

8:00 - 8:30	Registration		
8:30 - 9:00	Welcome		
9:00 - 10:00	Keynote Lecture, Prof. Maria Vittoria Salvetti, "LES quality & benchmarking"		
10:00 - 11:20	LES quality I (B.J. Geurts)	10:00 - 11:20	LES fundamentals (J.G.M.Kuerten)
10:00	Uncertainty Quantification In Large-Eddy Simulations Of The Flow Around A 5:1 Rectangular Cylinder, Lorenzo Siconolfi , Alessandro Mariotti, Maria Vittoria Salvetti	10:00	A Discrete Scale-Truncation Model For Les, Roel Verstappen
10:20	Reliability Of Wall Shear Stress Estimations In Front Of A Wall-Mounted Cylinder, Wolfgang Schanderl, Michael Manhart	10:20	Boundary Layer Separation Under Strong Adverse Pressure Gradient Over Smooth And Rough Walls, Pouya Mottaghian, Junlin Yuan, Ugo Piomelli
10:40	Application And Extension Of A Synthetic Turbulence Inflow Generator Within A Hybrid Les-Urans Methodology, Stephan Schmidt , Michael Breuer	10:40	Building Proper Invariants For Large-Eddy Simulation F.Xavier Trias , David Folch, Andrey Gorobets, Assensi Oliva
11:00	Effects of the subgrid-scale modeling in the Large-Eddy Simulations of wind turbines and wind farms, Umberto Ciri, Kenneth Carrasquillo, Christian Santoni-Ortiz, Giacomo Valerio Iungo, Maria Vittoria Salvetti , Stefano Leonardi	11:00	Physical Scaling Of Numerical Dissipation For Les Eric Lamballais , Thibault Dairay, Sylvain Laizet, Christos Vassilicos
11:20 - 11:45	Coffee break		
11:45 - 13:30	LES quality II (M. V. Salvetti)	11:45 - 13:30	LES modeling I (E. De Angelis)
11:45	Shock-Cell Noise Of Supersonic Underexpanded Jets Carlos Pérez Arroyo , Guillaume Daviller, Guillaume Puigt, Christophe Airiau	11:45	Influence Of Periodic Forcing On Laminar Separation Bubble Elteyeb Eljack, Ibraheem Alqadi, Jaber Almutairi
12:05	Large Eddy Simulation Of An Asymmetric Jet In Crossflow, Mikko Folkersma, Julien Bodart	12:05	Dns Modeling For Viv Of Long Flexible Cable Using Fourier Spectral/Hp Method, Yan Bao, Rafael Palacios, Spencer Sherwin, Michael Graham
12:25	Mesh Adaptation For Large-Eddy Simulations In Complex Geometries, Guillaume Balarac, Pierre Bénard, Ghislain Lartigue, Vincent Moureau , Cécile Dobrzynski	12:25	Adaptive Les Of Immersed-Body Flows Based On Variable Wavelet Threshold Filtering, Giuliano De Stefano , Alireza Nejadmalayeri, Oleg V. Vasilyev
12:45	Large Eddy Simulation Using High Order Discontinuous Galerkin Spectral Element Methods, David Flad, Andrea Beck, Hannes Frank , Claus-Dieter Munz	12:45	One-Sided Fluid-Structure-Acoustic Interaction For Turbulent Flow Over A Step, Matthias Springer , Christoph Scheit, Stefan Becker
13:05	LES in a concentric annular pipe: Analysis of mesh sensitivity and wall pressure fluctuations Saptarshi Bhattacharjee , Stéphane Viazzo, Guillaume Ricciardi	13:05	Large Eddy Simulation Of The Flow Around A Simplified Car Model Katrin Nusser , Stefan Müller, Christoph Scheit, Marco Oswald, Stefan Becker
13:30 - 14:30	Lunch break		
14:30 - 15:30	Keynote Lecture, Prof. Elisabetta De Angelis, LES modeling & viscoelastic flows		
15:30 - 17:30	Multiphase (J. Fröhlich)	15:30 - 17:30	LES modeling II (U. Piomelli)
15:30	Dns Of The Rising Motion Of A Swarm Of Bubbles In A Confined Vertical Channel Néstor Balcázar , Oriol Lehmkuhl, Jesús Castro, Assensi Oliva	15:30	Coherent Structures In A Flow Past A Circular Cylinder At Critical And Super-Critical Reynolds Numbers, Ivette Rodriguez , Oriol Lehmkuhl, Jorge Chiva, Ricard Borrell, Assensi Oliva
15:50	Particle Laden Pipe Flows: Turbulence Modulation Roberta Messina , Francesco Battista, Paolo Gualtieri, Carlo Massimo Casciola	15:50	A Novel Approach For Wall Modeling In Les Of Wall-Bounded High-Reynolds-Number Flow Via Function Enrichment, Benjamin Krank , Wolfgang A. Wall
16:10	Les Of Cavitating Nozzle And Jet Flows, Felix Oerley , Theresa Trummler, Michael Mihatsch, Steffen Schmidt, Stefan Hickel	16:10	Transition Location Effect On Oblique Shock-Wave/Boundary-Layer Interaction At M=1.5, Andrea Sansica , Neil David Sandham, Zhiwei Hu
16:30	Heat And Mass Transfer Of Boiling Vapor Bubbles In Turbulent Channel Flow Paolo Cifani , G.J.M. Priems, Wiktor Michalek, J.G.M. Kuerten, C.W.M. Van Der Geld	16:30	Wall Modeled Large Eddy Simulation For Rotating Flows Niki Loppi, Julien Bodart
16:50	Four-Way Coupled Dns Of Droplet-Laden Channel Flow Hans Kuerten , Bert Vreman	16:50	Influence Of Turbulence Closures For The Wake Prediction Of A Marine Propeller Emmanuel Guilmineau , Gan Bo Deng, Alban Leroyer, Patrick Queutey, Michel Visonneau, Jeroen
17:10	Particle Agglomeration In Turbulent Flows: A Les Investigation Based On A Deterministic Collision And Agglomeration Model, Michael Breuer , Naser Almohammed	17:10	Study Of Stochastic Models For Subgrid Dispersion In Lagrangian-Eulerian Formulation, Jordi Muela , Oriol Lehmkuhl, Assensi Oliva

8:00 - 9:00	Keynote Lecture, Prof. Elias Balaras, "LES of biological flows"	
9:00 - 10:00	Keynote Lecture, Prof. Dominique Thévenin, "DNS and LES of transitional and two-phase flows"	
10:00 - 10:30	Coffee break	
10:30 - 12:15	<p>Industrial applications I (J. Fröhlich)</p> <p>10:30 Turbulent Fluid Flow Over Aerodynamically Rough Surfaces Using Direct Numerical Simulations, Manan Thakkar, Angela Busse, Neil Sandham</p> <p>10:50 An Embedded Flow Simulation Methodology For Flow Over Fence Simulations, Kameswararao Anupindi, Richard Sandberg</p> <p>11:10 Direct Numerical Simulations Of The Shock-Induced Separation Of A Laminar Boundary Layer, Guillaume Fournier, Amer Chpoun, Yann Fraigneau, Christian Tenaud</p> <p>11:30 Secondary Instability And Subcritical Transition In The Leading-Edge Boundary Layer, Michael O John, Dominik Obrist, Leonhard Kleiser</p> <p>11:50 Transient Simulation Of A Formula 1 Front Wing Jean-Eloi Lombard, David Moxey, Spencer Sherwin</p>	<p>10:30 - 11:10 Biological flows (E. Balaras)</p> <p>10:30 The Effect Of Flow Rate And Electrostatic Charge On Aerosol Deposition In A Realistic Lung Geometry, Pantelis Koullapis, Stavros Kassinos</p> <p>10:50 Particle-Laden Flow In A Physiologically Realistic Human Airway Bifurcation Fotos Stylianou, Stavros Kassinos</p> <p>11:10 - 11:50 Reacting flows & Combustion I (M. Breuer)</p> <p>11:10 Modeling And Analysis Of The Interactions Of Coherent Structures With A Spray Flame Lola Guedot, Ghislain Lartigue, Vincent Moureau</p> <p>11:30 The Turbulent Flame Speed Of Premixed Spherically Expanding Flames, George Giannakopoulos, Christos Emmanouil Frouzakis, Moshe Matalon, Ananias Tomboulides</p> <p>11:50 Les-Ib Study Of Mixing Enhancement By Polygonal Orifices And Wavy Walls Artur Tyliczszak, Mariusz Ksiezzyk, Bernard J. Geurts</p>
12:15 - 13:15	Lunch break	
13:15 - 14:15	Keynote Lecture, Dr. Ruud Eggels, "Industrial applications"	
14:15 - 15:15	<p>Industrial applications II (R.D.Sandberg)</p> <p>14:15 High-Order Hybrid Rans/Les Strategy For Industrial Applications Paola Cinnella, Grégoire Pont, Jean-Christophe Robinet, Pierre Brenner</p> <p>14:35 Direct Aeroacoustic Simulation Of Feedback Mechanisms Of A Side-View Mirror Using A High Order Discontinuous Galerkin Spectral Element Method Hannes Frank, David Flad, Maik Werner, Claus-Dieter Munz</p> <p>14:55 Hybrid Les Of A High Pressure Turbine Nozzle/Blade Interaction Jim Kopriva, Greg Laskowski, Reza Sheikhi</p>	<p>14:15 - 15:15 Reacting flows & Combustion II (A. Tomboulides)</p> <p>14:15 The Implementation Of 5-D Fgm For Les Simulations Of A Gas Turbine Model Combustor, Andrea Donini, Rob Bastiaans, Jeroen Van Oijen, Philip De Goey</p> <p>14:35 Dns Of Premixed Turbulent Hydrogen Flames At High Turbulent Flame Numbers Yang Chen, K.H. Luo</p> <p>14:55 Direct Numerical Simulation Of Turbulent Lean Premixed Syngas Flames At Elevated Pressure, Ranga Dinesh, H. Shalaby, K.H. Luo, D. Thevenin</p>
15:15 - 15:45	Coffee break	
15:45 - 16:25	<p>Industrial applications II (cont'd, R. Eggels)</p> <p>15:45 Wall Modeled Large Eddy Simulation Of The Vfe-2 Delta Wing Christian Zwerger, Stefan Hickel, Christian Breitsamter, Nikolaus Adams</p> <p>16:05 Numerical Investigation Of Flow Dynamics Of Turbulent Flow Through Ribbed Pipes, Aris Twerda, Bendiks Jan Boersma</p> <p>16:25 Les Of A Simplified Hvac System Used For Aeroacoustic Predictions Stefano Rolfo, Charles Moulinec, David Emerson, Jimmy Livvat</p> <p>16:45 Direct Numerical Simulation Of Turbulence In A Hexagonal Shaped Duct, Oana Marin, Philipp Schlatter, Aleks Obabko</p>	<p>15:45 - 16:25 Reacting flows & Combustion II (cont'd, A. Tomboulides)</p> <p>15:45 Direct Numerical Simulation Of Biomass Combustion In A Turbulent Particle-Laden Channel Flow, Abhijay Awasthi, J G M Kuerten, B J Geurts</p> <p>16:05 Direct Numerical Simulation Of Burning N-Heptane Droplets: Auto-Ignition And Turbulence Modulation Mechanisms, Abouelmagd Abdelsamie, Dominique Thévenin</p> <p>16:25 Instability Of Supersonic Ramp Flow With Intermittent Transition To Turbulence Kangping Zhang, Neil Sandham, Zhiwei Hu</p>
17:15	Departure for conference dinner	

8:00 - 9:00 Keynote Lecture, Prof. Richard D Sandberg, "Large-scale compressible-flow DNS computations"

9:00 - 10:00 Keynote Lecture, Prof. Maarten Van Reeuwijk, "Atmospheric flows"

10:00 - 10:30 Coffee break

10:30 - 12:15 Numerics (E. Lamballais)

- 10:30 Boundary Data Immersion Method For Direct Numerical Simulations Of Aero-Vibro-Acoustic Systems, Richard D Sandberg, **Stefan C Schlanderer**
- 10:50 The Role Of High-Resolution Schemes In Large Eddy Simulations Of Separated Flow In A Channel With Periodic Constrictions, **Xavier Gloerfelt**, Paola Cinnella
- 11:10 Dns And Iles Of Wall Bounded Flows Using A Discontinuous Galerkin Method And Inlet Synthetic Turbulence, Stéphanie Zeoli, Corentin Carton De Wiart, Koen Hillewaert, Benjamin Colassin, **Laurent Bricteux**
- 11:30 Dns Of A Lower Curved Wall Channel: Turbulent Separation
Jean-Paul Mollicone, Francesco Battista, Carlo Massimo Casciola
- 11:50 Turbulence Modification In A Pipe Flow Due To Superhydrophobic Walls
Roberta Costantini, Francesco Battista, Carlo Massimo Casciola

10:30 - 12:15 Heat & Mass transfer I (B.J. Boersma)

- 10:30 Large Eddy Simulation Of Turbulent Rayleigh-Benard Convection In Cubic Cell
Najmeh Foroozani, Joseph Niemela, Vincenzo Armenio, Katepalli. R Sreenivasan
- 10:50 Comparison Of A Spectral-Element And A Finite-Volume Method For Dns Of Rayleigh-Bénard Convection, **Gijs Kooij**, Mike Botchev, Bernard Geurts
- 11:10 Natural Convection In Ventilated Building Facades Using Les & Dns, **Dimokratis Grigoriadis**
- 11:30 Heat Transfer In Droplet-Laden Turbulent Channel Flow With Phase Transition In The Presence Of A Thin Film Of Water, **Anastasia Bukhlostova**, J.G.M. Kuerten, B.J. Geurts
- 11:50 Buoyancy Effects On Turbulent Heat Transfer Behind A Backward-Facing Step In Liquid Metal Flow, **Martin Niemann**, Jochen Fröhlich

12:15 - 13:15 Lunch break

13:15 - 15:00 Environmental and Geophysical applications (M. Van Reeuwijk)

- 13:15 Onset Of Erosion Of Single Particles In A Turbulent Open-Channel Flow
Jochen Fröhlich, Bernhard Vowinkel, Ramandeep Jain, Tobias Kempe
- 13:35 Large-Wave Simulation Of Breaking Waves Over A Beach
Athanassios Dimas, Aggelos Dimakopoulos, Gerasimos Kolokythas
- 13:55 Simulation Of Large Wind Farms In The Conventionally Neutral Atmospheric Boundary Layer Using Les, **Dries Allaerts**, Johan Meyers
- 14:15 Direct And Large Eddy Simulations Of Droplet Condensation In Turbulent Warm Clouds, **Gaetano Sardina**, Francesco Picano, Luca Brandt, Rodrigo Caballero
- 14:35 Large Eddy Simulation Of Flow Over Dunes Laden With Inertial Particles
Efstratios Fonias, Dimokratis Grigoriadis

13:15 - 15:00 Heat & Mass transfer II (J.G.M.Kuerten)

- 13:15 Numerical Predictions Of Absolutely Unstable Round Hot Jet
Artur Tyliczszak, Karol Wawrzak, **Andrzej Boguslawski**
- 13:35 Turbulent Kinetic Energy Evolution In The Near Field Of A Rotating-Pipe Round Jet, **Rustam Mullyadzhonov**, Sergey Abdurakipov, Kemal Hanjalic
- 13:55 The Effects Of Thermal Boundary Condition On Turbulent Statistics In Flow With Supercritical Co₂, **Hassan Nemat**, Ashish Patel, Rene Pecnik, Bendiks Jan Boersma
- 14:15 Near Wall Structures In Turbulent Flows With Strong Thermo-Physical Property Variations, Jurriaan Peeters, **Rene Pecnik**, Bendiks Boersma, Tim Van Der Hagen, Martin Rohde
- 14:35 Velocity Profiles Over Hypothetical Urban Areas In Unstable Stratification: Large-Eddy Simulation Approach, **Chun-Ho Liu**, Ming-Chung Chan

15:00 - 15:30 Coffee break

16:00 Closure