



Open Meeting of Working Group on CFD Modeling for Wind and Water Effects

November 3, 2022 (2:00 - 4:30 pm)

Location: TBD (TACC)

Working Group Lead: Ahsan Kareem

Purpose: Engage both current and potential future users of SimCenter tools in a discussion on priorities, needs and opportunities to best support their research on wind and wave effects through shared computational research infrastructure.

AGENDA

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| 2:00 - 2:15 pm | Table Setting [A. Kareem] <ul style="list-style-type: none">• Introductions of attendees and Working Group members• Goal and philosophy of SimCenter with respect to development and community building• Objectives for CFD tools at the SimCenter |
| 2:15 - 2:45 pm | Open Discussion: Most Compelling Research & Development Questions for CFD based simulations, computational challenges and possible solutions through enhanced computer resources (CPU based to GPU), ML and physics-based AI simulations, Alternatives to N-S based to SPH, and enhanced visualizations. |
| 2:45 - 3:15 pm | Applications of Computational Simulation: Challenges <ul style="list-style-type: none">• In flow simulations• From isolated to clusters to regional simulations• End-to-end simulation workflows• Digital Twins of NHERI Facilities/UF Wind Tunnel and Oregon Wave Tank• UQ for wind and waves applications• Input to PBD and Regional test beds |
| 3:15 - 3:45 pm | Enhancing user base in both wind and waves areas |
| 3:45 - 4:15 pm | Prioritization of tasks and plan of action. |
| 4:15 - 4:30 pm | Closing [A. Kareem] <ul style="list-style-type: none">• Next Steps• How this group can be a catalyst in shifting user community's focus to computational approaches to supplement experiments and beyond• Reception with hot Texas munchies to follow |