PROGRAM AT A GLANCE

<table>
<tr><th>June 24, Sunday</th><th>June 25, Monday</th><th>June 26, Tuesday</th><th>June 27, Wednesday</th><th colspan="2">June 28, Thursday</th><th>June 29, Friday</th></tr>
<tr><td rowspan="11"></td><td><u>8:00 – 9:00</u> (Aula Magna Galilei, Palazzo del Bo)
Registration</td><td></td><td></td><td colspan="2"></td><td><u>8:30 – 9:10</u> (Room C, Via Bassi)
X. Raynaud
Lipschitz stability for the Hunter-Saxton and Camassa-Holm equation
Chair: H. Frid</td></tr>
<tr><td><u>9:00 – 9:30</u> (Aula Magna Galilei, Palazzo del Bo)
Opening
Chair: F. Ancona, A. Marson</td><td><u>8:30 – 9:15</u> (Auditorium Conservatorio Pollini)
I. Rodnianski
Evolution problem in general relativity
Chair: C. Dafermos</td><td><u>8:30 – 9:15</u> (Aula Magna Galilei, Palazzo del Bo)
E. Zuazua
Optimal placement of sensors, actuators and dampers for waves
Chair: A. Bressan</td><td><u>8:30 – 9:10</u> (Room C, Via Bassi)
S.-H, Yu
Boundary kernels for dissipative systems
Chair: S. Bianchini</td><td><u>8:30 – 9:10</u> (Room D, Via Bassi)
J.-G. Liu
Viscek flocking dynamics and phase transition
Chair: S. Mishra</td><td><u>9:15 – 9:55</u> (Room C, Via Bassi)
G. Crippa
Two uniqueness results for the two-dimensional continuity equation with velocity having L^1 or measure curl
Chair: H. Frid</td></tr>
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C. De Lellis
Non-standard solutions of isentropic Euler with Riemann data
Chair: P. Marcati</td><td><u>9:30 – 10:15</u> (Auditorium Conservatorio Pollini)
S. Wu
Some large time behaviors of surface water waves
Chair: C. Saint-Raymond</td><td><u>9:30 – 10:15</u> (Aula Magna Galilei, Palazzo del Bo)
E. Feireisl
Relative entropy methods in the mathematical theory of complete fluid systems
Chair: S. Kawashima</td><td colspan="2"><u>9:15 – 10:15</u> (Via Bassi) V Contributed Session</td><td><u>10:00 – 10:40</u> (Room C, Via Bassi)
J. Krieger
Threshold phenomena for critical wave equations
Chair: H. Frid</td></tr>
<tr><td><u>10:15 – 10:45</u> Coffee Break</td><td><u>10:15 – 10:45</u> Coffee Break</td><td><u>10:15 – 10:45</u> Coffee Break</td><td colspan="2"><u>10:15 – 10:35</u> Coffee Break</td><td><u>10:45 – 11:05</u> Coffee Break</td></tr>
<tr><td><u>10:45 – 11:30</u> (Auditorium Conservatorio Pollini)
S. Mishra
Efficient numerical methods for quantifying uncertainty in solutions of systems of conservation laws
Chair: E. Tadmor</td><td><u>10:45 – 11:30</u> (Auditorium Conservatorio Pollini)
Y. Sone
Review of the original derivation of the Boltzmann equation and its extension to an infinite-range intermolecular potential
Chair: T.-P,. Liu</td><td><u>10:45 – 11:30</u> (Aula Magna Galilei, Palazzo del Bo)
J. A. Sethian
Tracking Multiphase Physics: Geometry, Foams, and Thin Films
Chair: H. Holden</td><td><u>10:35 – 11:15</u> (Room C, Via Bassi)
M. Herty
Hyperbolic Equations on Networks
Chair: S. Canic</td><td><u>10:35 – 11:15</u> (Room D, Via Bassi)
S. Takata
Singular behavior of a rarefied gas on a planar boundary
Chair: S.-H. Yu</td><td><u>11.05 – 11.50</u> (Room C, Via Bassi)
G. Russo
Implicit-Explicit methods for hyperbolic systems with hyperbolic and parabolic relaxation
Chair: P. L. Roe</td></tr>
<tr><td><u>11:45 – 12:30</u> (Aula Magna Galilei, Palazzo del Bo)
N. Masmoudi
Homogenization and boundary layers
Chair: G.-Q. Chen</td><td><u>11:45 – 12:30</u> (Aula Magna Galilei, Palazzo del Bo)
S. Jiang
Recent progress in existence theory for the 3D steady compressible Navier-Stokes equations
Chair: A. Klar</td><td><u>11:45:</u> Group Photo</td><td colspan="2"><u>11:20 – 12:50</u> (Via Bassi) VI Contributed Session</td><td><u>12.05 – 12.50</u> (Room C, Via Bassi)
A. Vasseur
Strong stability of shocks in L^2 for conservation laws, and application to asymptotic analysis
Chair: A. Tzavaras</td></tr>
<tr><td colspan="2"><u>12.30 – 14:30 Lunch Break</u></td><td colspan="2"><u>12.30 – 14:30 Lunch Break</u></td><td><u>12.30 – 13:30 Lunch Break</u></td><td colspan="2"><u>12.50 – 14:10 Lunch Break</u></td><td><u>13.00 Closing</u></td></tr>
<tr><td><u>14:30 – 15:10</u> (Room C, Via Bassi)
M. Perepelitsa
On variational kinetic formulations for scalar conservation laws and the equations of gas dynamics
Chair: C. De Lellis</td><td><u>14:30 – 15:10</u> (Room D, Via Bassi)
D. Gerard-Varet
Domain continuity for the Euler and Navier-Stokes equations
Chair: S. Jiang</td><td><u>14:30 – 15:10</u> (Room C, Via Bassi)
G. Staffilani
Almost sure existence of global weak solutions for supercritical Navier-Stokes equations
Chair: I. Rodnianski</td><td><u>14:30 – 15:10</u> (Room C, Via Bassi)
K. Xu
High-order gas evolution model for computational fluid dynamics
Chair: D. Kroener</td><td><u>13.30 – 18.45:</u> Excursion to Ville del Brenta
(Meeting point at Piazzale Boschetti)</td><td><u>14:10 – 14:50</u> (Room C, Via Bassi)
S. Shkoller
On the finite-time splash and splat singularities for the 3-D free-surface Euler equations
Chair: N.Masmoudi</td><td><u>14:10 – 14:50</u> (Room D, Via Bassi)
J.-L. Guermond
Entropy viscosity for hyperbolic systems and questions regarding parabolic regularization
Chair: G. Russo</td><td rowspan="4"></td></tr>
<tr><td><u>15:15 – 16:15</u> (Via Bassi) I Contributed Session</td><td colspan="2"><u>15:15 – 16:15</u> (Via Bassi) III Contributed Session</td><td colspan="2"><u>14:55 – 15:55</u> (Via Bassi) VII Contributed Session</td></tr>
<tr><td rowspan="3"><u>16:00 – 19:00</u>
Registration & Welcome Spritz (Torre Archimede, Department of Mathematics)</td><td colspan="2"><u>16:15 – 16:35</u> Coffee Break</td><td colspan="2"><u>16:15 – 16:35</u> Coffee Break</td><td colspan="2"><u>15:55 – 16:15</u> Coffee Break</td></tr>
<tr><td><u>16:35 – 17:15</u> (Room C, Via Bassi)
S.-Y. Ha
Complete synchronization of particle and kinetic Kuramoto models on networks
Chair: A. Vasseur</td><td><u>16:35 – 17:15</u> (Room D, Via Bassi)
M. Shearer
Two-Phase Flow in Porous Media: Shock Waves and Stability
Chair: Y. Trakhinin</td><td><u>16:35 – 17:15</u> (Room C, Via Bassi)
C. Lattanzio
Relative entropy in diffusive relaxation
Chair: D. Serre</td><td><u>16:35 – 17:15</u> (Room D, Via Bassi)
K. Beauchard
Controllability results for degenerate parabolic operators
Chair: M. Bardi</td><td><u>16:15 – 16:55</u> (Room C, Via Bassi)
P. Secchi
Stability of the free plasma-vacuum interface
Chair: H. Lopes</td><td><u>16:15 – 16:55</u> (Room D, Via Bassi)
M. Reintjes
Points of General Relativistic Shock Wave Interaction are “Regularity Singularities” where Spacetime is Not Locally Flat
Chair: H. Freistuhler</td></tr>
<tr><td><u>17:20 – 19:20</u> (Via Bassi) II Contributed Session</td><td colspan="2"><u>17:20 – 19:20</u> (Via Bassi) IV Contributed Session</td><td><u>19:45:</u> (Palazzo della Ragione) Banquet (Keynote Speaker: James Glimm)</td><td colspan="2"><u>17:00 – 19:30</u> (Via Bassi) VIII Contributed Session</td></tr>
</table>

Plenary Speakers Session

June 25, Monday	
Location	Aula Magna Galilei, Palazzo del Bo
Chair	P. Marcati
9:30 – 10:15	**C. De Lellis** *Non-standard solutions of isentropic Euler with Riemann data*
Chair	E. Tadmor
10:45 – 11:30	**S. Mishra** *Efficient numerical methods for quantifying uncertainty in solutions of systems of conservation laws*
Chair	G.-Q. Chen
11:45 – 12:30	**N. Masmoudi** *Homogenization and boundary layers*

June 26, Tuesday	
Location	Auditorium Conservatorio Pollini
Chair	C. Dafermos
8:30 – 9:15	**I. Rodnianski** *Evolution problem in general relativity*
Chair	C. Saint-Raymond
9:30 – 10:15	**S. Wu** *Some large time behaviors of surface water waves*
Chair	T.-P. Liu
10:45 – 11:30	**Y. Sone** *Review of the original derivation of the Boltzmann equation and its extension to an infinite-range intermolecular potential*
Chair	A. Klar
11:45 – 12:30	***S. Jiang*** *Recent progress in existence theory for the 3D steady compressible Navier-Stokes equations*

June 27, Wednesday	
Location	Aula Magna Galilei, Palazzo del Bo
Chair	A. Bressan
8:30 – 9:15	**E. Zuazua** *Optimal placement of sensors, actuators and dampers for waves*
Chair	S. Kawashima
9:30 – 10:15	**E. Feireisl** *Relative entropy methods in the mathematical theory of complete fluid systems*
	H. Holden
10:45 – 11:30	**J. A. Sethian** *Tracking Multiphase Physics: Geometry, Foams, and Thin Films*

June 29, Friday	
Location	Room C, Via Bassi
Chair	P. L. Roe
11.05 – 11.50	**G. Russo** *Implicit-Explicit methods for hyperbolic systems with hyperbolic and parabolic relaxation*
Chair	A. Tzavaras
12.05 – 12.50	**A. Vasseur** *Strong stability of shocks in L^2 for conservation laws, and application to asymptotic analysis*

Invited Speakers Session

June 25, Monday		
Location	Room C, Via Bassi	Room D, Via Bassi
Chair	C. De Lellis	S. Jiang
14:30 – 15:10	**M. Perepelitsa** *On variational kinetic formulations for scalar conservation laws and the equations of gas dynamics*	**D. Gerard-Varet** *Domain continuity for the Euler and Navier-Stokes equations*
Chair	A. Vasseur	Y. Trakhinin
16:35 – 17:15	**S.-Y. Ha** *Complete synchronization of particle and kinetic Kuramoto models on networks*	**M. Shearer** *Two-Phase Flow in Porous Media: Shock Waves and Stability*
June 26, Tuesday		
Location	Room C, Via Bassi	Room D, Via Bassi
Chair	I. Rodnianski	D. Kroener
14:30 – 15:10	**G. Staffilani** *Almost sure existence of global weak solutions for supercritical Navier-Stokes equations*	**K. Xu** *High-order gas evolution model for computational fluid dynamics*
Location	Room C, Via Bassi	Room D, Via Bassi
Chair	D. Serre	M. Bardi
16:35 – 17:15	**C. Lattanzio** *Relative entropy in diffusive relaxation*	**K. Beauchard** *Controllability results for degenerate parabolic operators*

June 28, Thursday		
Location	Room C, Via Bassi	Room D, Via Bassi
Chair	S. Bianchini	S. Mishra
8:30 – 9:10	**S.-H, Yu** *Boundary kernels for dissipative systems*	**J.-G. Liu** *Viscek flocking dynamics and phase transition*
Location	Room C, Via Bassi	Room D, Via Bassi
Chair	S. Canic	S.-H. Yu
10:35 – 11:15	**M. Herty** *Hyperbolic Equations on Networks*	**S. Takata** *Singular behavior of a rarefied gas on a planar boundary*
Location	Room C, Via Bassi	Room D, Via Bassi
Chair	N. Masmoudi	G. Russo
14:10 – 14:50	**S. Shkoller** *On the finite-time splash and splat singularities for the 3-D free-surface Euler equations*	**J.-L. Guermond** *Entropy viscosity for hyperbolic systems and questions regarding parabolic regularization*
Location	Room C, Via Bassi	Room D, Via Bassi
Chair	H. Lopes	H. Freistuhler
16:15 – 16:55	**P. Secchi** *Stability of the free plasma-vacuum interface*	**M. Reintjes** *Points of General Relativistic Shock Wave Interaction are "Regularity Singularities" where Spacetime is Not Locally Flat*

June 29, Friday	
Location	Room C, Via Bassi
Chair	H. Frid
8:30 – 9:10	**X. Raynaud** *Lipschitz stability for the Hunter-Saxton and Camassa-Holm equation*
9:15 – 9:55	**G. Crippa** *Two uniqueness results for the two-dimensional continuity equation with velocity having L^1 or measure curl*
10:00 – 10:40	**J. Krieger** *Threshold phenomena for critical wave equations*

Contributed Speakers Session
June 25, Monday (15:15 – 16:10)
(Via Bassi)

	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8	Session 9
	Numerical Methods I	**Navier Stokes and Euler Equations I**	**Numerical Methods II**	**Numerical Methods III**	**Numerical Methods for Atmospheric and Geophysical Models I**	**Multi Physics Models I**	**Theory of Conservation Laws I**	**Reaction-Convection-Diffusion Equations**	**Control Problems for Hyperbolic Equations I**
Room	**F**	**D**	**H**	**I**	**G**	**E**	**A**	**B**	**C**
Chair	K. Waagan	P. Trebeschi	D. Kalise	M. Pelanti	L. Pizzocchero	S. Benzoni	E. Godlewski	O. Rozanova	M. Bardi
15:15-15:40	**K. R. Arun** *Finite volume evolution Galerkin schemes for wave propagation in heterogeneous media*	**N. A. Gusev** *Incompressible Limit of the Linearized Navier–Stokes Equations*	**R. Borsche** *ADER-schemes for networks of 1D hyperbolic equations*	**M.J. Castro-Diaz** *Entropy-Stable Path-Conservative Numerical Schemes*	**I. Lie** *Governing equations and discretization in conservative form for atmospheric moÀdels*	**P. Rodriguez-Bermudez** *Loss of strict hyperbolicity and Riemann solutions for vertical three-phase flow in porous media*	**Y.-P. Choi** *Time-asymptotic interaction of flocking particles and an incompressible viscous fluid*	**M. Gazibo** *On the well-posedness of Entropy Solutions to the Degenerate Parabolic Equation with a zero-flux boundary condition*	**A. Bressan** *Nash equilibria for traffic flow on a network*
15:45-16:10	**U. Koley** *Convergence of finite difference scheme for symmetric Keyfitz-Kranzer system*	**M. Kotschote** *Dynamical stability of non-constant equilibria for the compressible Navier-Stokes equations in Eulerian coordinates*	**A. E. Hiltebrand** *Entropy-stable discontinuous Galerkin finite element method with streamline diffusion and shock-capturing*	**C. Cances** *Numerical coupling between systems of balance laws and their late-time asymptotic behavior*	**I. Kröker** *Multi-Resolution Methods for Quantifying Uncertainties in Geophysical Applications*	**J. Glimm** *Multiple Species Mixing at High Reynolds Number*	**S. Junca** *High frequency waves and the maximal smoothing effect for nonlinear scalar conservation laws*	**A. Terracina** *Entropy formulation for forward--backward parabolic equation*	**Shyam Ghoshal** *Exact controllability of scalar conservation laws with strict convex flux*

Contributed Speakers Session
June 25, Monday (17:20 – 19:15)
(Via Bassi)

	Session 10	Session 11	Session 12	Session 13	Session 14	Session 15	Session 16	Session 17	Session 18
	Numerical Methods IV	**Navier Stokes and Euler Equations II**	**Numerical Methods V**	**Numerical Methods VI**	**Numerical Methods for Atmospheric and Geophysical Models II**	**Multi Physics Models II**	**Theory of Conservation Laws II**	**Balance Laws in Relativity**	**Control Problems for Hyperbolic Equations II**
Room	**F**	**D**	**H**	**I**	**G**	**E**	**A**	**B**	**C**
Chair	K. Xu	L. Saint-Raymond	A. Chertock	D. Aregba-Driollet	D. Kroener	R. Natalini	M. Westdickenberg	B. Temple	P. Goatin
17:20-17:45	**C. Helzel** *Cartesian grid embedded boundary methods for hyperbolic*	**H. J. Nussenzveig Lopes** *Bounded vorticity, bounded velocity (Serfati) solutions to the incompressible 2D Euler equations*	**Y. Penel** *Practical CFL conditions for MUSCL schemes \\solving Euler equations*	**J. Schütz** *A Combined Hybridized Discontinuous Galerkin / Hybrid Mixed Method for Viscous Conservation Laws*	**O. Knoth** *Split-explicit time integration methods in numerical weather prediction*	**D. Marchesin** *Can one obtain numerically a non-existent solution for a viscous system of conservation laws?*	**L. di Ruvo** *Capillarity approximation of conservation laws with discontinuous fluxes*	**O. Zanotti** *High Order Methods with Adaptive Mesh Refinement for the Solution of the Relativistic MHD Equations*	**Peipei Shang** *Optimal control of cell mass and maturity in a model of follicular ovulation*
17:50-18:15	**J. Luo** *Comparison of WENO scheme and high-order WENO-gas-kinetic scheme for inviscid and viscous flow simulation*	**D. Donatelli** *Analysis of Oscillations and Defect Measures in Plasma Physics*	**J. Wei** *A discontinuous Galerkin method for neutron transport equations on arbitrary grids*	**L. Boudin** *A numerical scheme for the pressureless gases system*	**T. Müller** *Well-balanced simulation of geophysical flows via the Shallow Water Equations with bottom topography: Consistency and Numerical Computation*	**J. D. Silva** *Riemann solutions without intermediate constant states for a system in thermal multiphase flow in porous media*	**F. Weber** *Conservation laws with filtered variables*	**M. Abdelrahman** *A front tracking analysis for the ultra relativistic Euler equations*	**S. Pfaff** *Optimal Boundary Control for Nonlinear Hyperbolic Balance Laws*
18:20-18:45	**A. Duran** *An efficient discretization of the shallow water equations with source terms on unstructured meshes*	**K. Trivisa** *A Low Mach Number Limit of a Dispersive Navier-Stokes System*	**K. Waagan** *Exporting numerical schemes from compressible gas dynamics to elasticity*	**M. Girardin** *Large time step and asymptotic preserving numerical schemes for the gas dynamics equations with source terms*	**M. Lukacova** *Adaptive large time step FV and DG methods for some geophysical flows*	**V. Matos** *Classification of the umbilic point for general immiscible three-phase flow in porous media*	**E. Panov** *On the decay property for periodic entropy solutions to scalar conservation laws*	**Y. Trakhinin** *Existence and stability of relativistic plasma-vacuum interfaces*	**F. S. Priuli** *On the attainable set for Temple class systems with characteristic boundary*
18:50-19:15	**H. C. Yee** *Numerical Dissipation and Wrong Propagation Speed of Discontinuities For Stiff Source Terms*	**F. Li** *Low Mach number limit for the compressible viscous magnetohydrodynamic equations*	**F. Kemm** *An enhancement to the AUFS Flux Splitting scheme by Sun and Takayama*	**P. L. Roe** *Geometrical Treatment of Geometrical Shock Dynamics*	**D. Kalise** *A WENO-TVD finite volume scheme for the numerical approximation of atmospheric phenomena*	***M. Kraenkel*** *A Discontinuous Galerkin Scheme for compressible phase field models*	**D. Mitrovic** *Singular solutions of a fully nonlinear 2x2 system of conservation laws*	**B. Okutmustur** *Relativistic Burgers equations on a curved spacetime*	***M. Kanso*** *Global Small Solutions of the 3D Kerr-Debye Model*

Contributed Speakers Session
June 26, Tuesday (15:15 – 16:10)
(Via Bassi)

	Session 19	Session 20	Session 21	Session 22	Session 23	Session 24	Session 25	Session 26	Session 27
	Numerical Methods VII	**Navier Stokes and Euler Equations III**	**Numerical Methods VIII**	**Numerical Methods IX**	**Complex and Social Models**	**Multi Physics Models III**	**Theory of Conservation Laws III**	**Kinetic Models I**	**Control Problems for Hyperbolic Equations III**
Room	**E**	**C**	**G**	**H**	**F**	**I**	**A**	**D**	**B**
Chair	C. Helzel	D. Donatelli	S. Noelle	M. J. Castro-Diaz	G. Crippa	F. Linares	L. Spinolo	Y. Sone	M. Kawski
15:15-15:40	**P. L. Roe** *Amelioration of Shock-capturing Anomalies*	**Jiu Quansen** *Global well-posedness of 2D compressible Navier-Stokes equations with large data and vacuum*	**N. Sfakianakis** *Entropy dissipation property of adaptive mesh reconstruction techniques*	**V. Desveaux** *Second-order MUSCL schemes based on Dual Mesh Gradient Reconstruction (DMGR)*	**S. Canic** *Hyperbolic Nets: Modeling, Analysis, Numerical Simulation, and Numerics*	**O. Rouch** *Harten's Artificial Compression Method applied to a Multiphase Flow for Interface Sharpening*	**F. Renac** *Measure-valued coupling of non-linear hyperbolic PDEs*	**G. Savaré** *Sticky particles with interactions*	**Wang Z.** *Controllability of a scalar conservation law with nonlocal velocity*
15:45-16:10	**R. Turpault** *Asymptotic-preserving schemes for unusual long-time asymptotics*	**P. Trebeschi** *Well-posedness of the linearized plasma-vacuum interface problem in ideal incompressible MHD*	**Espen R. Jacobsen** *Nonlinear fractional equations of mixed hyperbolic parabolic type: Initial theory and numerics*	**M. Pelanti** *A mixture-energy-consistent numerical approximation of a single-velocity compressible two-phase flow model for fluids with interfaces and cavitation*	**R. M. Colombo** *Conservation Laws in the Modeling of Moving Populations*	**Khaled Saleh** *An entropy-satisfying relaxation approximation for the isentropic Baer & Nunziato model with vanishing phases*	**Z.-Q. Shao** *Almost global existence of classical discontinuous solutions to general quasilinear hyperbolic systems of conservation laws with small BV initial data*	**E. Tadmor** *Consensus and clustering in kinetic and hydrodynamic descriptions of self-alignment*	**V. Perrollaz** *Control problems for conservation laws in the context of entropy solutions and with three controls*

Contributed Speakers Session
June 26, Tuesday (17:20 – 19:15)
(Via Bassi)

	Session 28	Session 29	Session 30	Session 31	Session 32	Session 33	Session 34	Session 35	Session 36
	Numerical Methods X	**Navier Stokes and Euler Equations IV**	**Numerical Methods XI**	**Numerical Methods XII**	**Relaxation Processes and Complex Models**	**Multi Physics Models IV**	**Theory of Conservation Laws IV**	**Kinetic Models II**	**Control and Geometric Problems for Hyperbolic Equations**
Room	**E**	**C**	**G**	**H**	**F**	**I**	**A**	**D**	**B**
Chair	E. Tadmor	H. J. Nussenzveig Lopes	F. Cavalli	M. Lukacova	C. Klingenberg	Y. Trakhinin	G. Guerra	G. Savaré	A. Bressan
17:20-17:45	**S. Karni** *Absorbing Boundaries for Free Surface Flow*	**S. Benzoni** *On Whitham's modulated equations for the Euler--Korteweg system*	**L. Pizzocchero** *A posteriori estimates from approximate solutions of the Euler or Navier-Stokes equations*	**J. Sukys** *Multi-Level Monte Carlo finite volume methods for nonlinear systems of stochastic conservation laws in multi-dimensions*	**M. Strani** *Metastable and interface dynamics for the parabolic Burgers equation and for the hyperbolic Jin-Xin system*	**P. Castaneda** *The Riemann problem for three-phase flow in virgin reservoirs for general permeabilities*	**E. Godlewski** *Selective relaxation model for general fluid systems*	**Yi Wang** *The Limit of the Boltzmann Equation to the Euler Equations for Riemann Problems*	**M. Kawski** *Optimal control of re-entrant manufacturing systems*
17:50-18:15	**D. Kroener** *Scalar conservation laws on moving hypersurfaces*	**E. Chiodaroli** *A non-uniqueness result for entropy solutions to the compressible Euler system*	**U. Fjordholm** *High-order accuracy, entropy stability and convergence for finite difference methods for hyperbolic conservation laws*	**M. Briani** *Time Asymptotic High Order Schemes for Dissipative BGK Hyperbolic Systems*	**E. Audusse** *Relaxation schemes for modelling erosion processes*	**S. K. Kenettinkara** *Application of discontinuous flux for polymer flooding in Multi-dimensional oil reservoir simulation*	**M. Gisclon** *Blow up at the hyperbolic boundary for a system arising from chemical engineering*	**F. Charles** *A non singular Vlasov equation for magnetic plasmas*	**G. M. Coclite** *Asymptotic stabilization of the hyperelastic-rod wave equation*
18:20-18:45	**C. Gersbacher** *Explicit Numerical Schemes for the Coupling of Dimensionally Heterogeneous Free-Surface Flow Models*	**L. Berselli** *On the long-time behavior of 2D dissipative Euler*	**Chen G** *An adaptive moving finite volume scheme for shallow water equations with dry and complex topography*	**C. Zeiler** *A multiscale method for compressible liquid-vapor flow with surface tension*	***H. Mathis*** *Relative entropy for the finite volume approximation of hyperbolic systems with relaxation*	**R. Bürger** *Spectral WENO schemes with Adaptive Mesh Refinement for multi-species kinematic flow models*	**B. Keyfitz** *Using Geometric Singular Perturbation Theory to Understand Singular Shocks*	**I-Khun Chen** *Boundary singularity for Boltzmann equation*	**I. Kogan** *Extensions for systems of conservation laws*
18:50-19:15	**M. Twarogowska** *A well-balanced numerical scheme for solutions with vacuum to a 1d quasilinear hyperbolic model of chemotaxis*	**S. Spirito** *The vanishing viscosity limit for Navier-Stokes equations in bounded domain with slip boundary conditions*	**M. Semplice** *Grid adaptivity for systems of conservation laws*	**A. Kasimov** *A model for shock wave chaos*	***C. Chalons*** *New Entropy Satisfying and Accurate Approximate Riemann Solvers based on the Suliciu Relaxation Approach*	**R. Adami** *Stability, instability and symmetry-breaking bifurcations for the stationary states of the one-dimensional NLS with a defect*	**B. Haspot** *Global existence of strong solution for shallow water system with large initial data on the irrotational part*	**K.-C. Wu** *Hydrodynamic limit of the Gross-Pitaevskii equation*	**P. Amorim** *On a nonlocal hyperbolic conservation law arising from a gradient constraint problem*

Contributed Speakers Session
June 28, Thursday (9:15 – 10:10)
(Via Bassi)

	Session 37	Session 38	Session 39	Session 40	Session 41	Session 42	Session 43	Session 44	Session 45
	Numerical Methods XIII	**Navier Stokes and Euler Equations V**	**Numerical Methods XIV**	**Convective Flows**	**Electro –Magnetic Flows I**	**PDEs in Mathematical Physics**	**Theory of Conservation Laws V**	**BioFluids Models I**	**Hydrodynamics and Simulations**
Room	**F**	**B**	**G**	**A**	**E**	**D**	**C**	**H**	**I**
Chair	C. Berthon	K. Trivisa	L. Pareschi	B. Rubino	F. Asakura	A. Corli	R. M. Colombo	G. Puppo	Yi Wang
9:15-9:40	**B. Despres** *Analysis of Asymptotic Preserving schemes with the modified equation*	**N. Chemetov** *Boundary layer problem: Navier-Stokes equations and Euler equations*	**G. Lemoine** *Simulation of Poroelastic Wave Propagation using CLAWPACK*	**C. Klingenberg** *Decay rate of convection equations with degenerate diffusion*	**P. Corti** *A Discontious Galerkin Method for the Magnetic Induction Equation with Hall Effect*	**F. Linares** *On Uniquenes Properties of Solutions to the Benjamin-Ono Equation*	**H. Frid** *Remarks on the Theory of the Divergence-Measure Fields*	**J. Ernest** *Schemes with well-controlled dissipation (WCD)*	**R. Arora** *Asymptotical Solutions in a Reactive non-ideal Hydrodynamic medium*
9:45-10:10	**M. Castro-Diaz** *Two-waves PVM-WAF type method for non-conservative systems*	**J. Ballew** *Low Mach Number Singular Limits of the Compressible Navier-Stokes-Smoluchowski System*	**F. Cavalli** *Hyperbolic explicit-Parabolic linearly implicit finite difference methods for degenerate convection diffusion equation*	**M. Di Francesco** *Entropy solutions via JKO scheme for a class of degenerate convection-diffusion equations*	**A. McMurry** *Semi-implicit solutions to Radiation-Magnetohydrodynamics*	**I. Kmit** *Smoothing effect and Fredholm property for first-order hyperbolic PDEs*	**B. Boutin** *Coupling techniques for nonlinear hyperbolic equations*	**F. James** *Hydrodynamical behaviour for chemotaxis*	**B. Taetz** *A high-order unstaggered constrained transport method for the 3d ideal magnetohydro-dynamic equations based on the method of lines*

Contributed Speakers Session
June 28, Thursday (11:20 – 12:45)
(Via Bassi)

	Session 46	Session 47	Session 48	Session 49	Session 50	Session 51	Session 52	Session 53	Session 54
	Numerical Methods XV	**Navier Stokes and Euler Equations VI**	**Numerical Methods XVI**	**Wave Analysis I**	**Electro –Magnetic Flows & High Frequency Phenomena**	**Traffic Flow & Population Dynamics**	**Theory of Conservation Laws VI**	**BioFluids Models II**	**Models and Simulations in Mechanics**
Room	**F**	**B**	**G**	**A**	**E**	**D**	**C**	**H**	**I**
Chair	A. Klar	B. Texier	G. Russo	S. Abenda	A. Terracina	M. Garavello	S. Bianchini	F. James	Fucai Li
11:20-11:45	**E. Tadmor** *ENO interpolation is stable:high resolution, the sign property and entropy stability*	**M. Ohnawa** *Nonlinear stability of a boundary layer solution to the Euler-Poisson equations in plasma physics*	**E. Briseid Storrøststen** *Error estimates for monotone finite difference approximations to degenerate convection-diffusion equations*	**I. Hashimoto** *Asymptotic behavior of solutions for Damped wave equations with non-convex convection term on the half line*	**D. Aregba-Driollet** *The Riemann problem for a full-wave Maxwell model modeling electromagnetic propagation in a nonlinear Kerr medium*	**M. L. Delle Monache** *Scalar conservation laws with moving density constraints arising in traffic flow modeling*	**B. Andreianov** *Generalizing the Bardos-LeRoux-Nedelec boundary condition for scalar conservation laws*	**S. Ulusoy** *Fractional Conservation Laws and Keller-Segel Type System in Higher Dimensions*	**F. Carvalho** *Detonation wave problems: modeling, numerical simulations and linear stability*
11:50-12:15	**A. Chertock** *Central-Upwind Schemes for the System of Shallow Water Equations with Horizontal Temperature Gradients*	**J. Roberts** *Steady self-similar inviscid flow*	**V. Rispoli** *Implicit-Explicit Runge-Kutta schemes for the Boltzmann-Poisson equation for semiconductors*	**Liviu Florin Dinu** *Wave-wave interactions of a gasdynamic type*	**Y. Lu** *High-frequency limit of the Maxwell-Landau-Lifshitz system in the diffractive optics regime*	**M. Rosini** *On the Management of Vehicular Traffic*	**L. Spinolo** *Well-posedness of continuity equations with low regularity coefficients defined in domains with boundary*	**J. Wang** *Multi-dimensional Degenerate Keller-Segel system with new diffusion exponent 2n/(n+2)*	**M. Hantke** *Exact solutions to the Riemann problem for compressible isothermal Euler equations for two phase flows with and without phase transition*
12:20-12:45	**C. Berthon** *A positive, entropic, full-well-balanced scheme for the shallow-water model*	**C. Audiard** *A dispersive property of the Euler-Korteweg model*	**A. Coco** *Boundary treatment in cut cell finite difference methods for compressible gas dynamics in domain with moving boundaries*	**J. Giesselmann** *On cavitation in elastodynamics*	**L. Zanelli** *Mather measures in semiclassical analysis*	**S. Berres** *An adaptive finite-volume method for a model of two-phase pedestrian flow*	**Khai Tien Nguyen** *Lower compactness estimates for scalar balance laws*	**S. Javeed** *Numerical techniques for solving nonlinear kinetic rate model of reactive liquid Chromatography*	**M. Rybicki** *Modeling, simulation and optimization of gas flow in an exhaust pipe*

Contributed Speakers Session
June 28, Thursday (14:55 – 16:45)
(Via Bassi)

	Session 55	Session 56	Session 57	Session 58	Session 59	Session 60	Session 61	Session 62	Session 63
		Nonlinear Waves I	**Numerical Methods XVII**		**Mechanics and Fluids**	**Wave Patterns Analysis I**	**Theory of Conservation Laws VII**	**BioFluids Models III**	**Mean Curvature Motion and Moving Interfaces**
Room	**B**	**A**	**G**	**D**	**H**	**C**	**E**	**I**	**F**
Chair		D. Tkachev	R.Ferretti		H. Frid	C. Lattanzio	G. Alberti	D. Amadori	A. Cesaroni
14:55-15:20		**F. Foucher** *An efficient splitting technique for two-layer Shallow-Water model*	**K. Mikula** *Inflow-Implicit/Outflow-Explicit Finite Volume Methods for Solving Advection Equations*		**A. Mailybaev** *Renormalization and universality of blowup in hydrodynamic flows and conservation laws*	**M. Hadzic** *The Stefan problem and the vanishing surface tension limit*	**L. Caravenna** *Continuous solutions to a balance law*	**P. Bagnerini** *Multi-scale tissular-cellular model for wound healing*	**Y. Achdou** *A semi-Lagrangian scheme for mean curvature motion with nonlinear Neumann conditions*
15:25-15:50		**J. Höwing** *Stability of solitary waves in generalized Korteweg-de Vries and Euler-Korteweg / Boussinesq equations*	**Argiris Delis** *A new multidimensional-type reconstruction and limiting procedure for unstructured cell-centered finite volumes solving hyperbolic conservation laws*		**A. Khe** *Long waves on 3D shear flows: hyperbolicity and discontinuous solutions*	**R. Plaza** *On the stability of degenerate viscous shock profiles*	**D. Tonon** *SBV regularity results for Hamilton-Jacobi equations*	**A.-C. Boulanger** *Coupling hydrodynamics and biology to model and simulate algae growth*	**P. Frolkovic** *Flux-based level set method for implicitly defined interfaces*

Contributed Speakers Session
June 28, Thursday (17:00 – 18:25)
(Via Bassi)

	Session 64	Session 65	Session 66	Session 67	Session 68	Session 69	Session 70	Session 71	Session 72
	Numerical Methods XVIII	**Nonlinear Waves II**	**Numerical Methods XIX**	**Conservation Laws and Applications I**	**Kinetic Models III**	**Wave Patterns Analysis II**	**Conservation Laws and Applications II**	**Phase Field Models**	**Numerical Methods for Hamilton-Jacobi Equations**
Room	**D**	**A**	**G**	**B**	**H**	**C**	**E**	**I**	**F**
Chair	J.-.L.Guermond	D. Gerard-Varet	J.-G. Liu	G. M. Coclite	B. Després	P. Secchi	A. Tzavaras	B. Keyfitz	J. A. Sethian
17:00-17:25	**R. Kaeppeli** *A Well-Balanced Multi-Dimensional Reconstruction Scheme for Hydrostatic Equilibria*	**A. Ascanelli** *Well posedness for Schrodinger type equations*	**J. Sainte-Marie** *A positive, well-balanced and entropy-satisfying scheme for shallow water flows*	**K. Nakane** *Mathematical modeling for a free boundary problem of hyperbolic type and properties of its solution*	**Z. Hong** *Time and space discrete scheme to suppress numerical solution oscillation for the neutron transport equations*	**D. Serre** *Multi-dimensional rarefaction waves*	**F. Achleitner** *Traveling wave solutions in scalar conservation laws with anomalous diffusion*	**F. Furtado** *The Riemann problem for three-phase flow with quadratic permeabilities*	**R. Ferretti** *Monotone numerical approximations for optimal control of hybrid systems*
17:30-17:55	**M. Dudzinski** *Well-balanced bicharacteristic-based scheme for two-layer shallow water flows including wet/dry fronts*	**K. Grunert** *Global solutions of the two-component Camassa-Holm system*	**B. Koren** *A new model and numerical method for compressible two-fluid Euler flow*	**T. Auphan** *Penalty methods for edge plasma transport in a tokamak*	**G. Puppo** *Microscopically Implicit-Macroscopically Explicit schemes for kinetic models*	**H. Freistühler** *Stability of small shocks associated with Metivier-convex modes*	**H. Bae** *On the Doi model for the suspensions of rod-like molecules in compressible fluids*	**E. Abreu** *Numerical simulation of wave propagation in three-phase flows in porous media with spatially varying flux functions*	**O. Bokanowski** *Semi-Lagrangian discontinuous Galerkin schemes for first and second order partial differential equations*
18:00-18:25	**S. Ortleb** *Well-balanced and positivity preserving DG schemes for shallow water flows with shock capturing by adaptive filtering procedures*	**F. Lagoutiere** *Simulations of the Lifshitz-Slyozov equations: the role of coagulation terms in the asymptotic behavior*	**F. Kissling** *A Multi-Scale Approach for Infiltration Processes in Porous Media*	**A. Corli** *A hyperbolic model for phase transitions in porous media*	**X. Chen** *Global weak solution for kinetic models of active swimming and passive suspensions*	**B. Texier** *The onset of instability for quasi-linear systems*	**C. Bauzet** *The Cauchy Problem for a conservation law with a multiplicative stochastic perturbation*	**S. Noelle** *Adaptive two-three layer modelling of stratified flows*	**K. Debrabant** *Semi-Lagrangian schemes for linear and fully non-linear Hamilton-Jacobi-Bellman equations*

Contributed Speakers Session
June 28, Thursday (18:30 – 19:25)
(Via Bassi)

	Session 64	Session 65	Session 66	Session 67	Session 68	Session 69	Session 70	Session 71	Session 72
	Numerical Methods XVIII	**Nonlinear Waves II**	**Numerical Methods XIX**	**Conservation Laws and Applications I**	**Kinetic Models III**	**Wave Patterns Analysis II**	**Conservation Laws and Applications II**	**Phase Field Models**	**Numerical Methods for Hamilton-Jacobi Equations**
Room	**D**	**A**	**G**	**B**	**H**	**C**	**E**	**I**	**F**
Chair	J.-.L.Guermond	D. Gerard-Varet	C. Pares	G. M. Coclite	B. Després	P. Secchi	A. Tzavaras	B. Keyfitz	J. A. Sethian
18:30-18:55	**S. Boscarino** *Order conditions on IMEX Runge-Kutta schemes for hyperbolic systems with stiff relaxation*	**W. Neves** *The Generalized Buckley-Leverett System*	**B. Popov** *Compactness of central schemes for 1D hyperbolic systems*	**G. Guerra** *Lipschitz Semigroup for an Integro-Differential Equation for Slow Erosion*	**R. Duan** *Asymptotic stability of kinetic plasmas for general collision potentials*	**D. Tkachev** *Stability of supersonic flow onto a wedge with the attached weak shock under the fulfillment of the weak Lopatinski condition*	**N. Seguin** *Entropy decreasing in resonant contact discontinuities*	**F. Asakura** *Stone-Marchesin Model Equations of Three-Phase Flow in Oil Reservoir Simulation*	**A. Festa** *An approximation scheme for an Eikonal Equation with discontinuous coefficient*
19:00-19:25		**S. Abenda** *Grassmannians and multisoliton KP-II solutions*	***A*. Kurganov** *New Central-Upwind Schemes for Euler Equations of Gas Dynamics*	**M. Garavello** *Nonlinear hyperbolic balance laws coupled with ordinary differential equations*	**Bugra Kabil** *On the asymptotics of solutions to resonator equations*	**A. Tesdall** *Glancing weak Mach reflection*	**J. Wächtler** *Spectral Stability of Small-Amplitude Traveling Waves via Geometric Singular Perturbation Theory*	**O. Rozanova** *Exact solutions to ideal hydrodynamics of inelastic gases: global existence and singularities*	**M. Nolte** *Approximation of the Effective Hamiltonian Through a Degenerate Elliptic Problem*

Poster Sessions (Via Bassi)
June 25, Monday (14:00 – 16:35)

A. Benaissa *Global existence and energy decay of solutions for a nondissipative wave equation with a time varying delay term*	**M. Gaggero** *Optimal control of level set dynamics via a finite-dimensional approximation scheme*	**A. Marica** *Wave propagation in discrete heterogeneous media*	**A. Tomar** *Analytical Solution of Second-Order Hyperbolic Telegraph Equation by Homotopy Analysis Method*
C. Bianca *On the Thermostatted Kinetic Models*	**Michael Jaehn** *Compressible modeling of a cloudy atmosphere using a general pressure evolution equation*	**N. Najdi** *Indirect internal stabilization of the thermoelastic Bresse system*	
G. Facchi *Continuum Models of a Limit Order Book*	**M. Koksal** *An Operator-difference Scheme for Hyperbolic PDEs with Significant First-order Derivative Term*	**G. Peralta** *Boundary Controllability of a Hyperbolic PDE with ODE Boundary Conditions Modeling a One-Dimensional Flow*	
T. Fay *Bryan's effect and nonlinear damping*	**T. Maerz** *The Closest Point Method for Surfaces PDEs and Applications to Thin Film Flow*	**F. Thein** *Riemann solvers for compressible isothermal Euler equations for two phase flows with phase transition*	

June 26, Tuesday (14:00 – 16:35)

A. Chesnokov *Shallow water equations for horizontal-shear flows: characteristics, analytical and numerical solutions*	**A. Klaiber** *Viscous Profiles for Shock Waves in Isentropic Magnetohydrodynamics*	**S. E. Noh** *Large Time Behavior of Solutions for the Navier-Stokes equations for compressible fluid in three dimension*	**C. Tan** *Critical thresholds on pressure-less Navier-Stokes equations with nonlocal viscocity*
I. Fedotov *Hyperbolic problems in the theory of longitudinal vibrations of non-thin rods*	**M. Li** *Zero dissipation limit to rarefaction wave with vacuum for 1-D compressible Navier-Stokes equations*	**M. Y. Shatalov** *On hyperbolic equations describing longitudinal vibration of accreting rods*	**Y. Ueda** *Decay property for symmetric hyperbolic systems with non-symmetric relaxation*
E. Han *Exact Riemann solutions to compressible Euler equations in ducts with discontinuous cross–section*	**T. Nakamura** *Boundary layer solution to systems of viscous conservation laws in half line*	**V. M. Shelkovich** *Delta-shocks in the Navier-Stockes system of granular hydrodynamics*	**Y. Yakubov** *Hyperbolic differential-operator equations with the time differentiation in boundary conditions*

June 28, Thursday (14:00 – 16:35)

A. Aggarwal *A finite volume approximation of a 2 Layer system for growth of sandpile based on schemes for discontinuous flux for hyperbolic conservation laws*	**T. Delestre** *1D hemodynamic simulations thanks to numerical methods for Shallow Water system*	**S. V. Joubert** *The numerical determination of Bryan's factor for a non-thin cylindrical shell*	**A. Mentrelli** *Shock waves in quasi-thermal-incompressible materials*
S. Brdar *Comparison of discontinuous Galerkin and finite difference for NWP*	**K. Elsen** *Numerical Solution of the Two-Dimensional Advection Equation on Unstructured Grids with Logarithmic Reconstruction*	**L. Krivodonova** *Relaxing the CFL Number of the Discontinuous Galerkin Method*	**U. Razafison** *Numerical scheme for a viscous Shallow Water system including new friction laws of second order*
C. Guillaume *Contact algorithms for cell-centered Lagrangian schemes*	**J.-M. Hérard** *An entropy-satisfying fast and slow waves splitting method for the Baer & Nunziato two-phase flow model*	**H. Kumar** *IMplicit-EXplicit (IMEX) schemes for 10-Moment Plasma Equations*	**R. Sahandi** *Existence of positive solutions for a system of multi-point boundary value problems with p-Laplacian operator*