FVCA7 – The International Symposium of Finite Volumes for Complex Applications VII
Berlin June 15 – 20, 2014

Sunday, 15.06.2014	
Start:	**19:00**
	WIAS Registration and Get-Together with Pretzel and Wine
Location:	WIAS, Mohrenstr. 39, 10117 Berlin, Germany

Scientific Program

Location: BBAW (Academy of Sciences)
            Markgrafenstraße
            10117 Berlin

Monday, 16.06.2014	
08:00 – 09:00	**Registration**
09:00 – 09:20	**Opening** Sprekels, Jürgen (Director WIAS)
09:20 – 10:00	**Dumbser, Michael (Italia)** High order one-step AMR and ALE methods for hyperbolic PDE
10:00 – 10:20	**Giesselmann, Jan (Germany)** On a posteriori error analysis of DG schemes approximating hyperbolic conservation laws
10:20 – 10:40	**Franck, Emmanuel (Germany)** Modified finite volume nodal scheme for Euler equations with gravity and friction
10:40 – 11:20	Coffee break
11:20 – 11:40	**Arpaia, Luca (France)** An ALE formulation for explicit Runge-Kutta residual distribution
11:40 – 12:00	**von Larcher, Thomas (Germany)** Towards a stochastic closure approach for large eddy simulation
12:00 – 12:20	**Sabat, Macole (France)** Comparison of realizable schemes for the Eulerian simulation of disperse phase flows
12:20 – 12:40	**Zaza, Chady (France)** Comparison of cell-centered and staggered pressure-correction schemes for all-Mach flows
12:40 – 14:20	Lunch
14:20 – 15:00	**Helluy, Philippe (France)** Interpolated pressure laws in two-fluid simulations and hyperbolicity
15:00 – 15:20	**Munz, Claus-Dieter (Germany)** A combined finite volume discontinuous Galerkin approach for the sharp-interface tracking in multi-phase flow

15:20 – 15:40	**Aguillon, Nina (France)** Numerical simulations of a fluid-particle coupling
15:40 – 16:20	Coffee break
16:20 – 16:40	**Feistauer, Miloslav (Czech Republic)** Numerical solution of fluid-structure interaction by the space-time discontinuous Galerkin method
16:40 – 17:00	**Berndt, Phillip (Germany)** On the use of the HLL-Scheme for the simulation of the multi-species Euler equations
17:00 – 17:20	**Dallet, Sophie (France)** An asymptotic preserving scheme for the barotropic Baer-Nunziato model
17:20 – 17:40	**Martin, Xavier (France)** A simple finite volume approach to compute flows in variable cross-section ducts
17:40 – 18:00	**Zenk, Markus (Germany)** A well-balanced scheme for the Euler equation with a gravitational potential
18:00 – 18:20	**Müller, Thomas (Germany)** Estimating the geometric error of finite volume schemes for conservation laws on surfaces for generic numerical flux functions
19:00	Roof Top Reception

Tuesday, 17.06.2014	
09:00 – 09:40	**Mishra, Siddharta (Switzerland)** High-resolution finite volume schemes for computing entropy measure valued solutions of hyperbolic conservation laws
09:40 – 10:00	**Köppel, Markus (Germany)** Stochastic modeling for heterogeneous two-phase flow
10:00 – 10:20	**Armiti-Juber, Alaa (Germany)** Almost parallel flows in porous media
10:20 – 11:00	Coffee break
11:00 – 11:20	**Kumar, Nikhil (The Netherlands)** A new discretization method for the convective terms in the incompressible Navier-Stokes equations
11:20 – 11:40	**Feron, Pierre (France)** Gradient schemes for Stokes problem
11:40 – 12:00	**Krell, Stella (France)** A DDFV scheme for incompressible Navier–Stokes equations with variable density
12:00 – 12:20	**Saleh, Khaled (France)** A staggered scheme with non-conforming refinement for the Navier-Stokes equations
12:20 – 14:00	Lunch
14:00 – 14:40	**Chainais-Hillairet, Claire (France)** Entropy method and asymptotic behaviours of finite volume schemes
14:40 – 15:00	**Auphan, Thomas (France)** Asymptotic-preserving methods for an anisotropic model of electrical potential in a to-kamak
15:00 – 15:20	**Leroy, Thomas (France)** A well-balanced scheme for a transport equation with varying velocity arising in relativistic transfer equation
15:20 – 16:00	Coffee break
16:00 – 17:00	**Poster Presentation**
17:00 – 19:00	**Poster I**

Poster I – Tuesday, 17.06.2014

Anthonissen, Martijn (The Netherlands)
The complete flux scheme in cylindrical coordinates

Bacigaluppi, Paola (France)
A 1D stabilized finite element model for non-hydrostatic wave breaking and run-up

Balažovjech, Martin (Slovakia)
Semi-implicit second order accurate finite volume method for advection-diffusion level set equation

Bradji, Abdallah (Algeria)
A note on a new second order approximation based on a low–order finite volume scheme for the wave equation in one space dimension

Brouwer, Jens (Germany)
Conservative finite differences as an alternative to finite volume for compressible flows

Droniou, Jérôme (Australia)
A uniformly converging scheme for fractal conservation laws

Fiebach, André (Germany)
Uniform estimate of the relative free energy by the dissipation rate for finite volume discretized reaction-diffusion systems

Ferrand, Martin (France)
An anisotropic diffusion finite volume algorithm using a small stencil

Handlovičová (Slovakia)
Semi-implicit alternating discrete duality finite volume scheme for curvature driven level set equation

Hartung, Niklas (France)
An efficient implementation of a CeVeFE DDFV scheme on cartesian grids and an application in image processing

Hérard, Jean-Marc (France)
Some applications of a two-fluid model

Linke, Alexander (Germany)
Optimal and pressure-independent L2 velocity error estimates for a modified Crouzeix-Raviart element with BDM reconstructions

Lipnikov, Konstantin (USA)
Mimetic finite difference schemes with the conditional maximum principle for diffusion problems

Masson, Roland (France)
High performance computing linear algorithms for two-phase flow in porous media

Mathis, Hélène (France)
Modeling phase transition and metastable phases

Merdon, Christian (Germany)
Coupling of fluid flow and solute transport using a divergence-free reconstruction of the Crouzeix-Raviart element

Neusius, David ()
On boundary approximation for simulation of granular flow

Ohlberger, Mario (Germany)
A-posteriori error estimates for the localized reduced basis multi-scale method

Olivier, Hurisse (France)
Application of a two-fluid model to simulate the heating of two-phase flows

Strachota, Pavel (Czech Republic)
A quasi-1D model of biomass co-firing in a circulating fluidized bed boiler

Turpault, Rodolphe (France)
An asymptotic-preserving scheme for systems of conservation laws with source terms on 2D unstructured meshes

Vidovic, Dragan (Serbia)
Piecewise linear transformation in diffusive flux discretizations

Zhang, Yumeng (France)
Coupling of a two phase gas liquid compositional 3D Darcy flow with a 1D compositional free gas flow

Wednesday, 18.06.2014	
09:00 – 09:40	**Mikula, Karol (Slovakia)** Finite volume methods in image processing
09:40 – 10:00	**Remesikova, Mariana (Slovakia)** 3D Lagrangian segmentation with simultaneous mesh adjustment
10:00 – 10:20	**Krivá, Zuzana (Slovakia)** Gradient evaluation on a quadtree based finite volume grid
10:20 – 11:00	Coffee break
11:00 – 11:20	**Cancès, Clément (France)** Entropy-diminishing CVFE scheme for solving anisotropic degenerate diffusion equations
11:20 – 11:40	**Droniou, Jérôme (Australia)** Uniform-in-time convergence of numerical schemes for Richards' and Stefans' models
11:40 – 12:00	**Chernyshenko, Alexey (Russia)** A finite volume scheme with the discrete maximum principle for diffusion equations on polyhedral meshes
12:00 – 12:20	**Gao, Zhi-Ming (P.R.China)** A linearity-preserving cell-centered scheme for the anisotropic diffusion equations
12:20 – 14:00	Lunch
14:00 – 14:20	**Ortleb, Sigrun (Germany)** Positivity preserving implicit and partially implicit time integration methods in the context of the DG scheme applied to shallow water flows
14:20 – 14:40	**Gunawan, Putu Harry (France)** An explicit staggered finite volume scheme for the shallow water equations
14:40 – 15:00	**Vater, Stefan (Germany)** Well-balanced inundation modeling for shallow-water flows with discontiuous Galerkin schemes
16:00 – 18:00	River Cruise

Thursday, 19.06.2014
09:00 – 09:40	**Almgren, Ann (USA)** Low mach number modeling of stratified flows
09:40 – 10:00	**Waidmann, Matthias (Germany)** A conservative coupling of level-set, volume-of-fluid and other conserved quantities
10:00 – 10:20	**Minjeaud, Sebastian (France)** Consistency analysis of a 1D finite volume scheme for barotropic Euler models
10:20 – 11:00	Coffee break
11:00 – 11:20	**Brenner, Konstantin (France)** Vertex approximate gradient scheme for hybrid dimensional two-phase Darcy flows in fractured porous media
11:20 – 11:40	**Guichard, Cindy (France)** Gradient discretization of hybrid dimensional Darcy flows in fractured porous media
11:40 – 12:00	**Nikitin, Kirill (Russia)** Nonlinear monotone FV scheme for radionuclide geomigration and multiphase flows models
12:00 – 12:20	**Rybak, Iryna (Germany)** Coupling free flow and porous medium flow systems using sharp interface and transition region concepts
12:20 – 14:00	Lunch
14:00 – 14:40	**Bochev, Pavel (USA)** A new parameter-free stabilization approach for advection-diffusion equations based on H(curl)-lifting of multi-scale fluxes
14:40 – 15:00	**Colin, Pierre-Louis (France)** Convergence of a finite volume scheme for a corrosion model
15:00 – 15:20	**Knabner, Peter (Germany)** FV stabilizations of FE discretizations of advection-diffusion problems
15:20 – 16:00	Coffee break
16:00 – 17:00	**Poster Presentation**
17:00 – 19:00	**Poster II**

Poster II – Thursday, 19.06.2017

Baron, Vincent (France)
Adaptive time discretization and linearization based on a posteriori estimates for the Richards equation

Bradji, Abdallah (Algeria)
Note on the convergence of a finite volume scheme using a general nonconforming mesh for an oblique derivative boundary value problem

Benkhaldoun, Fayssal (France)
A finite volume method for large-eddy simulation of shallow-water equations

Fuhrmann, Jürgen (Germany)
Activity based finite volume methods for generalised Nernst-Planck-Poisson systems

Fürst, Jiří (Czech Republic)
Numerical simulation of flow in a meridional plane of multistage turbine

Gasc, Thibault (France)
Suitable formulations of Lagrange remap finite volume schemes for manycore / GPU architectures

Keslerová, Radka (Czech Republic)
Numerical modelling of viscous and viscoelastic fluids flow in the channel with t-junction

Kloefkorn, Robert (Norway)
Continuous Galerkin methods on non-conforming grids using discontinuous Galerkin stabilization

Le Potier, Christophe
Convergence of a nonlinear scheme for anisotropic diffusion equations

Mallem, Khadidja (France)
Convergence of the MAC scheme for the steady-state incompressible Navier-Stokes equations on non-uniform grids

Maltese, David (France)
Discrete relative entropy for the compressible Stokes problem

Meltz, Bertrand-Jylien (France)
An arbitrary space-time high-order finite volume scheme for gas dynamics equations in curvilinear coordinates on polar meshes

Michel-Dansac, Victor (France)
A conservative well-balanced hybrid SPH scheme for the shallow-water model

Mohamed, Gazibo Karimou (France)
Convergence of finite volume scheme for degenerate parabolic problem with zero flux boundary condition

Nabet, Flore (France)
Finite volume analysis for the Cahn-Hilliard equation with dynamic boundary conditions

Ndjinga, Michael (France)
Weak convergence of nonlinear finite volume schemes for linear hyperbolic systems

Nguyen, Thi-Phuong-Kieu (France)
Numerical simulation of an incompressible two-fluid model

Printsypar, Galina (Kingdom of Saudi Arabia)
MPFA algorithm for solving Stokes–Brinkman equations on quadrilateral grids

Rave, Stephan (Germany)
A model reduction framework for efficient simulation of Li-ion batteries

Saad, Mazen (France)
Convergence analysis of a FV-FE scheme for partially miscible two-phase flow in anisotropic porous media

Sonntag, Matthias (Germany)
Shock capturing for discontinuous Galerkin methods using finite volume sub-cells

Ung, Philippe (France)
A simple well-balanced, positive and entropy-satisfying numerical scheme for the shallow-water system

Vu Do, Huy Cuong (France)
A gradient scheme for the discretization of Richards equation

Friday, 20.06.2014
09:00 − 09:40	**Després, Bruno (France)** Finite-Volumes schemes with corner based fluxes: A journey from Lagrangian fluid dynamics to heat equation
09:40 − 10:00	**Crestetto, Anais (France)** Asymptotic-preserving scheme based on a finite volume/particle-in-cell coupling for Boltzmann-BGK-like equations in the diffusion scaling
10:00 − 10:20	**Bernard, Florian (France)** Simulation of diluted flow regimes in presence of unsteady boundaries
10:20 − 11:00	Coffee break
11:00 − 11:20	**Bessemoulin-Chatard, Marianne (France)** Monotone combined finite volume-finite element scheme for a bone healing model
11:20 − 11:40	**May, Sandra (Switzerland)** A mixed explicit implicit time stepping scheme for Cartesian embedded boundary meshes
11:40 − 12:00	**Alnashri, Yahya (Australia)** Gradient schemes for an obstacle problem
12:00 − 12:20	**Erath, Christoph (Austria)** Comparison of two couplings of the finite volume method and the boundary element method
12:20 − 14:00	Lunch
14:00 − 14:20	**Bradji, Abdallah (Algeria)** A new finite volume scheme for a linear Schroedinger evolution equation
14:20 − 14:40	**Girke, Stefan (Germany)** Efficient parallel simulation of atherosclerotic plaque formation using higher order discontinuous Galerkin schemes
14:40 − 15:00	**ten Thije Boonkkamp, Jan (The Netherlands)** Numerical dissipation and dispersion of the homogeneous and complete flux schemes
15:00	Closing