15th Symposium on Overset Composite Grids And Solution Technology

Suffolk, Virginia, USA
November 1-3, 2022

Welcome to the 15th Overset Grid Symposium! It's been a long 4 years since the 14th Symposium, but we're thankful to have you here in person. For all the folks who have attended before, welcome back! To all the new faces, we're glad to meet you!

For 30 years, the Symposium has been an open forum for discussion on all things related to overset composite grids. We hope you enjoy the talks, lively discussions, and camaraderie that comes from working in a challenging field. Be sure to take time on Wednesday afternoon to see the student posters, meet some new faces, and talk about their work.

On behalf of all the volunteers who have made the Overset Grid Symposium possible, we hope you enjoy this Symposium as we look forward to the next.

- Joe Derlaga, Cameron Druyor, and the Technical Committee

And a few reminders:
Photography is not allowed at this year's venue.
Smoking/vaping is not allowed on the premises.
Do not wander outside of the designated Symposium areas: Sectors 1 & 4 and the cafe.
Please remember to be respectful of those working by keeping your voices low when passing between venue locations.

Tuesday, November 1	
8:00-9:00	Registration
8:45-9:00	Welcome and Opening Remarks
9:00-10:30	Tutorial Session I: Chimera Grid Tools
10:30-12:00	Tutorial Session II: OVERFLOW
12:00-1:00	Lunch
1:00-2:30	Tutorial Session III: STAR-CCM+
2:30-3:00	Break
3:00-4:30	Tutorial Session IV: Overture

Wednesday, November 2	
8:00-9:00	Registration
8:45-9:00	Welcome and Opening Remarks
Solver Strategies I	
9:00-9:30	Efficient Approaches for Electromagnetics on Overlapping Grids *Jeffrey Banks*
9:30-10:00	Solving fluid-structure interaction problems on overset grids *Bill Henshaw*
10:00-10:30	Break
Grid Generation and Connectivity I	
10:30-11:00	Adaptive Mesh Refinement for Overset *Björn Gmeiner, Markus Huber, Eberhard Schreck*
11:00-11:30	Recent Developments in Automation of Overset Structured Mesh Generation *William M. Chan, Andrew M. Chuen, Shishir A. Pandya*
11:30-12:00	Recent Developments in Boundary Coupling for Hyperbolically Generated Overset Grids *Andrew M. Chuen, William M. Chan*
12:00-1:00	Lunch
Grid Generation and Connectivity I	
1:00-1:30	Suggar++: Current Status and Improvements *Ralph Noack*
1:30-2:00	Development of GPGPU Capable Multi-solver Overset Methods *Jay Sitaraman, Dylan Jude*
2:00-2:30	Industrial and Aerodynamics CFD Workflows Enhanced via Coprocessing of Overset Grids for Knowledge Capture and Computational Steering *Earl P.N. Duque, Brad J. Whitlock, Dave A. Amels, Steve M. Legensky*
2:30-3:00	Break and Poster Session
Grid Generation and Connectivity II	
3:00-3:30	Demonstration of Automatically Generated Structured Overset Mesh Capability in Producing Quality Computational Solutions *Seyedeh Sheida Hosseini, Andrew M. Chuen, William M. Chan*
3:30-4:00	Advances in overset conservation methods in Siemens Simcenter STAR-CCM+ *Björn Gmeiner, Markus Huber, Eberhard Schreck*
4:00-4:30	Direct Flux via Virtual Faces (DFVF): A fully conservative overset scheme without intergrid interpolation *James Devlin, Dominic Chandar, Nathan J. Quinlan*

Thursday, November 3	
8:45-9:00	Welcome and Opening Remarks
Applications II	
9:00-9:30	Implementation of Two Local Correlation-Based Transition Models in OVERFLOW 2.3e *Samuel Gosin, Balaji Shankar Venkatachari, Meelan M. Choudhari*
9:30-10:00	Prediction of Coaxial Rotor Hub Flow Using Mercury Overset Framework *Bumseok Lee, Yong Su Jung, James D. Baeder*
10:00-10:30	Break
Solver Strategies II	
10:30-11:00	Challenges and Opportunities in Broadband Noise Prediction for AAM Applications *Christopher S. Thurman*
11:00-11:30	High-order Temporal Approaches for Overset CFD *Dylan Jude, Jay Sitaraman, Andrew Wissink*
11:30-12:00	OVERFLOW on GPUs: Progress and Lessons Learned *Chip Jackson*
12:00-1:00	Lunch
Applications III	
1:00-1:30	Overset Grid Generation of Multi-Rotor Vehicles for Urban Air Mobility *Patricia Ventura-Diaz*
1:30-2:00	Rapid Aero Modeling of a Lift+Cruise UAM Configuration for Stability and Control *Pieter G. Buning, Benjamin M. Simmons, Patrick C. Murphy*
2:00-2:30	Enhancement of Applied Aerodynamics Simulations Using Adaptive Mesh Refinement *Logan Halstrom*
2:30-3:00	Break
Applications IV	
3:00-3:30	Comparison of Overset and Cartesian Mesh Modeling of XV-15 Tiltrotor Using Helios *Andrew Wissink*
3:30-4:00	Recent Applications Supporting Human Spaceflight *Darby Vicker*
4:00-4:30	Closing Remarks