

## COMPUTATIONAL METHODS IN ENVIRONMENTAL FLUID MECHANICS

Eirik Valseth<sup>\*123</sup> and Ethan Kubatko<sup>4</sup> and Clint Dawson<sup>1</sup> and Kazuo Kashiwama<sup>5</sup>

<sup>1</sup>The Oden Institute at The University of Texas at Austin

<sup>2</sup>Norwegian University of Life Science

<sup>3</sup>Simula Research Laboratory

<sup>4</sup>The Ohio State University

<sup>5</sup>Chou University

### MINISYMPOSIUM

Many problems in geophysical and environmental fluid mechanics exhibit a wide range of scales and must be solved over large, geometrically complex spatial domains, often for long periods of time.

Computational

methods for these types of problems have matured considerably in recent years. This minisymposium will examine the latest developments in solving geophysical and environmental fluid mechanics problems. Topics of interest include:

- Model development and application.
- Coupling of flow and transport processes and models.
- High-performance computing and parallelization strategies.
- Error analysis, verification and validation.
- Unstructured mesh generation algorithms and criteria.
- Fluid-structure interactions.
- Novel discretization methods.
- Stabilization Techniques
- Efficient solver development and application