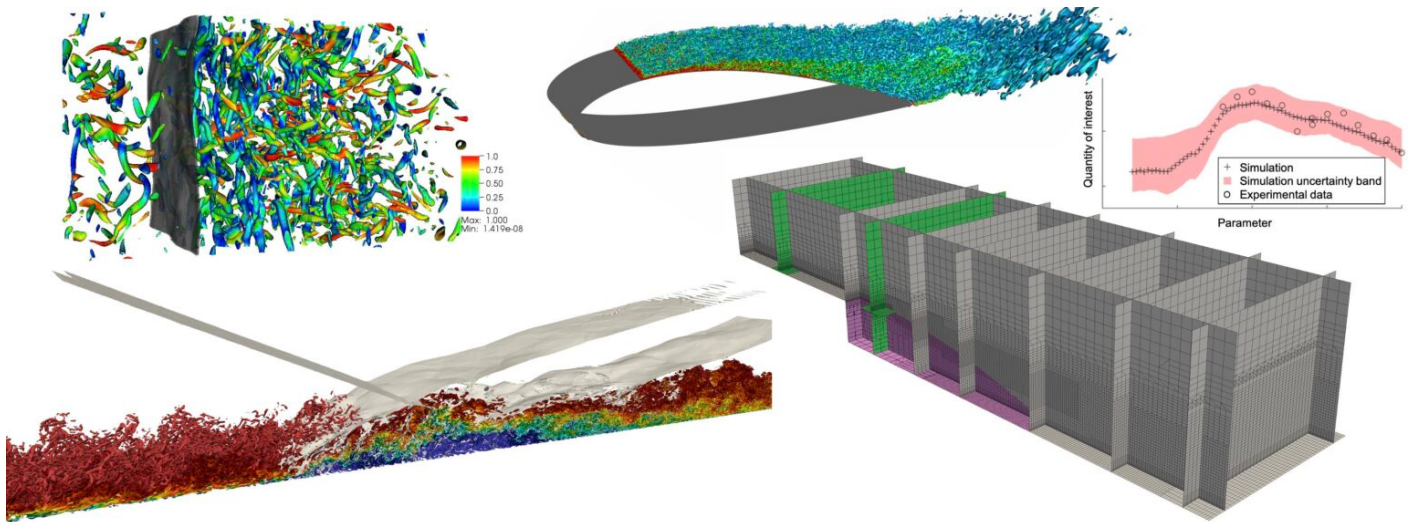


COMPUTATIONAL TURBULENCE LABORATORY

COMPUTATIONAL SCIENCE MEETS TURBULENCE

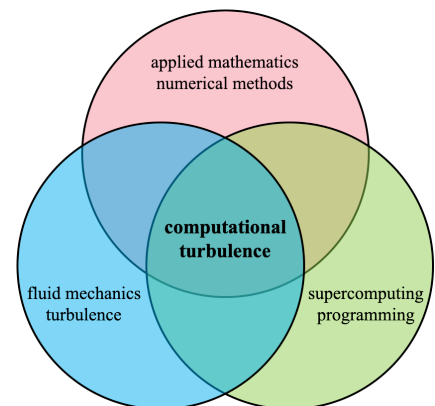


The Computational Turbulence Laboratory is a research group where we work on inventing new mathematical models and algorithms in the fields of computational science and turbulent flows.

Our main research interests are:

- Developing algorithms for adaptive modification of the computational grid in turbulence simulations, and methods for convergence verification.
- Developing algorithms for uncertainty estimation techniques for chaotic PDEs with broadband spectral dynamics, particularly turbulence simulations.
- Developing reduced-order models for turbulence dynamics.

In general, as computational scientists focusing on turbulent flows, we work at the intersection between applied mathematics and numerical analysis, turbulence and fluid mechanics, and computer science. We use applied mathematics to derive new algorithms, and implement these in in-house computer codes that we then run on supercomputers located on- and off-campus. We pride ourselves on being polymaths and we always strive to combine creativity with scholarship.



We are basically always looking for talented students, most of whom end up working on sponsored research projects. Interested students should apply to either the AMSC (amsc.umd.edu) or ME (enme.umd.edu/graduate) graduate programs and indicate Prof. Johan Larsson as a potential advisor. More information can be found at our website larsson.umd.edu.



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SCHOOL OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING



APPLIED MATHEMATICS &
STATISTICS, AND SCIENTIFIC
COMPUTATION PROGRAM

