Daily program: Monday, 26 July 2021

08:40 – 09:00   OPENING AND WELCOME – ROOM MADRUZZO

09:00 – 09:30   **Rémi Abgrall**   (University of Zürich)
On the notion of conservation for hyperbolic problem

09:30 – 10:00   **Claus-Dieter Munz**   (University of Stuttgart)
The Riemann problem in the sharp interface approximation of two-phase flow with evaporation

10:00 – 10:30   **Andrea Thomann**   (University of Mainz)
An all-speed scheme for isentropic two phase flow

10:30 – 11:30   COFFE BREAK

11:30 – 12:00   **Dimitris Drikakis**   (University of Nicosia)
Uncertainty reduction in turbulent simulations using high-order methods

12:00 – 12:30   **Mária Lukáčová-Medvid'ová**   (University of Mainz)
Approximating viscosity solutions of the Euler equations

12:30 – 13:00   **María Elena Vázquez-Cendón**   (University of Santiago de Compostela)
Evolution of a hybrid finite volume/finite element scheme for low-Mach number flows to all Mach number flows

13:00 – 15:00   LUNCH

ROOM MADRUZZO	ROOM BELVEDERE
15:00 – 15:30 **Laura Río-Martín** (University of Trento) *A family of semi-implicit hybrid FV/FE methods for computational fluid dynamics using an efficient MPI parallel implementation*	**Davide Torlo** (Inria Bordeaux Sud-Ouest) *Continuous Galerkin high order well-balanced discrete kinetic model for shallow water equations*
15:30 – 16:00 **Mario Putti** (University of Padua) *Geometrically intrinsic shallow water equations on moving surfaces*	**Ullika Scholz** (RWTH Aachen University) *Dispersive moment equations for shallow flow*
16:00 – 16:30 **Cristóbal Castro** (University of Taparacá) *High-Order Splitting schemes for the shallow water equations with applications to tsunami wave propagation*	**Ernesto Pimentel-García** (University of Málaga) *Well-balanced methods for relativistic fluids on a Schwarzschild background*

16:30 – 17:30   COFFE BREAK

17:30 – 18:00 **Francesco Fambri** (Max Planck Institute for Plasma Physics) *A novel structure preserving semi-implicit finite volume method for viscous and resistive magnetohydrodynamics*	**Maria Chrysanthou** (University of Cambridge) *A computational multi-physics approach for nuclear fusion reactor simulations*
18:00 – 18:30 **Bangwei She** (Institute of Mathematics of the CAS, Prague) *On convergence of numerical solutions for the compressible MHD system*	**Giuseppe Orlando** (Politecnico di Milano) *An efficient and accurate implicit DG solver for the incompressible Navier–Stokes equations*
18:30 – 19:00 **Yaman Güçlü** (Max Planck Institute for Plasma Physics) *Efficient compatible finite element solution of the time-dependent Maxwell equations on mapped grids*	**Stephen Millmore** (University of Cambridge) *Multi-physics simulations of lightning strikes on elastoplastic substrates*

20:30 – . . .   WELCOME RECEPTION

Daily program: Tuesday, 27 July 2021

09:00   Opening – Room Madruzzo

09:00 – 09:30   **Christian Klingenberg**   (University of Würzburg)
Structure preserving numerical methods for the Euler equations with gravity

09:30 – 10:00   **Irene Gómez-Bueno**   (University of Málaga)
Collocation methods for high-order well-balanced methods for 1D systems of balance laws

10:00 – 10:30   **Alexander Kurganov**   (Southern University of Science and Technology, Shenzhen)
High-order path-conservative central-upwind schemes

10:30 – 11:30   Coffe Break

11:30 – 12:00   **Guoxian Chen**   (Wuhan University)
A unified surface-gradient and hydrostatic reconstruction scheme for the shallow water equations

12:00 – 12:30   **Carlos Parés**   (University of Málaga)
Well-balanced high-order finite difference WENO methods for systems of balance laws

12:30 – 13:00   **Tabea Tscherpel**   (Bielefeld University)
Boundary conditions for time-discrete Green-Naghdi equations

13:00 – 15:00   Lunch

Room Madruzzo	Room Belvedere
15:00 – 15:30 **Emmanuele Macca** (University of Catania) *Adaptive high order well balanced compact approximate method for systems of balance law*	**Yuhuan Yuan** (University of Mainz) *Convergence of the Godunov method for multidimensional compressible Euler equations*
15:30 – 16:00 **Annunziato Siviglia** (University of Trento) *A second-order well-balanced splitting scheme for the non-conservative Saint-Venant-Exner model*	**Philipp Öffner** (University of Mainz) *Convergence of DG schemes for the Euler equations via dissipative weak solutions*
16:00 – 16:30 **Celia Caballero-Cárdenas** (University of Málaga) *An exactly well-balanced semi-implicit Lagrange-projection type scheme for the shallow-water system*	**Maria Nikodemou** (University of Cambridge) *A unified multi-phase and multi-material formulation for combustion modelling*

16:30 – 17:30   Coffe Break

Room Madruzzo	Room Belvedere
17:30 – 18:00 **Spencer Sherwin** (Imperial College London) *Development and application of a spectral/hp element, implicit compressible solver*	**Isabel Echeverribar** (University of Zaragoza) *Evaluation of the performance of two non-hydrostatic shallow water models for the simulation of steady and unsteady flows*
18:00 – 18:30 **Gregor Gassner** (University of Cologne) *On compatible Legendre-Gauss-Lobatto subcell low order finite volume methods (and what we can do with it)*	**Alessia Del Grosso** (University of Versailles) *On second-order well-balanced Lagrange-projection schemes for shallow water Exner system*
18:30 – 19:00 **Kleiton A. Schneider** (University of Mato Grosso do Sul) *Multidimensional approximate Riemann solvers for hyperbolic nonconservative systems*	**Daniel Conde** (ETH Zürich) *An efficient implementation of turbulent-diffusive processes and suspended sediment transport in shallow-water models: hyperbolization, flux splitting approach and GPU acceleration*

Daily program: Wednesday, 28 July 2021

09:00 Opening – Room Madruzzo

09:00 – 09:30 **Francesco Bassi** (University of Bergamo)
Oscillation control in discontinuous Galerkin solutions of the 1D Euler equations

09:30 – 10:00 **Giovanni Russo** (University of Catania)
Conservative semi-Lagrangian methods for kinetic equations

10:00 – 10:30 **Maria Groppi** (University of Parma)
BGK models for gas mixtures: asymptotics and numerics

10:30 – 11:30 Coffe Break

11:30 – 12:00 **Manuel Castro** (University of Málaga)
Artificial viscosity to get both robustness and discrete entropy inequalities

12:00 – 12:30 **Ilya Peshkov** (University of Trento)
Computational aspects of the unified hyperbolic formulation for continuum mechanics

12:30 – 13:00 **Saray Busto** (Universidad Politécnica de Madrid)
Thermodynamically compatible schemes for continuum mechanics

13:00 – 15:00 Lunch

Room Madruzzo | Room Belvedere

15:00 – 15:30 **Maurizio Falcone** (Università di Roma "La Sapienza")
A tree structured method for high-dimensional evolutive Hamilton-Jacobi equations and applications

Michele Giuliano Carlino (Inria Bordeaux Sud-Ouest)
ADER scheme for incompressible Navier-Stokes equations on overset grids with a compact transmission condition

15:30 – 16:00 **Matteo Semplice** (Università dell'Insubria, Como)
One- and multi-dimensional CWENOZ reconstructions for implementing boundary conditions without ghost cells

Pablo Solán-Fustero (University of Zaragoza)
Application of approximate dispersion-diffusion analyses to under-resolved Burgers turbulence using high resolution WENO and UWC schemes

16:00 – 16:30 **Giacomo Albi** (University of Verona)
IMEX multistep method for hyperbolic systems with relaxation

Michael Groom (University of Sydney)
Comparison of high-resolution reconstruction schemes in unsteady low Mach number flows

16:30 – 17:30 Coffe Break

17:30 – 18:00 **Simone Chiocchetti** (University of Trento)
Tips and tricks for simple hyperbolic viscous flow

Tim Wallis (University of Cambridge)
A Flux-enriched Godunov method for multi-material problems with interface slide and void opening

18:00 – 18:30 **Firas Dhaouadi** (University of Trento)
A hyperbolic augmented model for the Nonlinear Schrödinger equation

Riccardo Dematté (Univeristy of Cambridge)
Reacting condensed phase explosives in direct contact

18:30 – 19:00 **Michael Dumbser** (University of Trento)
High order ADER discontinuous Galerkin schemes for nonlinear hyperelasticity with material failure

XiaoCheng Mi (McGill University, Montréal)
GPU-accelerated meso-resolved simulation of detonation waves in multiphase energetic materials

Daily program: Thursday, 29 July 2021

09:00   OPENING – ROOM MADRUZZO

09:00 – 09:30   **Raphaël Loubère**   (University of Bordeaux)
Towards bridging Lagrangian and Eulerian Riemann solvers

09:30 – 10:00   **Gabriella Puppo**   (Università di Roma "La Sapienza")
Traffic models, or what we can learn coupling transport and source terms

10:00 – 10:30   **Emiliano Cristiani**   (CNR, Roma)
Macroscopic and multi-scale models for multi-class vehicular dynamics with uneven space occupancy: a case study

10:30 – 11:30   COFFE BREAK

11:30 – 12:00   **Lorenzo Pareschi**   (University of Ferrara)
Hyperbolic models and numerical methods for the spatial spread of infectious diseases

12:00 – 12:30   **Isabel Cordero-Carrión**   (University of Valencia)
Numerical evolution of the resistive relativistic magnetohydrodynamic equations: a minimally implicit Runge-Kutta scheme

12:30 – 13:00   **Elena Gaburro**   (Inria Bordeaux Sud-Ouest)
A well balanced finite volume scheme for general relativity

13:00 – 15:00   LUNCH

15:00 – 15:30   **Sergey Gavrilyuk**   (Aix-Marseille University)
Singular solutions of the BBM equation: analytical and numerical study

15:30 – 16:00   **Martin Parisot**   (Inria Bordeaux Sud-Ouest)
On the 1D steady states of the 1D Green-Naghdi equations

16:00 – 16:30   **Armin Iske**   (University of Hamburg)
Flexible kernels for particle-based fluid flow simulations

16:30 – 17:30   COFFE BREAK

17:30 – 18:00   **Alina Chertok**   (North Carolina State University, Raleigh)
Well-balancing via flux globalization: applications to shallow water equations with wet/dry fronts

18:00 – 18:30   **Nikos Nikiforakis**   (University of Cambridge)
Computational multiphysics for interacting states of matter under extreme conditions

18:30 – 19:30   **Eleuterio Francisco Toro**   (University of Trento)
Some models and methods for physiological flows in collapsible conduits

20:30 – . . .   CONFERENCE DINNER

Daily program: Friday, 30 July 2021

09:00   OPENING – ROOM MADRUZZO

09:00 – 09:30   **Bruno Després** (LJLL Sorbonne University, Paris)
The implicit Lagrangian Riemann problem: how and why?

09:30 – 10:00   **Angelo Iollo** (Inria Bordeaux Sud-Ouest)
Discretization of a simple hyperbolic system rising in incompressible fluid-structure interaction

10:00 – 10:30   **Walter Boscheri** (University of Ferrara)
3D cell-centered Finite Volume schemes for solving updated Lagrangian hyperelasticity on unstructured grids

10:30 – 11:30   COFFE BREAK

11:30 – 12:00   **Arturo Hidalgo** (Universidad Politécnica de Madrid)
An ADER-WENO numerical scheme for a porous-medium mathematical model of atherosclerosis

12:00 – 12:30   **Christian Vergara** (Politecnico di Milano)
Fluid-structure interaction problems for blood flow in carotids

12:30 – 13:00   **Lucas Müller** (University of Trento)
Hyperbolic equations in computational haemodynamics: models, numerics and physiology

13:00 – 15:00   LUNCH

ROOM MADRUZZO	ROOM BELVEDERE
15:00 – 15:30 **Giacomo Dimarco** (University of Ferrara) *High order finite volume schemes with IMEX time stepping for the Boltzmann model on unstructured meshes*	**Giulia Bertaglia** (University of Ferrara) *Stochastic asymptotic-preserving IMEX Finite Volume methods for viscoelastic models of blood flow*
15:30 – 16:00 **Vladimir Titarev** (FRC Computer Science and Control, Moscow) *ALE-type discrete velocity scheme for kinetic equations as applied to rapid gas expansion problems*	**Morena Celant** (University of Trento) *AENO: a novel reconstruction method in conjunction with ADER schemes for hyperbolic equations*
16:00 – 16:30 **Stephan Gerster** (RWTH Aachen) *Hypocoercivity of Stochastic Galerkin formulations for stabilization of Kinetic Equations*	**Beatrice Ghitti** (University of Trento) *Blood flow simulations in hybrid 1D-0D networks based on a priori model selection criteria*
16:30 – 17:00 **Alessandro Coclite** (Politecnico di Bari) *Strategies for time integration in fluid/structures interaction problems within dynamic-IB methods*	**Alessandra Spilimbergo** (University of Trento) *One-dimensional blood flow with discontinuous properties and transport: mathematical analysis and numerical schemes*

17:00 – 18:00   COFFE BREAK