

MAFELAP 2006 PROGRAMME – Tue 13 – Fri 16 June 2006 –Detailed version

TUE 0845–0930: Registration in the the foyer of the Howell building

TUE 0930–0940: Opening: Vice Chancellor, **Chris Jenks**

Chair: **H. T. Banks**

TUE 0940–1030

Dynamic data-driven finite element models of laser treatment of prostate cancer

J. Tinsley Oden

TUE 1030–1100: COFFEE in H004 (Howell building)

TUE 1100–1145

Survey on Convergence of Adaptive Finite Element Methods

Carsten Carstensen

TUE 1145–1230

A Synthesis of A Posteriori Error Estimation Techniques for Conforming, Non-Conforming and Discontinuous Galerkin Finite Element Methods

Mark Ainsworth

TUE 1230–1400: LUNCH in the Newton/Mead/Cavendish Rooms in the Hamilton Centre (Refectory)

Time	A: H001 Computational Modelling in Geoscience Michael Edwards and Mary Wheeler	B: LC065 Boundary element methods Norbert Heuer and Ernst Stephan
TU 1400	<small>geophysics</small> Local flux mimetic finite difference methods for Darcy flow Yotov , Lipnikov, Shashkov	<small>bem</small> On the local and nonlocal absorbing conditions for the fluid-structural interaction problems Hsiao
TU 1425	<small>geophysics</small> Higher Resolution Convection and Continuous Darcy-flux Approximation Edwards	<small>bem</small> Analysis of a BEM and mixed-FEM coupling for a two-dimensional fluid-solid interaction problem Gatica, Márquez, Meddahi
TU 1450	<small>geophysics</small> Uncertainty Quantification for Porous Media Flows Christie	<small>bem</small> A BEM-FEM overlapping for solving the Dirichlet problem for the Stokes equation Domínguez , Sayas
TU 1515	<small>geophysics</small> Darcy flow calculation with the Kuznetsov-Repin hexahedral mixed finite element Sboui, Jaffré , Roberts	<small>bem</small> A least squares coupling method with finite elements and boundary elements for linear elasticity Stephan , Maischak, Oestmann

Time	C: LC067 Pattern Formation in Mathematical Biology Matthias Winter	D: LC068 Perfectly Matched Layer (PML) R. Rodríguez and A. Bermúdez
TU 1400	pattern Computational models for patterning on a growing butterfly Wathen , Madzvamuse, Maini, Sekimura	pml Error estimates and stability analysis of Perfectly Matched Layers in time domain Diaz , Joly
TU 1425	pattern Stability and Splitting of Mesa in the One-dimensional Brusselator Wei	pml Analysis of a finite PML approximation for the three dimensional time-harmonic Maxwell scattering problem Bramble , Pasciak
TU 1450	pattern Mutually exclusive spikes for a five-component system by Meinhardt and Gierer Winter	pml On some applications of the perfectly matched layers to time-harmonic problems Legendre
TU 1515	pattern Ideal coordinates for pattern forming reaction diffusion equations of Ginzburg-Landau type Norbury	pml The PML for rough surface scattering Monk , Chandler-Wilde

Time	E: LC267 Finite Elements for Maxwell's Equations and Electromagnetics Daniele Boffi and Leszek Demkowicz	F: LC268 Reliability and Convergence of FEM Carsten Carstensen and Stefan Funken
TU 1400	<small>maxwell</small> Analysis of a finite element PML approximation for the three dimensional time-harmonic Maxwell problem Bramble, <u>Pasciak</u>	<small>reliability</small> Optimality of a standard adaptive finite element method <u>Stevenson</u>
TU 1425	<small>maxwell</small> A mixed augmented formulation for solving electromagnetic eigenvalue problems Buffa, <u>Ciarlet, Jr</u> , Jamelot	<small>reliability</small> Convergence of an adaptive <i>hp</i> finite element strategy in one space dimension <u>Dörfler</u> , Heuveline
TU 1450	<small>maxwell</small> Looking after an non-desired effect in Magnetic Resonance Imaging <u>Dauge</u> , Boissoles, Costabel	<small>reliability</small> A Basic Convergence Result for Adaptive Finite Elements Morin, <u>Siebert</u> , Ve eser
TU 1515	<small>maxwell</small> Convergence analysis for hyperbolic evolution problems in mixed form Boffi, Buffa, <u>Gastaldi</u>	<small>reliability</small> General Dirichlet boundary values and a posteriori estimators for the L^2 -error Sacchi, <u>Ve eser</u>

Time	G: LC215 Hybrid Decomposition Methods Ulrich Langer, Barbara Wohlmuth and Alex Klawonn
TU 1400	hybriddecomp Nitsche mortarng for some elliptic problems in 2D and 3D <u>Heinrich</u>
TU 1425	hybriddecomp Hybrid Coupled Finite and Boundary Element Domain Decomposition Methods <u>Steinbach</u>
TU 1450	hybriddecomp Numerical approximation of a magnetohydrodynamic problem in velocity-current formulation <u>Discacciati</u>
TU 1515	hybriddecomp Robust coarsening for multiscale PDEs <u>Scheichl</u>, Vainikko

TUE 1540–1610: TEA in H004 (Howell building)

Time	A: H001 Computational Modelling in Geoscience Michael Edwards and Mary Wheeler	B: LC065 Boundary element methods Norbert Heuer and Ernst Stephan
TU 1610	geophysics Fast methods for calculating arrival times and sweep areas on irregular and fractured grids Dahle , Eikemo, Natvig, Berre, Hægland, Lie	bem A boundary element approach to unilateral problems with random data Gwinner
TU 1635	geophysics Eulerian-Lagrangian Particle-in-Phase Methods for Multiphase Multi-component Transport Russell , Dahle, Espedal, Heimsund	bem Analysis of Boundary-Domain Integro-Differential Equations for Variable-Coefficient PDEs on Lipschitz Domains Mikhailov
TU 1700	geophysics A fully mass and volume conserving implementation of a characteristic method for transport problems Arbogast , Huang	bem The biharmonic double layer potential on Lipschitz domains Costabel

Time	C: LC067 Finite Element Methods for Fully Nonlinear Systems Klaus Böhmer and Oleg Davydov	D: LC068 Perfectly Matched Layer (PML) R. Rodríguez and A. Bermúdez
TU 1610	nonlinearpdes On Finite Element Methods for Fully Nonlinear Elliptic Equations and Systems of Order $2m$, $m \geq 1$ Böhmer	pml A Review of the Perfectly Matched Layer for Hyperbolic and Elliptic Wave Problems and Some New Results Petropoulos
TU 1635	nonlinearpdes Continuation of the talk Böhmer	pml Numerical simulation of unbounded elastoacoustic problems applying an optimal PML technique Bermúdez, Hervella-Nieto, Prieto , Rodríguez
TU 1700	nonlinearpdes Polynomial curved finite elements Davydov	pml Improving the performance of perfectly matched layers by hp -adaptivity Demkowicz , Michler, Kurtz, Pardo

Time	E: LC267 Finite Elements for Maxwell's Equations and Electromagnetics Daniele Boffi and Leszek Demkowicz	F: LC268 Reliability and Convergence of FEM Carsten Carstensen and Stefan Funken/ Parallel session
TU 1610	<small>maxwell</small> Nodal Auxiliary Space Preconditioning for Edge Elements Hiptmair, Xu	<small>reliability</small> On the finite element approximation of elliptic problems with non-regular coefficients Bespalov, Heuer
TU 1635	<small>maxwell</small> Fully Automatic hp -Adaptivity for Electromagnetic Scattering in 3D Kurtz, Demkowicz	<small>Parallel</small> Finite element approximations in a non-Lipschitz domain Acosta, Armentano, Durán, Lombardi
TU 1700	<small>maxwell</small> A construction of mixed finite element spaces on polyhedral meshes Christiansen	

Time	G: LC215 Parallel session Paul Houston
TU 1610	<small>Parallel</small> Finite cell method for smooth and singular problems Parvizian, Düster, Rank
TU 1635	<small>Parallel</small> Geometrical and material nonlinear high order finite elements (p-FEMs) for the simulation of powder compaction Heisserer, Bier, Düster, Frage, Hartmann, Holzer, Martins-Wagner, Rank, Szanto, Yosibash
TU 1700	<small>Parallel</small> Inverse-Type Estimates on hp -Finite Element Spaces and Applications Georgoulis

Chair: **John Whiteman**

TUE 1730–1815

ZIENKIEWICZ LECTURE

Coupling Mixed Finite Element and Galerkin Methods for Modeling Geomechanics

Mary Fanett Wheeler

TUE 1900, Buffet in the Newton/Mead/Atrium Rooms, Hamilton Centre (Refectory)

Wednesday 14 June 2006

Time	A: H001 Computational Modelling in Geoscience Michael Edwards and Mary Wheeler/ Parallel session	B: LC065 Boundary element methods Norbert Heuer and Ernst Stephan
WE 0835	geophysics An efficient Krylov-Karhunen-Loève subspace projection method for stochastic finite element analysis of flow in highly heterogeneous porous media Klie, Wheeler	bem Qualocation for boundary integral equations using splines with multiple knots Sloan
WE 0900	geophysics Modelling of Thermal Processes in a Reservoir Simulator Sammon	bem Efficient Evaluation of Heat Potentials using Chebyshev Interpolation Tausch
WE 0925	geophysics Simulating flow in porous media with fractures by modeling fractures as interfaces Amir, Frih, Kern, Roberts, Saâda	bem Quadrature Convolution for Kirchhoff's Formula Garzón, Laliena, Sayas
WE 0950	Parallel Vibration Control of a Cantilever Beam Using Piezoceramic Sensors and Actuators Spier, Bruch, Jr.	bem On the <i>hp</i> -version of the boundary element method with quasi-uniform meshes in three dimensions Bespalov, Heuer
WE 1015	Parallel Solving large scale finite element systems as arising in some viscoelastic problems by iterative solution methods - hopeless or hopeful task? Bängtsson, Neytcheva	bem Averaging Techniques for BEM Praetorius

Time	C: LC067 Computing Resonances in Open Systems Thorsten Hohage and Joachim Schöberl	D: LC068 Advanced discretization methods for PDEs Mikhail Shashkov
WE 0835	<small>resonance</small> Mixed and Reduced Integration Finite Element Methods for Resonance Problems Schöberl	<small>advanceddiscret</small> Compatible Finite Element multi-material ALE Hydro Barlow
WE 0900	<small>resonance</small> Low- and high-frequency acoustic resonances in aircraft high-lift configurations Hein, Hohage, Koch , Schöberl	<small>advanceddiscret</small> Entropy Stable Hybrid Discretization Methods for Compressible MHD Barth
WE 0925	<small>resonance</small> Simulation of guided-wave optoelectronic and photonic devices using an advanced mode-matching technique Finger , Pacher, Boxleitner	<small>advanceddiscret</small> A pure eulerian scheme for multimaterial flows Braeunig
WE 0950	<small>resonance</small> About the Computation of some Resonance Frequencies of Anisotropic Lossy Axisymmetric Cavities Chinellato , Arbenz	<small>advanceddiscret</small> Discretization of Multidimensional Lagrangian Gas Dynamic from Basic Principles Després
WE 1015	<small>resonance</small> Computing resonances for large time simulation of scattering phenomena Hazard	<small>advanceddiscret</small> Lumping the Bi-Linear Discontinuous Spatial Finite-Element Approximation for the Linearized Boltzmann Transport Equation Morel , Warsa

Time	E: LC267 Finite Elements for Maxwell's Equations and Electromagnetics Daniele Boffi and Leszek Demkowicz	F: LC268 Parallel session / A posteriori error estimation and adaptivity Paul Houston and I. Perugia
WE 0835	maxwell On High Order Nédélec Elements and the Maxwell Eigenvalue Problem Zaglmayr , Schöberl	Parallel Adaptive methods for photonic crystal fibers Giani
WE 0900	maxwell Modal multilevel substructuring in electromagnetics Rachowicz , Zdunek	aposteriori An <i>hp</i> -adaptive algorithm based on locally testing for analyticity Melenk
WE 0925	maxwell High accuracy simulations of 2D and 3D resistivity logging instruments using a self-adaptive goal-oriented <i>hp</i> -FEM Pardo , Paszynski, Torres-Verdín, Demkowicz	aposteriori <i>hp</i> -Adaptive Discontinuous Galerkin FEM for Quasilinear Elliptic PDE Houston, Süli, Wihler
WE 0950	maxwell Implicit a posteriori error estimation for the time-harmonic Maxwell equations Harutyunyan, Izsák , van der Vegt	aposteriori Energy norm error estimation of <i>hp</i> -adaptive DG methods for elliptic problems Houston, Schötzau , Wihler
WE 1015	maxwell Adjoint Enhanced Reduced Order Model for Monostatic RCS Computation Ledger	aposteriori A goal-oriented recovery-based anisotropic error estimator for advection-diffusion-reaction problems Dedè, Micheletti, Perotto

Time	G: LC215 Finite element methods in optimal control A. Rösch and B. Vexler
WE 0835	<i>optimal</i> On two numerical methods for elliptic control problems with state constraints Meyer, Prüfert, Tröltzsch
WE 0900	<i>optimal</i> Finite Element Approximation of Elliptic Control Problems with Finitely Many Pointwise State Constraints Casas
WE 0925	<i>optimal</i> A posteriori error estimates for semilinear elliptic optimal control problems Rösch , Wachsmuth
WE 0950	<i>optimal</i> Optimal control in nonconvex domains: superconvergence on graded meshes Apel , Rösch, Winkler
WE 1015	<i>optimal</i> A Posteriori Error Analysis of Adaptive Finite Element Methods for Distributed and Boundary Control Problems with Control Constraints Hintermüller, Hoppe

WED 1040–1110: COFFEE in H004 (Howell building)

Chair: **Mark Ainsworth**

WED 1110–1155

Boundary Element Analysis beyond the Trace Theorem

Norbert Heuer

WED 1155–1240

Domain decomposition methods for multiscale elliptic PDEs

Ivan Graham

WED 1240–1400: LUNCH in the Newton/Mead/Cavendish Rooms in the Hamilton Centre (Refectory)

Time	A: H001 Advanced discretization methods for PDEs Mikhail Shashkov/ Parallel session	B: LC065 Boundary element methods Norbert Heuer and Ernst Stephan
WE 1400	<small>advanceddiscret</small> SUPG-stabilized Lagrangian shock hydrodynamics Scovazzi	<small>bem</small> Comparison of geometrical and algebraic multigrid preconditioners for data-sparse boundary element matrices Langer, Pusch
WE 1425	<small>advanceddiscret</small> Mimetic Finite Difference Methods for Partial Differential Equations and Discrete Vector and Tensor Analysis Shashkov	<small>bem</small> A new formulation for Boundary Element Tearing and Interconnecting methods Of, Steinbach
WE 1450	<small>Parallel</small> Local interpolation in isoparametric quadratic Lagrange finite elements in dimensions one and two Dalík	<small>bem</small> Fast BEM in Shape Optimization Harbrecht, Eppler
WE 1515		<small>bem</small> A two-scale non-conforming composite finite element for Dirichlet problems on complicated domains Rech, Sauter, Smolianski

Time	C: LC067 Computing Resonances in Open Systems Thorsten Hohage and Joachim Schöberl/ Parallel session	D: LC068 Discontinuous Galerkin Methods Miloslav Feistauer and Mary Wheeler
WE 1400	resonance Computation of Leaky Modes by the Pole Condition Approach Schmidt , Zschiedrich	dgm Analysis of higher order semi-implicit discontinuous Galerkin finite element method for nonlinear convection-diffusion problems Dolejší , Vlasák
WE 1425	resonance Adaptive FEM/PML Method for Resonances in Optical Devices Zschiedrich , Schmidt	dgm Analysis of space-time DGFEM for nonstationary convection-diffusion problems Feistauer
WE 1450	resonance Computing resonances based on a variational formulation in a Hardy space Nannen , Hohage	dgm Discontinuous Galerkin Methods for Poromechanics Wheeler
WE 1515	Parallel Implementation of the ultra-weak variational formulation (UWVF) for time-harmonic wave problems Huttunen , Gamallo, Astley, Monk	

Time	E: LC267 Computational Magnetism Thomas Schrefl and M. Slodička	F: LC268 A posteriori error estimation and adaptivity Paul Houston and I. Perugia
WE 1400	magnetics Transient Nonlinear Magnetic Field Simulations Using Advanced Error Controlled Adaptive Space and Time Discretization Schemes Clemens, Steinmetz, Wimmer	aposteriori A posteriori estimates for advection-dominated problems Sangalli
WE 1425	magnetics On the influence of numerical integration on mixed finite element approximations of a Maxwell eigenvalue problem Hamelinck	aposteriori Error Representation and Estimation in Compressible Magnetohydrodynamics Barth
WE 1450	magnetics Using a Hybrid finite element/boundary element method to combine eddy current effects and micromagnetic simulations Hrkac, Schrefl	aposteriori Postprocessing and a-posteriori estimates for Mixed Finite Element Methods Lovadina, Stenberg
WE 1515	magnetics A robust linearization scheme for nonlinear diffusion in type-II superconductors Janíková, Slodička	aposteriori A Posteriori Error Control of Coupled Elliptic Systems Varis, Don, Simon

Time	G: LC215 Finite element methods in optimal control A. Rösch and B. Vexler	H: LC115 Fast Iterative Solvers David Silvester
WE 1400	<small>optimal</small> Convergence of adaptive finite elements for PDE-constrained optimization <u>Becker</u>	<small>fastsolvers</small> Preconditioners for Saddle-Point Systems in Groundwater Flow Modelling <u>Powell</u>
WE 1425	<small>optimal</small> Adaptive Multi-meshes for FE approximation of Optimal Control <u>Liu</u>	<small>fastsolvers</small> Least squares preconditioners for stabilized mixed approximation of the Navier-Stokes equations <u>Silvester</u>
WE 1450	<small>optimal</small> A Posteriori Error Estimation for Optimal Control Problems with Pointwise Inequality Constraints <u>Vexler</u>	<small>fastsolvers</small> Converging in the right norm <u>Wathen</u>
WE 1515		<small>fastsolvers</small> Convergence of multigrid applied to the PML-electromagnetic scattering problem Gopalakrishnan, <u>Pasciak</u>

WED 1540–1610: TEA in H004 (Howell building)

Time	A: H001	B: LC065 Boundary element methods Norbert Heuer and Ernst Stephan
WE 1610		bem A Hypersingular Boundary Integral Equation for Axisymmetric Elasticity Wrobel , de Lacerda
WE 1635		bem Testing the integrity of some cavity - the Cauchy problem and the range test Potthast
WE 1700		bem A Least Squares FEM-BEM coupling method for the eddy current problem Maischak , Stephan

Time	C: LC067 Computational Multifield and Multiscale Methods in Continuum Biomechanics Eduard Rohan and B. Markert	D: LC068 Discontinuous Galerkin Methods Miloslav Feistauer and Mary Wheeler
WE 1610	multifield Swelling and osmosis of chemomechanically active biological tissues Ehlers , Markert, Acartürk	dgm Discontinuous and Continuous Galerkin Methods for Shallow Water and Hurricane Storm Surges Dawson
WE 1635	multifield Theory and numerics of a multi-field model for tumor growth Markert , Ehlers, Salinas	dgm A robust DG solver for compressible flow Kučera
WE 1700		dgm Numerical integration in a discontinuous Galerkin method Sobotíková

Time	E: LC267 Computational Magnetics Thomas Schrefl and M. Slodička	F: LC268 Conservation laws and related equations with discontinuous flux: Theory, Numerics, Applications Raimund Bürger and Kenneth Karlsen
WE 1610	magnetics Multi-Physics Finite Element simulations of Spin-Polarized Currents in Ferromagnets Fangohr , Fischbacher	conservation Conservations law with discontinuous flux function non genuinely non linear Bachmann
WE 1635	magnetics \mathcal{H} -Matrix Techniques for Stray-Field Computations in Computational Micromagnetics Praetorius	conservation Entropy Formulations for a Class of Scalar Conservations Laws With Space-Discontinuous Flux Functions in a Bounded Domain Jimenez, Lévi
WE 1700	magnetics Dynamic 3D Finite Element Micromagnetics Model: Parallelized Implementation and Applications Scholz , Schrefl, Fidler	conservation Well balanced Godunov schemes for conservation laws with spatially dependent sources Karlsen, Mishra , Risebro

Time	G: LC215
WE 1610	
WE 1635	
WE 1700	

Chair: **John Whiteman**

WED 1730–1815

BABUŠKA LECTURE

Will Computational Science Fulfill It's Promises? - Reliability of the Computational Engineering

Ivo Babuška

WED 1900– DINNER in the Newton/Mead/Cavendish Rooms in the Hamilton Centre (Refectory)

Thursday 15 June 2006

Time	A: H001 Multiscale and Stabilized Finite Element Methods Gabriel Barrenechea and Frédéric Valentin	B: LC065 Boundary element methods Norbert Heuer and Ernst Stephan
TH 0835	<small>multiscale</small> Petrov-Galerkin Enriched Methods Franca, Valentin	<small>bem</small> Variational approach to scattering by unbounded surfaces <u>Elschner</u>
TH 0900	<small>multiscale</small> A sharp expression for the stabilization parameters of the symmetric interior penalty discontinuous Galerkin finite element method for elliptic equations Mozolevski, Bösing	<small>bem</small> Modified Boundary Integral Equations for the Helmholtz Equation Engleder, <u>Steinbach</u>
TH 0925	<small>multiscale</small> Stablized finite element methods for Coupling Darcy and Stokes flows Loula, Correa	<small>bem</small> Boundary-integral equations for the slow viscous motion of bubbles <u>Sellier</u>
TH 0950	<small>multiscale</small> Multiscale and stabilized finite element methods for the generalized Stokes problem Barrenechea, Valentin	<small>bem</small> Wave problems in unbounded domains: Fredholmness and the Finite Section Method <u>Lindner</u>
TH 1015	<small>multiscale</small> Local projection stabilization on anisotropic meshes Braack, Richter	<small>bem</small> Wave-Number-Explicit Bounds in High Frequency Scattering <u>Chandler-Wilde, Monk</u>

Time	C: LC067 Contact problems and Biomechanics Zdenek Dostál and Rolf Krause	D: LC068 Anisotropic Finite Element Methods Gert Lube and Thomas Apel
TH 0835	contact Theoretically supported scalable FETI based algorithms for contact problems including friction Dostál, Horák	anisotropic Interpolation error estimates based on the measures of anisotropic behavior of higher order derivatives Cao
TH 0900	contact Algorithms for solution of muscle recruitment and contact problems in musculoskeletal simulation Vondrák, Rasmussen, Damsgaard	anisotropic Interpolation error estimates in $W^{1,p}$ for degenerate Q_1 isoparametric elements Acosta, Monzón
TH 0925	contact Rate of convergence of an algorithm for solving 3D contact problems with friction Kučera, Dostál, Haslinger	anisotropic A family of non-conforming finite elements of arbitrary order for the Stokes problem on anisotropic quadrilateral meshes Apel, Matthies
TH 0950	contact A Scalable FETI-DP based algorithms for variational inequalities with mortars on contact interface Horák, Dostál, Stefanica	anisotropic Nonconforming Anisotropic Finite Elements Chen
TH 1015	contact Mixed Finite Elements for Contact Problems with Friction Schöberl, Sinwel	anisotropic A posteriori error estimators for anisotropic approximations of the Stokes problem using a discontinuous Galerkin method Creusé, Nicaise

Time	E: LC267 Data Sparse Matrix Formats W. Hackbusch/ Lars Grasedyck/ Steffen Börm	F: LC268 A posteriori error analysis for time-dependent problems Mark Ainsworth and Andris Lasis
TH 0835	<small>sparse</small> Accurate solution of boundary integral equations <u>Rjasanow</u>	<small>timedep</small> <i>hp</i> -discontinuous Galerkin time-stepping for Volterra integro-differential equations Brunner, <u>Schötzau</u>
TH 0900	<small>sparse</small> Sparse matrix application in adaptive Newton methods <u>Dahmen</u> , Cohen, DeVore	<small>timedep</small> A posteriori error analysis of the BDF by duality <u>Hill</u> , Simpson
TH 0925	<small>sparse</small> Domain decomposition based \mathcal{H} -matrix preconditioning <u>Grasedyck</u> , Kriemann, Le Borne	<small>timedep</small> A posteriori error analysis via elliptic reconstruction for implicit Euler schemes <u>Lakkis</u> , Demlow, Makridakis
TH 0950	<small>sparse</small> Approximate balanced truncation for data-sparse dynamical systems <u>Baur</u> , Benner	<small>timedep</small> Reconstruction methods in a posteriori error control of evolution problems <u>Makridakis</u>
TH 1015		<small>timedep</small> A posteriori estimators for the Raviart-Thomas mixed finite element method <u>Powell</u>

Time	G: LC215 Higher-Order Finite Element Methods and their Applications Pavel Šolín and Karel Segeth
TH 0835	highorder New shape functions for triangular p -FEM using integrated Jacobi polynomials Beuchler , Schöberl
TH 0900	highorder Automatic hp -adaptivity with multiple-level constrained approximation Červený , Lazar, Šolín, Doležel
TH 0925	highorder The state of the art of constructing cubature formulas for multi-variate integrals Cools
TH 0950	highorder On hp -FEM Approximation of Boundary Layers Segeth , Šolín, Avila
TH 1015	highorder New class of continuous higher-order elements based on generalized eigenfunctions Šolín , Vejchodský, Zítka

THU 1040–1110: COFFEE in H004 (Howell building)

Chair: **Carsten Carstensen**

THU 1110–1155

Automatic hp -Adaptivity for Elliptic and Maxwell Problems

Leszek Demkowicz

THU 1155–1240

Data-sparse boundary and finite element domain decomposition methods

Ulrich Langer

THU 1240–1400: LUNCH in the Newton/Mead/Cavendish Rooms in the Hamilton Centre (Refectory)

Time	A: H001 Conservation laws and related equations with discontinuous flux: Theory, Numerics, Applications Raimund Bürger and Kenneth Karlsen	B: LC065 Boundary element methods Norbert Heuer and Ernst Stephan
TH 1400	<small>conservation</small> Convergence of finite volume schemes for triangular systems of conservation laws Karlsen, Mishra, Risebro	<small>bem</small> A robust boundary integral method for high frequency acoustic scattering Domínguez, Graham , Smyshlyaev
TH 1425	<small>conservation</small> Second order schemes for continuous sedimentation in ideal clarifier-thickener units Bürger , Karlsen, Towers	<small>bem</small> An <i>hp</i> boundary element method for high frequency scattering by convex polygons Langdon
TH 1450	<small>conservation</small> On an extended clarifier-thickener model with singular source and sink terms Bürger, García , Karlsen, Towers	<small>bem</small> Fast Boundary Element Methods for the Simulation of Electrical Eddy Current Fields, their Heat Production and Cooling Andjelic, Breuer, Steinbach, Wendland
TH 1515	<small>conservation</small> Flux calculation for two-phase flow at the interface between two rock types Adimurthi, Jaffré , Siddhartha, Gowda	

Time	C: LC067 Contact problems and Biomechanics Zdenek Dostál and Rolf Krause	D: LC068 Anisotropic Finite Element Methods Gert Lube and Thomas Apel
TH 1400	contact Efficient Solvers for Large-Scale Masonry Structures Mihai	anisotropic Goal-oriented error estimation and anisotropic mesh adaptivity in CFD Micheletti , Perotto
TH 1425	contact Numerical analysis of two piezoelectric contact problems in elasticity Barboteu, Fernández , Ouafik	anisotropic Convergence of adaptive FEM on anisotropic meshes Grosman
TH 1450	contact Affine conjugate Newton methods for nonconvex minimization Weiser , Deuffhard, Erdmann	anisotropic A stabilized finite element method with anisotropic mesh refinement for the Oseen problem Apel, Knopp, Lube
TH 1515	contact Scalable algorithms for contact problems with geometrical and material nonlinearities Dobiáš , Pták, Dostál, Vondrák	anisotropic Mathematical principles for anisotropic mesh adaptation Huang

Time	E: LC267 Discontinuous Galerkin Methods Miloslav Feistauer and Mary Wheeler/ Discontinuous Galerkin FEM in solids and fluids Beatrice Riviere and Simon Shaw	F: LC268 A posteriori error analysis for time-dependent problems Mark Ainsworth and Andris Lasis
TH 1400	<small>dgm</small> Error Analysis of a Continuous-Discontinuous Galerkin Finite Element Method for Generalized 2D Vorticity Dynamics van der Vegt	<small>timedep</small> Discontinuous Galerkin methods for Friedrichs systems with irregular solutions Jensen
TH 1425	<small>disgalerkin</small> On the choice of penalty parameters for the symmetric interior penalty Galerkin method Ephsteyn, Riviere	<small>timedep</small> <i>A Posteriori</i> Error Estimation and Adaptive Strategies for Reaction-Diffusion Equations Moore
TH 1450	<small>disgalerkin</small> DG approximation of Friedrichs' systems: Application to continuum mechanics Ern, Guermond	<small>timedep</small> A posteriori error estimate by recovered gradients in the parabolic finite element equation Leykekhman, Wahlbin
TH 1515	<small>disgalerkin</small> Improved discontinuous Galerkin methods for transport equations with varying diffusivity Proft, Riviere	<small>timedep</small> TBA Lasis

Time	G: LC215 Higher-Order Finite Element Methods and their Applications Pavel Šolín and Karel Segeth/ Parallel session	H: LC115 PDE Constrained Optimization Ronald Hoppe and Michael Hintermüller
TH 1400	highorder On approximation of non-Newtonian fluid flow by the higher order finite element method Sváček	constrainedopti TBA Sachs
TH 1425	highorder On partially orthogonal <i>hp</i> edge elements for Maxwell's equations Šolín, Vejchodský , Vyvialová	constrainedopti TBA Schulz
TH 1450	highorder <i>hp</i> -FEM on unstructured tetrahedral meshes Zítka , Šolín, Vejchodský	constrainedopti A primal-dual active set algorithm for three-dimensional contact problems with Coulomb friction Stadler , Hueeber, Wohlmuth
TH 1515	Parallel Superconvergence analysis of Galerkin FEM and SDFEM for elliptic problems with characteristic layers Franz , Linß	constrainedopti Multigrid Preconditioned Semimonotonic Augmented Lagrangians Applied to the Stokes and Optimization Problems Lukáš , Dostál

THU 1540–1610: TEA in H004 (Howell building)

Time	A: H001 Conservation laws and related equations with discontinuous flux: Theory, Numerics, Applications Raimund Bürger and Kenneth Karlsen	B: LC065 Nonlinear models of suspension bridges: from analytical approach to numerical simulations Pavel Drábek
TH 1610	<small>conservation</small> Homogenization of heterogenities in two-phase porous media flow <u>Berres</u> , Ölmann	<small>suspension</small> Suspension bridges: Historical motivation <u>Drábek</u>
TH 1635	<small>conservation</small> Numerical implementation of gradient type methods for inverse problems in conservation laws <u>James</u> , Postel	<small>suspension</small> Suspension bridges: Periodic boundary value problems, qualitative properties <u>Holubová</u>
TH 1700	<small>conservation</small> Inverse Problems for Strongly Degenerated Parabolic Equations Bürger, Coronel, James, <u>Sepúlveda</u>	<small>suspension</small> Suspension bridges: The Fučík spectrum <u>Nečesal</u>
TH 1725		<small>suspension</small> Suspension bridges: Numerical Experiments <u>Čepička</u>
TH 1750		<small>suspension</small> Asymptotic behaviour of cable stayed and suspension bridges in lateral winds <u>Malík</u>

Time	C: LC067 Contact problems and Biomechanics Zdenek Dostál and Rolf Krause	D: LC068 Anisotropic Finite Element Methods Gert Lube and Thomas Apel
TH 1610	contact A finite element approach on the mechanical stimulated ossification of hip-joint endoprostheses Nackenhorst	anisotropic Adaptive finite elements with strongly anisotropic meshes Picasso
TH 1635	contact Localization Techniques for Time Dependent Contact Problems Krause	anisotropic Anisotropic mesh adaption based on a posteriori estimates and optimisation of node positions Schneider, Jimack
TH 1700	contact Approximation and numerical realization of 2D quasistatic contact problems with local Coulomb friction Baniotopoulos, Haslinger, Vlach	anisotropic A local approach for anisotropic mesh adaptation Frey, Alauzet
TH 1725		
TH 1750		

Time	E: LC267 Discontinuous Galerkin FEM in solids and fluids Beatrice Riviere and Simon Shaw/ Parallel session	F: LC268 A posteriori error analysis for time-dependent problems Mark Ainsworth and Andris Lasis/ Parallel session
TH 1610	<small>disgalerkin</small> A Posteriori Error Analysis of DG Methods for Nearly Incompressible Elasticity Wihler	<small>timedep</small> Adaptive simulation of multiphysics problems Larson
TH 1635	<small>disgalerkin</small> Adaptive Discontinuous Galerkin FEMs on Isotropic and Anisotropically Refined Meshes Houston	<small>timedep</small> Elliptic reconstruction for a posteriori estimation of pointwise errors in parabolic problems Demlow , Lakkis, Makridakis
TH 1700	<small>disgalerkin</small> DG finite element methods for non-Fickian polymer diffusion Shaw	<small>Parallel</small> Interior Penalty DG Method for the Maxwell Equations Grote , Schneebeli, Schötzau
TH 1725	<small>disgalerkin</small> Discontinuous Galerkin Approximation of the Boltzmann-Poisson System Gamba , Proft	<small>Parallel</small> A posteriori error estimates for mixed finite element discretizations of inhomogeneous, anisotropic, and convection-dominated problems Vohralík
TH 1750	<small>Parallel</small> A posteriori error estimates for discontinuous Galerkin method Lazarov, Repin, Tomar	<small>Parallel</small> Numerical Methods for Fractional-Order PDEs Mustapha

Time	G: LC215 PDE Constrained Optimization Ronald Hoppe and Michael Hintermüller	H: LC115 Inverse Problems for PDE Roland Potthast
TH 1610	<small>constrainedopti</small> Worst scenario problems with fuzzy admissible sets, information-gap decision theory, and PDE constrained optimization: common features Chleboun	<small>inversep</small> Scattering relations for point-generated electromagnetic waves and inverse problems for small spheres Stratis
TH 1635	<small>constrainedopti</small> PDE-constrained optimization problems for soft tissue deformation estimation from medical images Biros, Sundar, Davatzikos	<small>inversep</small> Inverse source problem in a 3d ellipsoid from best meromorphic approximation on 2d slices Amassad, Ben Hassen , Leblond, Paduret, Rigat
TH 1700	<small>constrainedopti</small> Optimal Control in Magnetohydrodynamics Griesse, Discacciati, Kunisch	<small>inversep</small> On the Numerical Solution of 3D Inverse Obstacle Scattering Problems Hohage, Harbrecht
TH 1725	<small>constrainedopti</small> Discontinuous Galerkin Methods for the Solution of Advection Dominated Optimal Control Problems Leykekhman, Heinkenschloss	<small>inversep</small> Identification of a transmission condition in a parabolic equation using boundary elements Rapún, Hohage, Sayas
TH 1750	<small>constrainedopti</small> Domain decomposition in optimal control of partial differential equations on networked domains Leugering	

THU 1915–1945: **Pre-Dinner Sherry, Hub/Atrium, Hamilton Centre**

THU 1945: **Conference Dinner, Newton/Mead/Cavendish Rooms, Hamilton Centre**

Friday 16 June 2006

Time	A: H001 Multiscale and Stabilized Finite Element Methods Gabriel Barrenechea and Frédéric Valentin	B: LC065 Nonlinear models of suspension bridges: from analytical approach to numerical simulations Pavel Drábek/ Parallel session
FR 0835	multiscale On Spurious Oscillations in Finite Element Methods for Convection-Dominated Problems John , Knobloch	suspension Suspension bridges: IBVPs, numerical simulations Brandner, Matas
FR 0900	multiscale A GLS-stabilized formulation of the Stokes problem for anisotropic finite element meshes Blasco	Parallel Coupled waves method of analyzing evanescent solutions of hyperbolic equations Parsaei
FR 0925	multiscale An unusually stabilized WEB-Spline finite element analysis of generalized Stokes equations based on static condensation of quadrilateral bubbles Rathish Kumar , Kumar, Das	Parallel Positive, high order schemes for multidimensional hyperbolic conservation laws Hubbard
FR 0950	multiscale A Petrov-Galerkin Enriched Method (PGEM) for the Darcy Equation Barrenechea, Franca, Valentin	Parallel Finite Elements And Dual Extremum Principles For Fourth Order Obstacle Problem Nasri , Sissaoui
FR 1015	multiscale Stabilized finite element approximation of the transient convection-diffusion equation using an ALE framework Badia , Codina	

Time	C: LC067 Computational Multifield and Multiscale Methods in Continuum Biomechanics Eduard Rohan and B. Markert	D: LC068 Inverse Problems for PDE Roland Potthast
FR 0835	<small>multifield</small> Skeletal muscles - three-dimensional modelling and simulation by means of finite network elements Reese, Böl	
FR 0900	<small>multifield</small> Two-scale modelling of perfusion by homogenization of strongly heterogeneous porous media Rohan	<small>inversep</small> A multiwave range test for obstacle reconstructions with unknown physical properties Potthast, Schulz
FR 0925	<small>multifield</small> Perfusion and poroelasticity in the cardiac muscle Sainte-Marie, Cimrman, Rohan	<small>inversep</small> The Linear Sampling method for Inverse Rough Surface Scattering Chandler-Wilde
FR 0950	<small>multifield</small> A continuum-based multiphase approach for tissue adaptation Steeb, Diebels	<small>inversep</small> An evolutionary Newton method for shape reconstruction Potthast, Eckel
FR 1015	<small>multifield</small> Parallel numerical methods for a porous media model in biomechanics Wieners, Markert, Karajan, Ehlers	<small>inversep</small> On the use of the Reciprocity Gap functional in inverse scattering from impedance cracks Abdi, Delbary, Haddar

Time	E: LC267 Properties of conservative methods on quadrilateral grids with applications to multiphase subsurface flow Ivar Aavatsmark and Rainer Helmig / Parallel session	F: LC268 Discrete maximum principles and a posteriori error estimates in FEM Michal Křížek
FR 0835	multiphase Convergence of MPFA and MFEM on rough quadrilateral grids Klausen , Winther	maximump Discrete maximum principle for higher-order finite elements in 1D Vejchodský , Šolín
FR 0900	multiphase Finite elements on quadrilateral meshes Boffi	maximump FEM solution of some fluid flow problems with singularities using a priori and a posteriori estimates Burda , Novotný, Šístek
FR 0925	multiphase Monotonicity of control volume methods Aavatsmark , Nordbotten, Eigestad	maximump Accuracy investigation of stabilized FEM for flow problems Šístek , Burda, Novotný
FR 0950	multiphase Extending MPFA to Permeabilities with Saturation-Dependent Anisotropy Ratios Ölmann , Helmig, Aavatsmark	maximump There is no face-to-face partition of \mathbb{R}^5 into acute simplices Křížek
FR 1015	Parallel Residual based stabilisation methods for transient flow problems at small time increments Förster , Wall, Ramm	

Time	G: LC215 Data Sparse Matrix Formats W. Hackbusch/ Lars Grasedyck/ Steffen Börm/ Parallel session	H: LC115 Multi Model Approach Alexandre Ern and Simona Perotto
FR 0835		
FR 0900	<small>sparse</small> \mathcal{H}^2 -matrix approximation of integral operators Börm	<small>multimodel</small> On coupling of atomistic-continuum models and control of multi-scale simulations Prudhomme, Oden, Bauman
FR 0925	<small>sparse</small> Sparse Approximations and Panel Clustering Techniques for Boundary Integral Formulations of the Wave Equation Hackbusch, Kress, Sauter	<small>multimodel</small> Coupling multimodeling with local mesh refinement Braack, Ern
FR 0950	<small>sparse</small> Adaptive Methods for Boundary Integral Equations with Convergence Estimates Schneider	<small>multimodel</small> Hierarchical model dimension reduction Ern, Perotto, Veneziani
FR 1015	<small>Parallel</small> A multigrid method for three dimensional phase field computations Bañas, Nürnberg	<small>multimodel</small> Recent advances in multiscale modeling of the circulatory system Formaggia, Moura, Veneziani, Vergara

FRI 1040–1110: COFFEE in H004 (Howell building)

Chair: **Leszek Demkowicz**

FRI 1110–1155

Fluid structure interaction for incompressible flows

Quarteroni

FRI 1155–1240

Static Two-Player Evasion-Interrogation Games with Uncertainty

H.T. Banks

FRI 1240–1400: LUNCH in the Newton Room in the Hamilton Centre (Refectory)

Time	A: H001 Parallel session Hamid Bahai	B: LC065 New hybrid and hybridized methods Bernardo Cockburn and Jayadeep Gopalakrishnan
FR 1400	Parallel Special aspects of the FEM solution of a coupled heat and moisture diffusion with sorption in nanofibers structures Frydrych , Ralek, Ruzickova	newhybrid Hybridized LDG methods for the Stokes problem Carrero, Cockburn, Schötzau
FR 1425	Parallel Different FSI Methods with Deformable Elastic Bodies van Loon , Sherwin	newhybrid Hybridized upwind-mixed finite elements for diffusion-advection-reaction problems Sacco
FR 1450	Parallel Numerical simulation of an induction furnace Bermúdez, Gómez, Muñiz, Salgado, Vázquez	newhybrid Reinterpretation of static condensation leads to a new a priori error estimate for convection diffusion equations Holst
FR 1515	Parallel Second sound effect of FG Pressure Vessels: Effective Stiffness matrix normalization method Bahui , Eslami	newhybrid A hybridized mixed method for Stokes flow Cockburn, Gopalakrishnan
FR 1540	Parallel A finite element formulation for analysis of flexible risers structures subjected to current loading Hosseini Kordkheili , Bahai	newhybrid Hybridization of Interior Penalty Discontinuous Galerkin Methods for Second Order Elliptic Problems Cockburn, Gopalakrishnan, Lazarov

Time	C: LC067 Computational Multifield and Multiscale Methods in Continuum Biomechanics Eduard Rohan and B. Markert/ Parallel session	D: LC068
FR 1400	<small>multifield</small> Modeling shear wave propagation in biotissue: an internal variable approach to dissipation Banks, <u>Luke</u> , Wynne-Verkruysse	
FR 1425	<small>multifield</small> A Stick-Slip/Rouse Hybrid Model Banks, Hood, Medhin, <u>Samuels</u>	
FR 1450	<small>Parallel</small> Angiogenesis, Haemodynamics and Drug delivery in solid tumour <u>Xu</u>	
FR 1515	<small>Parallel</small> Integro-Differential Approach in the Linear Theory of Elasticity <u>Saurin</u> , Kostin	
FR 1540	<small>Parallel</small> FEM Realization Based on Integral Strain-Stress Relations <u>Kostin</u> , Saurin	

FRI 1605–1630: TEA in H004 (Howell building)

Times of speakers

FR0925E Aavatsmark	TH0835D Cao	TU1425A Edwards	FR1450B Holst	TU1450D Legendre
TH0900D Acosta	TU1100I Carstensen	WE1610C Ehlers	TH1635B Holubová	TH1750G Leugering
TU1145I Ainsworth	WE0900G Casas	TH0835B Elschner	WE1015G Hoppe	TH1450F Leykekhman
TH1700D Alauzet	FR0925D Chandler-Wilde	TH1425E Ephsteyn	TH0950C Horák	TH0950B Lindner
WE0950G Apel	TH1015B Chandler-Wilde	TH1450E Ern	FR1540A Hosseini Kordkheili	WE1425G Liu
TU1700A Arbogast	TH0950D Chen	FR1015E Förster	TH1635E Houston	FR1425A van Loon
TU1635F Armentano	WE0950C Chinellato	WE1610E Fangohr	WE1450E Hrkac	TH0925A Loula
WE1015A Bängtsson	TH1610G Chleboun	WE1425D Feistauer	TU1400B Hsiao	WE1450F Lovadina
TU1610C Böhmer	TU1700E Christiansen	TH1425C Fernández	TH1515D Huang	TH1450D Lube
TU1635C Böhmer	TU1450A Christie	WE0925C Finger	FR0925B Hubbard	TH1515H Lukáš
TH1425A Bürger	TU1425E Ciarlet, Jr	FR1015H Formaggia	WE1515C Huttunen	FR1400C Luke
FR1015G Bañas	WE1400E Clemens	TH0835A Franca	WE0950E Izsák	WE1700B Maischak
WE1730I Babuška	FR1015A Codina	TH1515G Franz	TH1515A Jaffré	TH0950F Makridakis
WE1610F Bachmann	TH0925G Cools	FR1400A Frydrych	TU1515A Jaffré	TH1750B Malík
FR1515A Bahtui	TU1700B Costabel	TH1725E Gamba	TH1635A James	WE1635C Markert
FR1155I Banks	TH1015D Creusé	TH1450A García	WE1515E Janíková	FR0835B Matas
WE0835D Barlow	TH1725B Čepička	TU1515E Gastaldi	TH1400F Jensen	TH0925D Matthias
TH0950A Barrenechea	TH0900G Červený	TU1700G Georgoulis	FR0835A John	TU1425B Meddahi
WE0900D Barth	TU1425F Dörfler	WE0835F Giani	FR0950F Křížek	WE0900F Melenk
WE1425F Barth	TU1610A Dahle	FR1515B Gopalakrishnan	FR0835E Klausen	TH1400D Micheletti
TH0950E Baur	TH0900E Dahmen	TH1400B Graham	WE0835A Klie	TH1400C Mihai
WE1400G Becker	WE1450A Dalík	WE1155I Graham	WE0900C Koch	TU1635B Mikhailov
TH1635H Ben Hassen	TU1450E Dauge	TH0925E Grasedyck	FR1540C Kostin	WE1700F Mishra
TH1610A Berres	TU1700C Davydov	TH1700G Griesse	TH1635C Krause	TU1515D Monk
TU1610F Bespalov	WE1610D Dawson	TH1425D Grosman	FR0925G Kress	TH1425F Moore
WE0950B Bespalov	FR1015D Delbary	TH1700F Grote	WE1635D Kučera	WE1015D Morel
TH0835G Beuchler	TH1110I Demkowicz	TU1610B Gwinner	TU1635E Kurtz	TH0900A Mozolevski
TH1635G Biros	TU1700D Demkowicz	WE1425E Hamelinck	TH0925C Kučera	TH1750F Mustapha
FR0900A Blasco	TH1635F Demlow	WE1450B Harbrecht	WE1635F Lévi	TH1610C Nackenhorst
FR0900E Boffi	WE0950D Després	WE1015C Hazard	TH0925F Lakkis	WE1450C Nannen
FR0925H Braack	TU1400D Diaz	TH1725G Heinkenschloss	TH1425B Langdon	FR0950B Nasri
TH1015A Braack	TU1450G Discacciati	TU1400G Heinrich	TH1155I Langer	TH1700B Nečas
WE0925D Braeunig	TH1515C Dobiáš	TU1635G Heisserer	WE1400B Langer	TU1515C Norbury
TU1425D Bramble	WE1400D Dolejší	WE1110I Heuer	TH1610F Larson	TU0940I Oden
WE0950A Bruch, Jr.	TU1450B Domínguez	TH0900F Hill	TH1515F Lasis	WE1425B Of
FR0900F Burda	TH0835C Dostál	TU1610E Hiptmair	FR1540B Lazarov	FR0950E Ölmann
FR0900G Börm	TH1610B Drábek	TH1700H Hohage	WE1015E Ledger	WE0925E Pardo

FR0900B Parsaei	WE1515B Rech	TU1515G Scheichl	TU1425G Steinbach	WE1450H Wathen
TU1610G Parvizian	FR0835C Reese	WE1400C Schmidt	TU1515B Stephan	TH1450C Weiser
TU1400E Pasciak	TH1400A Risebro	FR0950G Schneider	TU1400F Stevenson	TU1425C Wei
WE1515H Pasciak	TH1515E Riviere	TH1635D Schneider	TH1610H Stratis	TH1450B Wendland
FR0950H Perotto	TH0835E Rjasanow	WE1700E Scholz	TH1400G Sváček	TU1730I Wheeler
WE1015F Perotto	WE0925A Roberts	FR0900D Schulz	TH1015G Šolín	WE1450D Wheeler
TU1610D Petropoulos	FR0900C Rohan	TH1425H Schulz	WE0900B Tausch	FR1015C Wieners
TH1610D Picasso	TU1635A Russell	WE1400A Scovazzi	WE1515F Tavener	TH1610E Wihler
FR0950D Potthast	FR0925F Šístek	TH0950G Segeth	TH1750E Tomar	WE0925F Wihler
WE1635B Potthast	FR1425B Sacco	TH0925B Sellier	WE0835G Tröltzsch	TU1450C Winter
TH1015F Powell	TH1400H Sachs	TH1700A Sepúlveda	FR1450A Vázquez	WE1610B Wrobel
WE1400H Powell	FR0925C Sainte-Marie	WE1425A Shashkov	FR0950A Valentin	FR1450C Xu
WE1015B Praetorius	WE0900A Sammon	TH1700E Shaw	TU1515F Veese	TU1400A Yotov
WE1635E Praetorius	FR1425C Samuels	TU1450F Siebert	TH1400E van der Vegt	TH1450G Zítka
TU1635D Prieto	WE1400F Sangalli	WE1425H Silvester	FR0835F Vejchodský	WE0835E Zaglmayr
FR0900H Prudhomme	FR1515C Saurin	TH1015C Sinwel	TH1425G Vejchodský	WE1425C Zschiedrich
FR1110I Quarteroni	WE0925B Sayas	WE0835B Sloan	WE1450G Vexler	
WE0925G Rösch	WE0835C Schöberl	WE1700D Sobotíková	TH1700C Vlach	
WE0900E Rachowicz	FR1400B Schötzau	TH1450H Stadler	TH1725F Vohralík	
TH1725H Rapún	TH0835F Schötzau	FR0950C Steeb	TH0900C Vondrák	
FR0925A Rathish Kumar	WE0950F Schötzau	TH0900B Steinbach	TU1400C Wathen	