

Special Issue

Research on Optimization Algorithms for Fluid Machinery, Turbomachinery, and Rotating Equipment

Message from the Guest Editors

Topics include, but are not limited to, the following:

- Development and application of optimization algorithms (e.g., genetic algorithms, particle swarm optimization, simulated annealing, gradient-based methods) for pumps, compressors, turbines, fans, and blowers;
- Multi-objective optimization considering performance, efficiency, noise, durability, and cost;
- Surrogate-assisted optimization and metamodeling for computationally expensive CFD simulations;
- Shape and topology optimization of blades, impellers, diffusers, casings, and other components;
- Optimization of control strategies for variable-speed or variable-geometry fluid machinery;
- Integration of machine learning and artificial intelligence with optimization for fluid system design and operation;
- Robust optimization under uncertainties in operating conditions, manufacturing tolerances, or material properties;
- Optimization of fluid machinery for renewable energy applications;
- Case studies demonstrating optimization in real-world industrial fluid-flow systems;
- Software tools, algorithms, and frameworks dedicated to fluid machinery optimization.

We look forward to receiving your contributions to help to advance this important field.

Guest Editors

Dr. Yanyan Feng

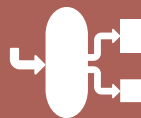
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