European Conference on High Order Nonlinear Numerical Methods for Evolutionary PDEs: Theory and Applications

HONOM 2011

April 11 – April 15, 2011
University of Trento and CIRM-FBK, Italy

Preliminary Conference Program
<table>
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<tbody>
<tr>
<td>9:00-10:00</td>
<td>BASSI</td>
<td>CHENG</td>
<td>BALSARA</td>
<td>TITAREV</td>
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<td>10:00-10:30</td>
<td>FEISTAUER</td>
<td>GROTH</td>
<td>ABGRALL</td>
<td>PARES</td>
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<td>10:30-11:00</td>
<td>Coffee Break</td>
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<td>11:00-12:00</td>
<td>SCHUSTER</td>
<td>DESPRES</td>
<td>SHERWIN</td>
<td>DIMARCO</td>
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<td>12:00-12:30</td>
<td>HARTMANN</td>
<td>ISKE</td>
<td>PERRIER</td>
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<td>12:30-14:00</td>
<td>Lunch</td>
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<td>14:00-14:30</td>
<td>EKATERINARIS</td>
<td>KOZUBSKAYA</td>
<td>Serna</td>
<td>NOUSSAIR</td>
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<td>14:30-15:00</td>
<td>MUNZ</td>
<td>DMITRIEV</td>
<td>IMBERT-GERARD</td>
<td>CASULLI</td>
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<td>15:00-15:30</td>
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<td>15:30-16:00</td>
<td>KUMMER</td>
<td>GOETZ</td>
<td>DIOT</td>
<td>DUMBSER</td>
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<td>16:00-16:30</td>
<td>ÖZDEMIR</td>
<td>TORO</td>
<td>DERVIEUX</td>
<td>BENMANSOUR</td>
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<td>16:30-17:00</td>
<td>MONTECINOS</td>
<td>FJORDHOLM</td>
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<td>20:00</td>
<td>Conference Dinner</td>
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Monday, 11.04.2011

09:00-10:00  F. Bassi (University of Bergamo, Italy) – Invited Plenary Lecture  

Title to be announced

10:00-10:30  M. Feistauer (Charles University, Prague, Czech Republic)  

DGFEM for the numerical simulation of interaction of compressible flow with elastic structures

10:30-11:00  Coffee break

11:00-12:00  D. Schuster (NASA Langley Research Center, USA) - Invited Plenary Lecture  

High-order methods in NASA’s next generation of computational fluid dynamics tools

12:00-12:30  R. Hartmann (DLR Research Center, Germany)  

DG methods for aerodynamic flows: higher order, error estimation and adaptive mesh refinement

12:30-14:00  Lunch

14:00-14:30  J.A. Ekaterinaris (University of Patras, Greece)  

A limiting approach for three-dimensional DG discretizations in arbitrary-type meshes

14:30-15:00  C.D. Munz (University of Stuttgart, Germany)  

Reconstruction based defect corrections for finite volume and discontinuous Galerkin schemes

15:00-15:30  Coffee break

15:30-16:00  F. Kummer (TU Darmstadt, Germany)  

A DG method for flows with discontinuities using a cut-cell approach

16:00-16:30  H. Özdemir (ECN Wind Energy, The Netherlands)  

Numerical solution of 2D unsteady integral boundary layer equations with a discontinuous Galerkin method
Tuesday, 12.04.2011

09:00-10:00  J. Cheng (Inst. of Appl. Physics and Comp. Math., Beijing, China) – Invited Plenary Lecture

High order conservative ENO/WENO Lagrangian schemes for the compressible Euler equations

10:00-10:30  C. Groth (University of Toronto, Canada)

High-order central ENO finite-volume scheme for multi-block unstructured mesh

10:30-11:00  Coffee break

11:00-12:00  B. Després (University of Paris VI, France) – Invited Plenary Lecture

Uniform stability of transport schemes with arbitrary order

12:00-12:30  A. Iske (University of Hamburg, Germany)

Adaptive ADER methods using kernel-based polyharmonic spline WENO reconstruction

12:30-14:00  Lunch

14:00-14:30  T. Kozubskaya (M.V. Keldysh Inst. of Applied Mathematics, Moscow, Russia)

Implementation of higher-accuracy edge-based scheme on unstructured meshes to turbulent flow simulation

14:30-15:00  M.N. Dmitriev (Novosibirsk State University, Russia)

High accuracy Runge-Kutta WENO schemes for numerical simulation of seismic wave propagation

15:00-15:30  Coffee break

15:30-16:00  C. Goetz (University of Hamburg, Germany)

On the analysis of a solver for generalized Riemann problems by asymptotic expansion

16:00-16:30  E.F. Toro (University of Trento, Italy)

ADER high-order scheme based on time reconstruction: preliminary results

16:30-17:00  G. Montecinos (University of Trento, Italy)

A new solver for the generalized Riemann problem for hyperbolic balance laws with stiff source terms

20:00  Conference Dinner at Ristorante Villa Madruzzo
Wednesday, 13.04.2011

09:00-10:00  D.S. Balsara (University of Notre Dame, USA) – Invited Plenary Lecture

  Title to be announced

10:00-10:30  R. Abgrall (University of Bordeaux, France)

  Compressible MHD simulations via residual distribution schemes

10:30-11:00  Coffee break

11:00-12:00  S. Sherwin (Imperial College, London, UK) - Invited Plenary Lecture

  From h to p efficiently: implementing finite element discretisations that execute competitively for both high and low order approximations

12:00-12:30  V. Perrier (INRIA Bordeaux, France)

  High order method for multiphase compressible flows with RKDG schemes

12:30-14:00  Lunch

14:00-14:30  S. Serna (University of Barcelona, Spain)

  High order accurate shock capturing schemes for two-component instabilities in compressible magnetohydrodynamics

14:30-15:00  L.M. Imbert-Gérard (Université Pierre et Marie Curie, Paris, France)

  Generalized plane wave numerical methods for magnetic plasma

15:00-15:30  Coffee break

15:30-16:00  S. Diot (University of Toulouse, France)

  A very high-order finite volume method on 2D unstructured meshes: Multi-dimensional optimal order detection (MOOD)

16:00-16:30  A. Dervieux (INRIA Sophia-Antipolis, France)

  Dissipation and dispersion control of a quadratic-reconstruction advection scheme

16:30-17:00  U.S. Fjordholm (ETH Zürich, Switzerland)

  High order accurate entropy stable schemes for hyperbolic conservation laws
Thursday, 14.04.2011

09:00-10:00  V.A. Titarev (Dorodnicyn Computing Centre of Russian Academy of Sciences, Russia) – Invited Plenary Lecture

Efficient deterministic modelling of rarefied gas flows in arbitrary geometries

10:00-10:30  C. Parés (University of Malaga, Spain)

Entropy-preserving path-conservative numerical schemes

10:30-11:00  Coffee break

11:00-12:00  G. Dimarco (University of Toulouse, France) - Invited Plenary Lecture

Numerical methods for stiff kinetic equations and related problems

12:00-12:30  M. Castro (University of Malaga, Spain)

On the derivation of new WAF type methods

12:30-14:00  Lunch

14:00-14:30  A. Noussair (University of Bordeaux, France)

Nonlinear projection method in Godunov scheme for nonconservative formulation of fluid dynamics

14:30-15:00  V. Casulli (University of Trento, Italy)

An overview of the 3D numerical method within UnTRIM2

15:00-15:30  Coffee break

15:30-16:00  M. Dumbser (University of Trento, Italy)

A simple two-phase flow model for the simulation of complex free surface flows

16:00-16:30  Ben Mansour (Royal Institute of Technology (KTH) of Stockholm, Sweden)

Stabilization of two dimensional shallow water equations

16:30-17:00  B. Abdelfatah (University Larbi Ben M'Hidi- Oum El Bouaghi, Algeria)

Modified Crank-Nicholson method for semilinear diffusion equation with nonlocal boundary conditions