

# Future Research Directions

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## Experimental Methodologies

- The continuing development of non-intrusive techniques that can produce full-field flow and surface mappings in
  - Complex-geometry, rotating, unsteady, micro-scale, compressible, hypersonic and combusting flows
  - Forced and natural convection heat transfer

## Computational Methodologies

- Further development of mathematical models of turbulence.
- Model validation in unsteady turbulent flows.
- Extension of computational methods to:
  - Multi-phase flows, solid-fluid interactions and aero-acoustic analysis
  - Advanced strategies for the modeling of near-wall turbulence in LES

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## Applications

- External Aerodynamics
- Internal Cooling
- Thermal Hydraulics
- Compressible Flows
- Pulsating Flows
- Reacting Flows
- Mixed & Natural Convection Flows
- Micro-flows
- Conjugate Heat Transfer
- Fluid Structure Interactions

## Contact

- For the MSc Course in Thermal Power and Fluids Engineering
  - Follow the School of MACE Web Pages first for **Perspective Postgraduates** and then for **taught MSc degrees**
- For Research into Fluids Related Projects
  - Follow the School of MACE web pages first for **Perspective Postgraduates** and then for **research degrees**