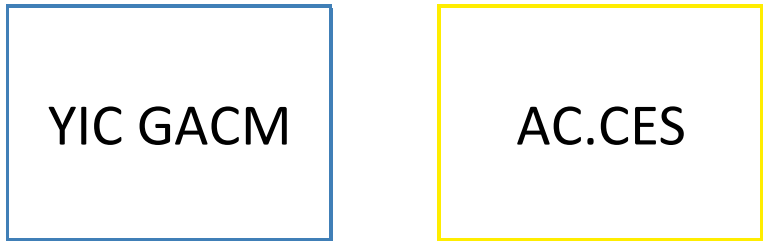
Detailed Program

Legend:



Monday, July 20, 2015, morning

	II	III	V	Fo 8	Fo 7	Super C
08:30 - 09:00	**Opening**					
09:00 - 10:00	**Plenary** **Chair: Scott Stapleton** **E. J. Pineda** **(NASA Glenn Research Center, USA)** **"Multiscale Modeling of Advanced Composites"**					
10:00 - 10:30	Coffee Break			Coffee Break		
10:30 - 12:30	**MS03: "Computational Contact Mechanics"** Session 1 - Discretization Methods and Computational Algorithms N. Nguyen Thanh: "A 3D Numerical Simulation for a Coupled Thermo-Hydro-Mechanical Problem Applied for a Masonry Dam" M. Dittmann: "Thermomechanical contact with hierarchical NURBS" C. Wilking: "Mortar-based Contact Formulation for Contact of Shell Structures" S. Sitzmann: "Variationally consistent quadratic finite element formulations for contact problems on rough surfaces" W. Rust: "Application of the virtual element method to non-conforming contact interfaces"	**MS08: "Modeling microstructure and material instabilities across a range of scales"** G. Potirniche: "Simulations of creep-fatigue crack growth in steels using strip-yield and microstructure-based constitutive modeling" J. Kochmann: "Computational phase-field modeling of martenstitic phase transformations in polycrystals based on fast Fourier transforms in a two-scale setting" K. Schneider: "Homogenization efficiency regarding variations of RVE size and geometry"	**PS02: Computational advances in composites** **Chair: Meng-Meng Zhou** M. Lobos: "Robust materials design of anisotropic elastic properties of polycrystalline composites" S.Q. Zhang: "Stress analysis of macro-fiber composite integrated smart structures with arbitrary piezo fiber orientation" T. Stein: "Modelling of the bond behaviour of reinforced concrete related to 3D Finite-Element Analysis" B. Sobczyk: "Laminated plates and shells - first ply failure analysis within 6-parameter shell theory" F. van der Meer: "Multiscale modeling of delamination crack growth" S. Stapleton: "Adaptive shape functions to capture material softening in coarse-mesh adhesively bonded joint models"	**PS03: Computational biomechanics** **Chair: Stephen Waite** O. Al-Qatrawi: "Contact Problems in Biomechanics of Intestinal Propulsion" A. Bhattarai: "Biomechanical study of the female pelvic floor dysfunction using the finite element method" N. Shamlooh: "Biomechanics of the Human Stomach After Bariatric Surgery" W. Willenberg: "Cultivation of Tendon Cells Supported by Constitutive Modelling" L. Jagschies: "Computational model for the investigation of a novel extravascular cardiac assist device" I Putra: "The Effects of Active Muscle Contraction into Pedestrian Kinematics and Injury during Vehicle-Pedestrian Collision"	**PS04: Computational dynamic failure / fracture and damage mechanics** **Chair: Johannes Wolf** P. Broumand: "Simulation of Dynamic Ductile Fracure with X-FEM" S. Wulfinghoff: "Comparison of Different Time-Integration Algorithms for an Anisotropic Damage Model" K. Ozenc: "A dynamic material force method based approach to dynamic fracture and branching phenomena with r-adaptivity" O. Yilmaz: "Crack Cluster Distributions and Critical Behavior in a 3-D Mesoscale Concrete Model" J. Chen: "Impact of micro-damage on the longitudinal compressive strength in fibre reinforced plastics"	
12:30 - 14:00	Lunch			Lunch		

Monday, July 20, 2015, afternoon

	II	III	V	Fo 8	Fo 7	Super C
14:00 - 15:40	**MS03: "Computational Contact Mechanics"** Session 2 - Complex Contact Interfaces and Physical Effects J. Mergel: "A computational multiscale model for fibrillar adhesives" A. Rigazzi: "Determination of real area of contact and elastostatic friction for self-affine surfaces by means of the finite element method" C. Ager: "A porous flow based model for rough surface contact in fluid-structure interaction" P. Cinat: "Simulation of fluid flow across rough surfaces in contact"	**PS01: Algorithms and Codes** **Chair: Bojana Rosić** S. Haßler: "Computational analysis of rotating geometries: an enhanced shear-slip mesh update method" F. Zwicke: "Efficient Jacobian calculation in a finite element software using automatic differentiation" K. Politis: "Serial and parallel cell neighborhood construction algorithms in unstructured grids for implementing high order finite volume methods" G. Bagdasarov: "Numerical studies by means of MARPLE: new tools for parallel simulation of continuous media using unstructured meshes"	**PS06: Computational engineering sciences and physics** **Chair: Julian Köllermeier** B. Abali: "Numerical modeling of thermoelectric coupling" R. Fang: "A three-dimensional, coupled model for fully resolved finite element simulations of lithium-ion batteries" A. Apostolatos: "Multipatch isogeometric analysis for thin-walled structures with application to partitioned fluid-structure interaction" A. E. Öngüt: "Verification and Validation of a Spalart-Allmaras Turbulence Model Implementation in an Incompressible Finite Element Solver" J. Helmig: "Analysis of NURBS-Enhanced Finite Element Methods for Fluid-Structure Interaction"	**PS10: Computational materials science** **Chair: Marcel Spekowius** P. Brandt: "Developing an integrative simulation method for the structure-borne sound behaviour of short fibre reinforced thermoplastics" D. Dusthakar: "Laminate-based model for the energetics and microstructure of ferroelectrics with application to rate-dependent switching" A. Fau: "An elasto-plastic damage model for concrete considering uncertainties"	**PS14: Computational solid and structural mechanics** **Chair: Bram Vandoren** S. Drücker: "Finite Element damage analysis of an underwater glider - ship collision" M. Mayr: "An adaptive time stepping procedure for monolithic fluid-structure interaction solvers" R. Suliman: "The stability and dynamic behaviour of fluid-loaded structures" N. Hosters: "Towards the Simulation of Sloshing Tanks with Spline-Based Methods" D. Schmidt: "Bipolar plates: A new design to improve the fuel cell performance"	
15:40 - 16:00	Coffee Break			Coffee Break		
16:00 - 18:00	**PS03: Computational biomechanics** **Chair: Ralf Frotscher** M. Staat: "Modeling and simulation of a growing mass by the Smoothed Finite Element Method (SFEM)" S. Waite: "A Computational Model of Rumen Anatomy" A. Birzle: "An approach to develop a viscoelastic compressible material model for lung parenchyma" M. Hillgärtner: "Constitutive multi-scale modeling of collagenous soft tissues" K. Jain: "On the modeling of transitional physiological flows - blood flow in intracranial aneurysms and cerebrospinal fluid flow in chiari patients" A. Rafea: "Electrical Wave Propagation in Biologically Excitable Media"	**MS08: "Modeling microstructure and material instabilities across a range of scales"** K. Buckmann: "Modeling of microstructure evolution in multiferroics: An energy relaxation approach" P. van Meurs: "Analysis of a boundary layer in a discrete-to-continuum problem" T. Hudson: "Screw dislocations in an anti plane lattice model"	**PS05: Computational engineering optimization** **Chair: Markus Frings** A. Emiroglu: "A design filtering approach for aeroelastic design optimization problems" P. Nikoleizig: "Minimization of warpage for injection moulded parts with reversed thermal mould design" S. Riehl: "Structural optimization of shape and topology using an evolutionary-type advancing front algorithm" A. Serafinska: A structural optimization approach for enhancement of wear performance" J. Liedmann: "Optimisation Driven Description of the Theory of Porous Media" D. Roos / T. Wanzek: "Multicriteria optimization and robustness evaluation of a radial compressor impeller"	**PS04: Computational dynamic failure / fracture and damage mechanics** **Chair: Stephan Wulfinghoff** Y. Heider: "Phase-Field Modeling of Fracture in Multiphase Materials" J. Wolf: "Numerical simulation of dynamic crack propagation in ductile materials" S. A. Mohseni: "An adaptive mesh refinement algorithm for 3D phase-field analysis of hydraulic fracturing problems" T. Brepols: "Examination of an implicit gradient-enhanced damage model coupled to elastoplasticity" M. Zhang: "Sensitivity analysis of an auto-correlation-function-based damage index" D. Höwer: "Mode I and II delamination modelling and comparison to experiments"	**PS21: Reduced order methods** **PS22: Uncertainty quantification** **Chair: Philipp Knechtges** B. Cao: "Gappy POD based surrogate model for numerical simulations in mechanized tunneling" I. Franck: "Uncertainty Quantification for Nonlinear Inverse Problems in High Dimensions" A. Hanselowski: "A model updating method based on inverse fuzzy arithmetic" F. Franzelin: "From data to uncertainty: an integrated adaptive sparse grid approach" R. Hayes: "Reducing parametric uncertainty in limit cycle oscillations"	
19:00 - 19:45	**Public Lecture (F. Hemmert): "Staying Human in the Digital Age" (Room II, Main Building)**			**Public Lecture (F. Hemmert): "Staying Human in the Digital Age" (Room II, Main Building)**		

Tuesday, July 21, 2015, morning

	II	III	V	Fo 8	Fo 7	Super C
08:30 - 09:30	**Plenary** **Chair: Christian Windeck** **A. Andrade-Campos (University of Aveiro) "Solving design and inverse engineering problems in a sexy way"**					
09:30 - 10:00	**ECCOMAS Ph.D. Award Plenary** **Chair: Christian Windeck** **A. Collin (University of Pavia) "Asymptotic analysis in cardiac electrophysiology. Applications to modeling and data assimilation"**					
10:00 - 10:30	Coffee Break			Coffee Break		
10:30 - 12:30	**PS09: Computational fluid mechanics** **Chair: Stefan Haßler** P. Knechtges: "Recent advances of the fully-implicit log-conformation formulation" M. Shokrpour Roudbari: "Numerical Simulation of Liquid-Vapor Flows with Navier-Stokes-Korteweg Equations" E. Soprunenko: "Mathematical modeling of building ignition by wildfire" J. Bottin: "Bipolar plates: A new design to improve the fuel cell performance" H. Pratomo: "Assessment of turbulence modeling approaches for simulating turbulent fluid-structure interaction problems" T. Dang: "Simulation of two-phase mixture flow with large moving boundary using an interpenetrating continua model and the immersed boundary method"	**MS02: "Advances in Numerical Methods for Structural Dynamics and Wave Propagation Phenomena"** K. Tamm: "Numerical investigation of mechanical waves in biomembranes" T. Peets: "Nonlinear pulse propagation in microstructured material in case of the negative group velocity " J. Kopačka: "On the contact pressure oscilations of an isogeometric contact-impact algorithm" R. Kolman: "An explicit time scheme in finite element computations based on partitioned wave equations of solids" A. Tkachuk: "Alternative mass matrices and inertia patch tests" F. Confalonieri: "Selective mass scaling for multi-layer solid-shell discretization of thin-walled structures" T. Gleim: "Higher Order Accurate Time Integration Methods for Electro-Thermal Analysis"	**PS13: Computer simulation of processes and manufacturing** **Chair: Christian Windeck** B. Twardowski: "Investigation of stretch ratio dependent material models of PET bottles in O2-barrier and topload simulation routines" I. Alkhasli: "Development of Simulative Approaches for Precisely Designing the Properties of Plasma Sprayed Coatings for Application in Injection Moulding" U. Jansen: "Parallel Asynchronous Time Integration for a Discontinuous Galerkin Method" R. Berthelsen: "Continuous and Discontinuous Galerkin Methods for Transient Thermal Analysis with a Temperature Jump" C. Schöler: "Model order reduction for a parameter dependent optimal control problem in laser welding"	**PS04: Computational dynamic failure / fracture and damage mechanics** **PS17: Numerical and high-order methods** **Chair: Graham Alldredge** N. Gerhard: "Multiwavelet-based grid adaption with discontinuous Galerkin schemes" K. Kaiser: "Asymptotic Preserving Discontinuous Galerkin Method" A. Jaust: "Multiderivative time-integrators for the hybridized discontinuous Galerkin method" N. Anand: "Turbulent Flow transition in complex geometries using High Order Discontinuous Galerkin Method" S. Rezaei: "Prediction of the fracture behavior in nano-laminated structures using a cohesive zone element technique"	**PS21: Reduced order methods** **Chair: Eduard Bader** M. Brüderlin: "Aeroelastic Reduced Order Models for Active Control Law Design" B. Brands: "Reduced-Order Modelling using Proper Orthogonal Decomposition for time-dependent problems" L. Zanon: "The Reduced Basis Method for a Finite Deformation Problem" Z. Zhang: "Reduced Basis Method for Variational Inequalities in Contact Mechanics" F. Fritzen: "Computational homogenization on desktop computers: the FE2R method" M. Leuschner: "Potential-based reduced basis model order reduction for the homogenization of materials with cohesive interfaces"	**Ph.D. Olympiad** K. Hatz: "Efficient numerical methods for hierarchical dynamic optimization with application to cerebral palsy gait modeling" N. Spillane: "Achieving Robustness in Domain Decomposition" A. Radermacher: "Proper orthogonal decomposition-based model reduction in nonlinear solid mechanics" E. Golovchenko: "Computational mesh partitioning in numerical solution of continuum mechanics problems on high-performance computing systems" W. Adamczyk: "Numerical model of the industrial fluidized bed boiler operated under air- and oxy-fuel mode"
12:30 - 14:00	Lunch			Lunch		

Tuesday, July 21, 2015, afternoon

	II	III	V	Fo 8	Fo 7	Super C
14:00 - 15:40	**MS01: "Multi-disciplinary design optimisation in the aerospace industry"** D. Baumgartner: "Introduction to the AMEDEO Initial Training Network" A. Arsenyeva: "Efficient and adaptive parametric modeling for shape optimization of a wingbox" D. Baumgärtner: "Potential and difficulties of node-based shape optimization taking into account fluid-structure interaction" R. Schlaps: "Multi-fidelity optimisation of compressors" S. Caloni: "Multi-Displinary-Optimisation of the cooling system for a shroudless High Pressure turbine blade"	**PS06: Computational engineering sciences and physics** **Chair: Annabelle Collin** J. Köllermeier: "On new hyperbolic moment models for the Boltzmann equation" C. Eble: "A basic approach for the integration of Fluid-Dynamic-Effects in a MBD-Simulation of Fluid-conveying-pipes" V. Gupta: "Flow of binary gas-mixtures in a bottom-heated square cavity" M. Andre: "Performance of a weakly coupled fluid-structure interaction solver"	**PS07: Computational engineering sciences & solids** **PS11: Computational nanotechnology / micromechanics and atomistics simulations** **Chair: Martin Düsing** A. Obaid: "Efficient numerical CFD techniques for finite strain poro-elastodynamic problems" A. Rege: "A micro-mechanical approach towards modeling the inelastic behavior of fiber-reinforced aerogels" D. Sodhani: "Micomechanical full field modelling of multiphase particle reinforced elastomers" C. Martin: "Size dependence of the thermal conductivity of nanomaterials"	**PS14: Computational solid and structural mechanics** **Chair: Alexander Popp** A. Popp: "A finite element approach for arbitrarily complex contact interaction of geometrically exact 3D Kirchhoff beams" J.-P. Pelteret: "Evolutionary algorithms applied to experimental analysis and computational simulation of magnetorheological elastomers" R. Fleischhauer: "A hygro-thermo-mechanical approach to model wooden structures" R. Springer: "Efficient simulation of short fibre reinforced composites" B. Vandoren: "Robust modelling of masonry failure using GFEM-based mesoscale models"		**Ph.D. Olympiad** S. Rubino: "A projection-based FEVMS-LPS turbulence model with wall laws: Application to LES of incompressible flows" D. Kammer: "Exploring the mechanics of frictional sliding with numerical modeling" O. Bettinotti: "A weakly-intrusive multi-scale substitution method in explicit dynamics" G. Scalet: "Shape memory and elastoplastic materials: from constitutive and numerical to fatigue modeling" F. Xu: "A numerical framework for instability pattern formation modeling of film/substrate systems"
15:40 - 16:00	Coffee Break			Coffee Break		
16:00 - 18:00	**MS04: "Computational Methods for Kinetic Equations and Related Models"** Z. Cai: "Improvements on both hyperbolicity and convergence to Grad's moment method" F. Schneider: "High order realizability-preserving schemes for entropy-based moment closures of linear kinetic equations in slab geometry" T. Pichard: "Relaxation schemes for the M_1 model with space-dependent flux: application to radiotherapy dose calculation" S. Brull: "Numerical schemes for the non-conservative bitemperature Euler equations"	**MS05: "High-Fidelity Methodologies for Aero-Thermo Analysis of Combustor/Turbine Interaction in Aero-Engines"** T. Bacci: "Experimental and numerical investigation on a lean burn combustor simulator dedicated to hot streaks generation" M. Insinna: "Investigation of unsteady combustor/turbine interaction using scale adaptive simulations" S. Vagnoli: "Multicode Zonal Analysis Applied to the Combustor-Turbine Interaction to Reproduce The Effect of Turbulence in the Hot Spot Propagation" F. Duchaine: "Towards the simulation of compressor, combustion chamber and turbine interactions" F. Farisco: "Numerical investigation of the thermo-acoustic influence of the turbine on the combustor"	**MS06: "Isogeometric methods for structural mechanics"** Session 1 B. Oesterle: "A shear-deformable, rotation-free isogeometric shell formulation" Y. Guo: "Isogeometric analysis for laminated composite shells" S. Morganti: "Patient-specific isogeometric structural simulation of aortic valve closure R. Bouclier: "An isogeometric locking-free NURBS-based solid-shell element for nonlinear solid mechanics" Z. Lei: "Shape optimization for natural frequency based on modal synthesis method with isogeometric KL shell elements"	**PS09: Computational fluid mechanics** **Chair: Florian Zwicke** C. Windeck: "Integrative simulation of the temperature influence on the melt distribution in spiral mandrel dies" J. Desmarais: "Towards multi-scale modeling of phase-transitional channel flows" M. Schneider: "Efficient and robust models for multiphase flow in porous media: Investigation of different numerical approaches" B. Re: "An adaptive conservative scheme for three-dimensional Euler equations on dynamic meshes" G. Giangaspero: "A stable and conservative high-order solver for the Reynolds-Averaged Navier-Stokes equations" L. Wendling: "Two-phase flows modeling of an impacting jet using the level-set method"	**PS12: Computational NDE and wave propagation / Computational nonlinear dynamics** **PS17: Numerical and high-order methods** **Chair: Birte Schmidtmann** T. Gail: "A numerical convergence study for constrained variational multirate integration" J. Schuetz: "Stability of IMEX splittings" Z. Anastassi: "A family of optimized symmetric linear multistep methods for the numerical solution of differential equations" P. Otto: "Time integration schemes for normal impact with smoothing"	
20:00 - Open End	**Movie Night (Aachen Münchener Hall, Main Building)**			**Movie Night (Aachen Münchener Hall, Main Building)**		

Wednesday, July 22, 2015, morning

	II	III	V	Fo 8	Fo 7	Super C
08:30 - 09:30	**Plenary** **Chair: Min Chen** **C. Meyer** **(TU Dortmund University)** **"Optimal Control of Partial Differential Equations and Variational Inequalities"**					
09:30 - 10:00		**GACM PhD Awards Semi-Plenary** **Chair: Min Chen** **M.-M. Zhou** **(Ruhr University Bochum)** **"Multiphysics and Multiscale Modeling of Artificial Ground Freezing in Tunneling"**	**GACM PhD Awards Semi-Plenary** **Chair: Stefanie Elgeti** **H. Sauerland** **(RWTH Aachen University)** **"The XFEM for two-phase and free-surface flows"**			
10:00 - 10:30	Coffee Break			Coffee Break		
10:30 - 12:30	**PS03: Computational biomechanics** **Chair: Lasse Jagschies** D. Mukherjee: "Modeling of cross-linkers in biopolymer networks based on geometrically exact beam formulations" C. Kleinbach: "A generic side impact setup for comparing human body models for automotive safety" R. Frotscher: "An Electromechanical Model for Cardiac Tissue Constructs" B. Zhou: "Validation of a Viscoelastic Model for Soft Biotissue" A. Beckmann: "Testing of hybrid-instrumentation in lumbar spine using magnetic tracking system and bioreactor"	**PS05: Computational engineering optimization** **Chair: Aleksandra Serafinska** M. Frings: "An Objective Function for the Slow Shot Phase in High-Pressure Die Casting" A. Andrade-Campos: "Parameter identification strategies in nonlinear elastoplasticity" Y. Kiliclar: "Virtual process design on combined quasi-static and high-speed forming processes" T. Etling: "Optimum experimental design by shape optimization of specimens in linear elasticity" W. Kijanski: "Structural Optimisation based on Numerical Homogenisation Techniques" A. Held: "Comparison of Integral Type Objective Functions and the Equivalent Static Load Method in the Structural Optimization of Dynamically-Loaded Flexible Multibody Systems"	**MS06: "Isogeometric methods for structural mechanics"** Session 2 M. Breitenberger: "Integration of Design and Analysis with the Isogeometric B-Rep Analysis" S. May: "Powell Sabin Bsplines in structural and solid mechanics" J. Caseiro: "On the ANS method to alleviate locking pathologies in NURBS-based element for nonlinear structural applications" M. Ferraro: "Stent design evaluation by means of structural IgA" F. Fahrendorf: "Isogeometric Collocation for Phase-field Modeling of Brittle Fracture" L. Chen: "NURBS based hybrid collocationGalerkin method for the analysis of boundary represented solids"	**PS08: Computational fluid dynamics / combustion and energy** **PS09: Computational fluid mechanics** **PS19: Parallel / High Performance Computing** **Chair: Martin Schneider** G. Elia: "Injection System Design of an N2O-Paraffin Hybrid Rocket Demonstrator" P. Otte: "Lattice-Boltzmann Schemes for the Linearized Euler Equations and Coupling of Lattice-Boltzmann Schemes" T. Schumann: "Modeling the I/O behavior of the NEST simulator using a proxy" K. Drzycimski: "Smoke and fire simulatios with adaptive FEM" J. Baiges: "A level set method for the solution of non-newtonian, free surface flow problems" L. Pauli: "Stabilized Finite Element Method for Flows with Multiple Co-Rotating Reference Frames"	**PS10: Computational materials science** **Chair: Ameya Rege** R. Ostwald: " A micro-mechanically motivated finite deformation thermo-elastoplastic framework for martensitic phase-transformations" M. Spekowius: "Effective thermoelastic and thermal properties in injection moulded parts" A. Mirsakiyeva: "Quantum Molecular Dynamics Studies of Thermoelectric Polymer Systems" M. Düsing: "A phase-field approach for lower bainitic transformation coupled with carbon diffusion" E. Idczak: "Comparison of auxetic truss structures"	
12:30 - 14:00	Lunch			Lunch		

Wednesday, July 22, 2015, afternoon

	II	III	V	Fo 8	Fo 7	Super C
14:00 - 15:40	**PS06: Computational engineering sciences and physics** **Chair: Joan Baiges** R. Schärer: "Mathematical Modelling and Numerics for Partially Ionized Gases" P. Quinay: "Ground Motion Modeling in High Resolution Enhanced with High Performance Computing" C. Helfen: "Some Applications of Finite Element Modeling in the Tire Industry" W. Dornisch. "The influence of integration schemes in isogeometric Reissner-Mindlin shell analysis"	**PS10: Computational materials science** **Chair: Richard Ostwald** P. Huschke: "Generation of dense concrete mesoscale geometries using molecular dynamics simulations" M. Osman: "Modeling and Simulation of Martensitic Transformations in Shape Memory Alloys" P. Stein: "Isogeometric analysis of diffusion in nanosized Li-ion battery electrode particles" Y. Li: "Investigation of the elastic-plastic behavior of paperboard composites" C. Gurkan: "Extended hybridizable discontinuous Galerkin (X-HDG) for bimaterial problems"	**PS07: Computational engineering sciences & solids** **PS14: Computational solid and structural mechanics** **Chair: Matthias Mayr** C. Schmied: "Treatment of incompatible masses in solid-shell finite elements specifically for explicit time integration" K. Steeger: "On the performance of a mixed LSFEM formulation under consideration of different interpolation spaces" S. Kern: "Perturbation energy concept for cylindrical shells under axial compression loads" F. Ospald: "Computational homogenization of elasticity at large deformations on a staggered grid" A. Bukharov: "Multipole boundary element method for 3D elasticity problems"	**PS03: Computational biomechanics** **PS16: Multi-scale physics and computation** **Chair: Felix Fritzen** C. Popa: "Modelling of semicrystalline polymers" M.-M. Zhou: "Multi-scale strength homogenization for cohesive-frictional materials using linear comparison composite approach" V. Krupp: "Coupling turbulent flows with acoustic wave propagation on massively parallel systems" L. Chamoin: "A posteriori error estimation and adaptive strategy for multiscale computations based on MsFEM" T. Casper: "Electrothermal co-simulation of device structures in electronics"	**PS18: Optimal Control** **PS21: Reduced order methods** **Chair: Manuel Brüderlin** K. Nachbagauer: "Gradient Computation using the Adjoint Method applied for Parameter Identification and Optimal Control Problems in Multibody Dynamics" E. Bader: "A certified Reduced Basis approach for parametrized linear-quadratic Optimal Control problems with control constraints" S. Dolgov: "Low-rank solution of optimization problems constrained by fractional differential equations" I. Riedel: "Joint parameter and state estimation in thermo-elastic models" B. Rosić: "Polynomial chaos based updating of models in computational mechanics"	
15:40 - 16:00	Coffee Break			Coffee Break		
16:00 - 18:00						**Journal Club Preparatory Meeting**
20:00 - 20:10	**Ph.D. Olympiad Award Ceremony (Room II, Main Building)**			**Ph.D. Olympiad Award Ceremony (Room II, Main Building)**		
20:10 - Open End	**Science Slam (Room II, Main Building)**			**Science Slam (Room II, Main Building)**		

Thursday, July 23, 2015, morning

	II	III	V	Fo 8	Fo 7	Super C
9:00 - 9:15	**Welcome / Introduction by: Marek Behr, Scientific Director AICES**					
9:15 - 10:05	**"Computational Reservoir Engineering and Unconventional Geomechanics"** **Klaus Regenauer-Lieb School of Petroleum Engineering, Australia**					
10:05 - 10:35	Coffee Break			Coffee Break		
10:35 - 11:25	**"Fracture Modelling in Fluid-Saturated Porous Media Using Extended and Isogeometric Finite Element Analysis"** **René de Borst University of Glasgow, United Kingdom**					
11:25 - 12:15	**"Dynamic Meshing for Finite Element Simulations with Radically Changing Geometry"** **Jonathan Shewchuk University of California, Berkeley, USA**					
12:15 - 14:00	Lunch			Lunch		**Poster Session**

Thursday, July 23, 2015, afternoon

	II	III	V	Fo 8	Fo 7	Super C
14:00 - 15:30	**Journal Club Presentation**					**Poster Session**
15:30 - 16:00	Coffee Break			Coffee Break		
16:00 - 18:00	**MS09: "Multiscale Modeling and Experimental Investigation of Damage Mechanisms in Composite Materials"** E. J. Pineda: "Mesh-objective Multiscale Modeling of Progressive Damage and Failure in Composites" R. Bedzra: "Micro-macro modelling of fiber reinforced composites exhibiting elastoplastic deformation within the framework of multisurface plasticity" S. Staub: "A FFT based multi-scale approach for the simulation of progressive damage in elasto-plastic fiberreinforced composites" B. Stier: "On the interaction of damage mechanisms in composite materials"	**MS10: "Numerical simulation of two-phase flows"** S. Reuther: "Two-phase flow on evolving surfaces - a minimal model for two-component vesicles" Matthias Kirchhart: "Application of a stabilised XFEM-technique in two-phase flows" S. Basting: "An interface fitted Lagrangian-Eulerian finite element approach for free and moving boundary problems" Xianmin Xu:Finite Element Methods for a Class of Continuum Models for Immiscible Flows with Moving Contact Lines" C. Kahle: "A stable discretization for the simulation of two-phase flow" C. Lehrenfeld: "Space-Time XFEM method for mass transport in two-phase flow"	**PS09: Computational fluid mechanics** **Chair: Lutz Pauli** I. Gasilova: "Support operators technique for 3D simulations of gas-hydrate depositions" G. Alldredge: "Realizability limiting for entropy-based moment closures" W. van Veen: "Low fidelity computational modeling of shock wave-boundary layer interactions." M. von Danwitz: "Simulation of rising bubbles in viscoelastic fluids" M. Make: "Aerodynamic Performance of FloatingWind Turbines at Model Scale"	**PS14: Computational solid and structural mechanics** **Chair: Rolf Springer** A. Lamjahdy: "Simulation of thermal gradients on hot bands of disc brakes" H. Bayat: "Discontinuous Galerkin analysis of displacement discontinuities for linear elasticity" L. Zhou: "Shell structure design with model order reduction and substructure techniques" C. Yang: "Elastoplastic Analysis of Structures with Interval Data" K. Nikolaou: "Selective algorithms for shakedown analysis: a comparison of active region detection criteria" P. T. Pham: "A Simplification for Shakedown Analysis of Hardening Structures"	**PS04: Computational dynamic failure / fracture and damage mechanics** **PS17: Numerical and high-order methods** **Chair: Nils Gerhard** B. Schmidtmann: "A new Riemann solver for large hyperbolic systems of conservation laws" M. Grafenhorst: "Time-adaptive non-linear finite-element analysis in inelastic dynamical systems" S. Hubrich: "Numerical integration in the finite cell method based on moment-fitting" T. Wick: "Mesh adaptivity and error estimation for phase-field-based fracture propagation"	
20:00 - OpenEnd	**Conference Dinner**			**Conference Dinner**		

Friday, July 24, 2015

	I
8:45 - 9:45	**Mayim Bialik**

	Super C
9:45 - 10:10	Coffee Break
10:10 - 11:00	**"An Overview of the Evolution of the HDG methods"** **Bernardo Cockburn** **University of Minnesota, USA**
11:00 - 11:50	**"Isogeometric Analysis: Ten Years After"** **Thomas J.R. Hughes** **University of Texas at Austin, USA**
11:50 - 13:10	Lunch
13:10 - 14:00	**"Reduced Basis Methods: Principles, Algorithms, Applications"** **Alfio Quarteroni** **École Polytechnique Fédérale de Lausanne, Switzerland**
14:00 - 14:45	**Poster Award / Closing Remarks** **Farewell Session**