

TENTATIVE TECHNICAL PROGRAM

(current as of 20240924 0800)

Tuesday 10/8/2024

7:30	REGISTRATION	
8:45-9:00	OPENING REMARKS	
	Scott Sherer, Local Organizing Committee, 16th Symposium on Overset Composite Grids and Solution Technology	
9:00-10:00	INVITED SPEAKER - Foundational Research for Digital Engineering	
	Dr. Venke Sankaran, Chief Scientist, Aerospace Systems Directorate, AFRL/RQ	Introduced by: R. Speth
1.1 Immersed Boundary Approaches		Session Chair: S. Sherer
10:00-10:30	Toward Automatic Overset Curvilinear Mesh Generation for Immersed Boundary Simulations C. Ashby, J. Housman, B. Lowe, P. Hislop, C. Brehm	
10:30-11:00	Component-Based Handling of Overset Viscous and Immersed Body Interaction within the LAVA Curvilinear Framework J. Koch, J. Housman, B. Lowe, D. Craig-Penner, C. Ashby, J. Duensing	
11:00-11:15	BREAK	
1.2 Rotorcraft Applications		Session Chair: B. Lewis
11:15-11:45	Efficient, performance-portable Cartesian AMR solvers for overset CFD in Helios D. Jude, J. Sitaraman, S. Hosseinverdi	
11:45-12:15	Multirotor Test Bed CFD and Flow Visualization J. Ahmad	
12:15-1:30	LUNCH PROVIDED	
1.3 Domain Connectivity		Session Chair: R. Speth
1:30-2:00	Suggar++ Improvements and an Augmented Xray Hole Cutting Method R. Noack	
2:00-2:30	Progress in Implementing Domain Connectivity Algorithms on GPUs for CREATE A/V Helios J. Sitaraman, D. Jude, S. Hosseinverdi, B. Roget	
2:30-3:00	Overflow Grids using Hybrid Pegasus5 and DCF with Application to Space Launch System Aerodynamics S. Rogers, D. Schauerhamer	
3:00-3:15	BREAK	
1.4 Multi-Physics Applications		Session Chair: S. Sherer
3:15-3:45	An Optimal O(N) Helmholtz Solver for Complex Geometry using WaveHoltz and Overset Grids W. Henshaw	
3:45-4:15	EigenWave: Computing Eigenvalues and Eigenvectors on Overset Grids by Time-Filtering the Wave Equation N. Le, D. Appel, J. Banks, W. Henshaw, D. Schwendeman	
1.5 Student Presentations (15 MINUTES EACH)		Session Chair: D. Crowe
4:15-4:30	Enhancing Multimodular Helicopter Fuselage Aerodynamic Design Through Overset Grid CFD Analysis M. Safdar and J. Baeder (University of Maryland)	
4:30-4:45	Scalable Overset Computation Between a Forest-of-Octrees and an Arbitrary Distributed Parallel Mesh H. Brandt and C. Burstedde (University of Bonn)	
4:45-5:00	Analysis of Quadrotor Biplane Tailsitter Hover-to-Cruise Transition P. Arias, U. Saetti and J. Baeder (University of Maryland)	
5:00	END OF DAY	

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Wednesday 10/9/2024

7:30	REGISTRATION	
9:00-10:00	INVITED SPEAKER - Computational Fluid Dynamics role in System of System Performance and Effectiveness Analysis Dr. Scott Morton, Senior Scientist, High Fidelity Modeling and Simulation, AFRL/RW	<i>Introduced by: Lt Col D. Crowe, PhD</i>
2.1 Assorted DoD Efforts		Session Chair: B. Lewis
10:00-10:30	Multi-Fidelity Aerodynamics Surrogate Modeling using Sage A. Wissink, M. Liu, A. House, A. Kaminsky	
10:30-11:00	Efficient Partitioning Strategy for Structured Overset Grids S. Sherer, D. Garmann	
11:00-11:15	BREAK	
2.2 Automated Grid Generation		Session Chair: D. Crowe
11:15-11:45	RotorGen: A 'high-level' Structured Grid Generation Program for High-Fidelity Rotor CFD Simulation N. Peters, C. Pereyra	
11:45-12:15	Development of a Toolset for Automatic Structured Overset Mesh Generation W. Chan, A. Chuen, J. Jensen	
12:15-1:30	LUNCH (SCIENTIFIC ORGANIZING COMMITTEE WORKING LUNCH IN ALTERNATIVE MEETING AREA)	
2.3 Laminar/Transitional Applications		Session Chair: R. Speth
1:30-2:00	Computational Analysis of Slotted Natural Laminar Flow Wing using Overset Grids N. Deore, J. Coder	
2:00-2:30	Analysis and Comparison of a Slotted, Natural-Laminar-Flow Sailplane C. Axten	
2:30-2:45	BREAK	
2.4 Panel Session/Open Forum		Panel Moderators: J. Slotnick and R. Gomez
2:45-4:45	PANEL SESSION - Development, Progress, and Future Directions of Overset Methods: Insights from Pioneers and Pathfinders Panel Members: J. Benek, P. Buning, R. Meakin, T. Pulliam	
4:45-5:15	Open Forum	
BREAK/TRANSIT TO NMUSAF		
5:30-10:00	BANQUET AT NATIONAL MUSEUM OF THE UNITED STATES AIR FORCE 1100 Spaatz St, Dayton, OH 45433	

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Thursday 10/10/2024

7:30	REGISTRATION	
8:00-9:00	INVITED SPEAKER - Space Shuttle Ascent CFD Analysis - A Historical Perspective Dr. Fred Martin, NASA	<i>Introduced by: P. Buning</i>
3.1 On-Going Research Areas		<i>Session Chair: D. Crowe</i>
09:00-09:30	Fractional-Step Finite Difference Schemes for Incompressible Elasticity on Overset Grids J. Banks, W. Henshaw, D. Schwendeman	
9:30-10:00	A Fresh Look at Relaxation Methods for OVERFLOW R. Tramel	
10:00-10:30	Overset Grid Adaptation for Transitional Flows B. Venkatachari, M. Donello, J. Derlaga, M. Choudhary	
10:30-10:45	BREAK	
3.2 Applications		<i>Session Chair: B. Lewis</i>
10:45-11:15	Aerodynamic Analyses of the Juncture Flow Model and the Lift+Cruise Concept Vehicle with EPOGS A. Chuen, S. Hosseini, W. Chan	
11:15-11:45	Orion Launch Abort Vehicle Abort Motor Comparisons Between OVERFLOW and LociCHEM D. Vicker, J. Greathouse, P. Jang	
11:45-12:00	CLOSING REMARKS / END OF SYMPOSIUM	