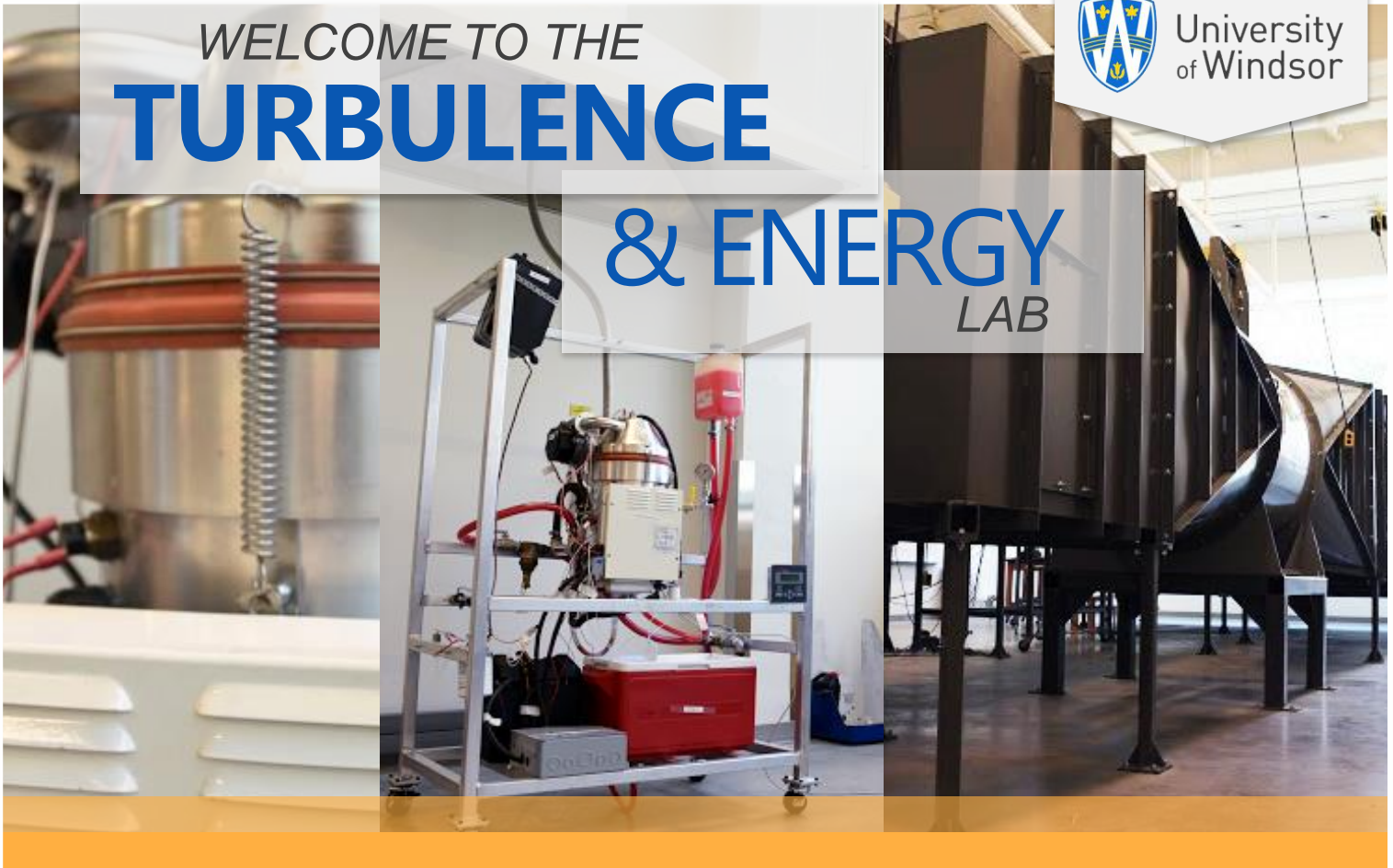




# WELCOME TO THE TURBULENCE

# & ENERGY LAB



## The Turbulence & Energy Lab at the University of Windsor:

- Investigates flow turbulence at a fundamental level and aims to harness this energy into engineering advantages
- Focuses on flow turbulence in engineering systems such as wind turbines, underwater accumulators, burners, furnaces, engines & solar panels
- Designs energy applications with an intent to escalate conventional, current, and future energy technologies through advanced thermo-fluids analyses
- Studies the heat recovery application in various power cycling, flow-induced vibration of flexible circular cylinder, and hydrodynamics of compressed air in underwater energy storage
- Possesses a four cylinder double-acting Stirling engine with rated power of 1 kW at 1500 RPM and an external combustion heat engine to convert any conventional or renewable energy
- Equipped with a high-quality closed-loop wind tunnel which can provide speeds up to 36 m/s
- Performs wind turbine design & optimization and investigates the constructive aerodynamic interaction of a group of wind turbines
- Conducts turbulence modeling of atmospheric wind flows and aftermath of the wind on solar photovoltaic systems
- Examines the hydrodynamics and engineers the mitigation of accelerating and expanding buoyant vortex rings
- Explores smart and secure commercial (greenhouse) and residential water technologies
- Enhances the power take-off strategies for wave energy harvesting
- Predicts tumour growth based on entropy maximization

To learn more about how you can get involved with the Turbulence and Energy Lab, contact Dr. David Ting of the Department of Mechanical Automotive and Materials Engineering by email at [dting@uwindsor.ca](mailto:dting@uwindsor.ca) or call 519.253.3000 ext. 2599.