

1st TILDA Symposium & Workshop on Industrial LES & DNS, 21-23 November 2016, CERFACS, Toulouse, France

Programme

30 Minutes for presentation plus 5 Minutes for discussion
(invited lectures: 45 Minutes plus 5 Minutes for discussion)

Afternoon Sessions on Monday, 21 November 2016	
12:00 – 13:00	Registration
13:00 – 13:10	Welcome – Opening by C. Hirsch (NUMECA)
13:10 – 13:45	C. Hirsch (NUMECA) “An Introduction to the EU TILDA project”
13:45 – 14:55	Session 1 (Chairperson: F. Bassi, Uni Bergamo)
13:45 – 14:20	J.-S. Cagnone, K. Hillewaert & Z. Zeren (Cenaero) “Development of a high order DGM solver for LES of turbomachinery - Validation of iLES for subsonic and transonic flows”
14:20 – 14:55	K. Hillewaert, J.-S. Cagnone, A. Frère, E. Lorriaux & M. Rasquin (Cenaero) “Development of a high order DGM solver for LES of turbomachinery - Towards the simulation of transonic multistage machinery”
14:55 – 15:00	Coffee
15:00 – 16:45	Session 2 (Chairperson: V. Couaillier, ONERA)
15:00 – 15:35	F. Bassi¹, L. Botti¹, A. Colombo¹, A. Crivellini², A. Ghidoni³, F. Massa¹, A. Nigro⁴, G. Noventa³ (¹ Universit'a degli Studi di Bergamo, ² Universit'a Politecnica delle Marche, ³ Universit'a degli Studi di Brescia, ⁴ Universit'a della Calabria) “A high-order implicit DG solver applied to the under-resolved simulation of turbulent flows”
15:35 – 16:10	A. Beck, T. Bolemann, M. Sonntag, C.-D. Munz (Univ. of Stuttgart) “Simulation of Turbulent Flows using the Open-Source Discontinuous Galerkin Framework FLEXI”
16:10 – 16:45	P. Vincent (ICL) “High-fidelity scale resolving computational fluid dynamics with Python at Petascale”
16:45	End of day 1

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Sessions on Tuesday, 22 November 2016	
09:00 – 09:50	Invited Lecture I (Chairperson: K. Hillewaert, CENAERO) N. Sandham (University of Southampton, UK) "High order simulations of shock-wave/boundary-layer interactions"
09:50 – 10:25	Session 3 (Chairperson: K. Hillewaert, CENAERO)
09:50 – 10:25	A. García-Uceda Juárez and C. Hirsch (NUMECA) "Challenges in the Development of High-Order Methods in an industrial CFD Software System"
10:25 – 11:00	Coffee
11:00 – 12:35	Session 4 (Chairperson: F. Hartmann, DLR)
11:00 – 11:35	V. Couaillier, F. Renac, M. de la Llave Plata, E. Martin, M.-C. Le Pape, O. Labbé (ONERA) "Simulations of Turbulent Flow with the High-Order DG Solver Aghora"
11:35 – 12:10	M. de la Llave Plata, M. Lorteau, E. Martin, and V. Couaillier (ONERA) "Scale-resolving simulations of turbulent flows by a modal discontinuous Galerkin approach"
12:10 – 12:45	J. Marty (ONERA) "High fidelity prediction of separation-induced Transition on T106C using elsA software"
12:45 – 14:15	Lunch
14:15 – 14:05	Invited Lecture II (Chairperson: C. Hirsch, NUMECA) K. Fujii (Tokyo University of Science and Japan Aerospace Exploration Agency, Japan) "Large-scale LES Simulations Analysis Required in Real Industrial Applications - Aero-acoustics and Flow Separation Control as two representative examples"
14:05 – 14:40	Session 5 (Chairperson: C. Hirsch, NUMECA)
14:05 – 14:40	H. Lüdecke (DLR) "DNS of transitional boundary-layer modes by a high-order finite difference scheme"
14:40 – 15:10	Coffee
15:10 – 16:20	Session 6 (Chairperson: A. Wolkov, TsAGI)
15:10 – 15:45	J. Vanharen¹, G. Puigt¹, Xavier Vasseur², Jean-François Boussuge¹, Pierre Sagaut³ (¹ CERFACS, ² ISAE-SUPAERO, ³ Aix-Marseille Univ, CNRS) "Revisiting the spectral analysis for high-order spectral discontinuous methods"
15:45 – 16:20	J. Vanharen¹, G. Puigt¹, Xavier Vasseur², Jean-François Boussuge¹, Pierre Sagaut³ (¹ CERFACS, ² ISAE-SUPAERO, ³ Aix-Marseille Univ, CNRS) "Comparing the resolution power of standard finite difference and spectral difference schemes"
16:20	End of day 2
20:00	Dinner at Restaurant "la Braisière"

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Morning Sessions on Wednesday, 23 November 2016	
09:30 – 10:40	Session 7 (Chairperson: X. Garnaud, SAFRANGroup)
09:30 – 10:05	R. Hartmann (DLR) “DLR developments of DG methods for scale-resolving simulations in TILDA”
10:05– 10:40	A. Johnen¹, C. Geuzaine², T. Toulorge³, and J.-F. Remacle¹ (¹ iMMC, ² Montefiore Institute, ³ Cemef - Mines ParisTech,) “Efficient computation of the shape quality measures for curvilinear finite Elements”
10:40 – 11:10	Coffee
11:10 – 12:55	Session 8 (Chairperson: F. Chalot, Dassault)
11:10 – 11:45	I. Bosnyakov, A. Korniyakov, S. Mikhaylov, V. Podaruev, A. Troshin, A. Wolkov (TsAGI) “Noise suppressing nozzle” and “Periodic hills” test cases and preliminary results for discussion”
11:45 – 12:20	TBD
12:20 – 12:55	TBD
12:55 – 13:00	Closing of the symposium by C. Hirsch (NUMECA)
13:00	Farewell Lunch