

Programme

Student talks are marked with an asterisk.

Day 1: Wednesday 15 February 2023

10:30 Registration
11:00 Welcome

Session 1 Chair: Daniel Clarke

11:15 James Hewett – *Parameter estimation for viscoelastic properties of blood clots*
11:30 Kirill Misiuk* – *Manipulation of water droplet behaviour via topographical surface tension gradients*
11:45 Warwick Kissling – *Source-to-surface models of heat and fluid transport in the Taupō Rift, New Zealand*
12:00 Lev Chernyshev* – *Decomposing Drag Components acting on a Hydrofoil*
12:15 Resonint Limited – *Presentation from our industry sponsor*

12:30 Lunch

Session 2 Chair: Tulasi Parashar

13:30 **Invited Speaker:** Sean Oughton – *Turbulence: Phenomenologies, Exact Results, and Space Physics Applications*
14:15 Mathew Hawken* – *Investigation of Flow and Heat Transfer in a 3D-Printed Triply Periodic Minimal Surface Heat Exchanger Using MRI*
14:30 Daniel Clarke – *Visualisation of unsteady flow through a Schwarz Diamond monolith for Reynolds numbers up to 1000 using MRI*
14:45 Adam Cox* – *Study of suction control of flow around a circular cylinder*

15:00 Break

(Wednesday programme continued)

Session 3 Chair: John Cater

- 15:30 David Muchiri* – *Numerical simulations of dam-break flows of viscoplastic fluids via Shallow Water equations*
- 15:45 Yuki Yarita – *Kinetics of polymerisation reaction of alginate gels*
- 16:00 Oscar Punch* – *Measurement of film thickness during a binary collision using an electrified Newton's cradle*
- 16:15 Discussion session 1 (Topic: TBA)
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- 18:00 Casual reception at The Arborist
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Day 2: Thursday 16 February 2023

Session 4 Chair: Gideon Gouws

- 09:00 Joseph Lynch* – *The response of wilding pines seeds to wind perturbation*
- 09:15 Dimitrios Mitsotakis – *Nonlinear and dispersive waves in a basin: Theory and numerical analysis*
- 09:30 Bradley Boyd – *Direct numerical simulation of secondary atomization of a vaporizing drop*
- 09:45 Khay-Wai Leong* – *Buoyancy Vortex Engine CFD Modelling Using ANSYS-CFX*
- 10:00 Andreas Baumann – *Mesh-free Simulation Methods for Investigation of Fluid Distribution and Chip Evacuation in Deep Hole Drilling*
- 10:15 Andrew Lange* – *Evaporation of a milk droplet on a surface*
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- 10:30 Break
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(Thursday programme continued)

Session 5 Chair: Geoff Willmott

- 11:00 **Invited Speaker:** Charine Collins – *From gyres to finding Nemo: Ocean modelling in New Zealand at different scales*
- 11:45 Benjamin Reynolds – *Measurement of the Fluid and Thermal Properties of Rotated TPMS Structures*
- 12:00 Peter Russell – *Extreme South Pacific Phytoplankton Blooms Induced by Tropical Cyclones*
- 12:15 Calum Rickard – *An infinite class of shocks for compressible Euler*
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- 12:30 Lunch
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Session 6 Chair: James Hewett

- 13:30 **Invited Speaker:** Stefanie Gutschmidt – *Dynamics of M/NEMS Arrays in Fluids*
- 14:15 Alec Baumann* – *Active Matter Modeling in COMSOL*
- 14:30 Lan Le-Ngoc – *Implementing the Lattice Boltzmann Method with Julia*
- 14:45 Henri Gaudin* – *Modelling the Endothelial Glycocalyx Layer with Singularity Methods*
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- 15:00 Break
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Session 7 Chair: Brendan Harding

- 15:30 Zhenhua Jiang* – *A new method for synthesising wind loads using two independent wind tunnel test results*
- 15:45 Geoff Willmott – *Rim Evolution for Drop Impacts on Micropatterned Surfaces*
- 16:00 Muizz Shah* – *Wind predictions of ex-Tropical Cyclone Cook making a direct hit on Auckland CBD*
- 16:15 Discussion session 2 (Topic: TBA)
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- 18:00 Workshop dinner – St. Johns Bar and Restaurant
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Day 3: Friday 17 February 2023

Session 8 Chair: Dimitrios Mitsotakis

- 09:00 Brendan Harding – *Modelling the magnitude of the secondary flow in curved ducts*
- 09:15 Tracie Barber – *Changes in the flow field in an arteriovenous fistula after stenting*
- 09:30 Michael Coe – *Periodic heat transfer and fluid flow in triply periodic minimal surfaces*
- 09:45 Mathieu Sellier – *The effect of the Coriolis force on the spreading dynamics of a sessile, spinning droplet*
- 10:00 John Lekner – *Laminar viscous flow, in pipes and around a sphere or cylinder*
- 10:15 Gideon Gouws – *Morphology and evaporation dynamics of evaporating sessile milk droplets*
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- 10:30 Break
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Session 9 Chair: Brendan Harding

- 11:00 **Invited Speaker:** Xiaoming Wang – *Long wave models underpinning New Zealand's tsunami hazard assessment and mitigation planning*
- 11:45 Presentation of Student Awards and Closing
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- 12:00 **Annual meeting:** Review of FiNZ2023; FiNZ2024; Other business;