrova, Multilevel predictor-corrector strategy for solving shape optimization problems
16:10-16:30	Christian Groß, On the convergence of non-linear additively preconditioned trust-region strategies and applications to non-linear elasticity
16:30-16:50	Lino Alvarez-Vazquez, Numerical optimization of a bioreactor for the treatment of eutrophicated water
16:50-17:10	Fredrik Edelvik, Multi-objective optimization of MIMO antenna systems

C10: Contributed session: Conservation laws I chair J H M ten Thie Boonkkamp
15:30-15:50	Per Pettersson, Shock capturing schemes for the stochastic Burgers' equation with time-dependent boundary conditions
15:50-16:10	Christophe Chalons, Existence result for the coupling problem of two scalar conservation laws with Riemann initial data
16:10-16:30	Anibal Coronel, The sensitivity equation method for an inverse problem in a class of hyperbolic balance laws system
16:30-16:50	Oswald Fogelklou, A computer-assisted proof of the existence of solutions to the Euler equations
16:50-17:10	Joanne Dubois, An accurate approximate Riemann solver for the radiative transfer equation

C11: Contributed session: Electromagnetics chair Christian Lubich
15:30-15:50	Ana Alonso Rodriguez, Voltage and current excitation for time-harmonic eddy-current problems
15:50-16:10	Wiebke Lemster, A MHD problem on unbounded domains - Coupling of FEM and BEM
16:10-16:30	James Lambers, A spectral time-domain method for computational electrodynamics
16:30-16:50	Anne-Gaëlle Saint-Guirons, Performance analysis in the high frequency regime of local approximate DtN boundary conditions for prolate spheroidal-shaped boundaries
16:50-17:10	Dana Pelikánová, Derivation of aggregation model of nanoscale particles including influence of electrostatic forces