

Sun 08/09/2024		Mon 09/09/2024			Tues 10/09/2024			Wed 11/09/2024		
Bay Campus - Engineering Central		B001	B003	B004	B001	B003	B004	B001	B003	B004
08:00 - 08:30		<b>REGISTRATION</b>								
08:30 - 08:45		<b>Welcome and introductions (B. Evans, O. Hassan, J. Thompson) - B004</b>								
08:45 - 09:30		<i>Plenary 01 - T.Roose (8.45 - 9.30) Chair: RS (B004)</i>			<i>Plenary 03 - C. Combs (8.45 - 9.30) Chair: BE (B004)</i>			<i>Plenary 05 - M. Fossati (8.45 - 9.30) Chair: BE (B004)</i>		
09:45 - 10:00		<i>Chair: BS</i>	<i>Chair: OH</i>	<i>Chair: AC</i>	<i>Chair: AC</i>	<i>Chair: XZ</i>	<i>Chair: OH</i>	<i>Chair: DC</i>	<i>Chair: XZ</i>	<i>Chair: HHK</i>
10:00 - 10:15		CS-2	AI-1	AE-1	EX-1	FD-5	AN-3	CF-4	FD-2	AN-7
10:15 - 10:30		CS-3	AI-2	AE-2	EX-2	FD-6	AN-4	CF-5	FD-9	AN-9
10:30 - 10:45		CS-4	AI-3	AE-3	EX-3	FD-7	AN-5	CF-6	FD-11	AN-11
10:45 - 11:15		-	AI-4	FD-10	EX-4	FD-8	AN-6	CF-7	-	-
		<i>Coffee Break</i>			<i>Coffee Break</i>			<i>Coffee Break</i>		
11:15 - 11:30		<i>Chair: FDG</i>	<i>Chair: OH</i>	<i>Chair: JT</i>	<i>Chair: AC</i>	<i>Chair: AG</i>	<i>Chair: FDG</i>	<i>Chair: AG</i>	<i>Chair: XZ</i>	
11:30 - 11:45		CA-1	AI-5	AE-4	NWTF*	BI-1	CA-6	TU-13	FD-12	-
11:45 - 12:00		CA-2	AI-6	AE-5		BI-2	CA-7	TU-14	FD-13	-
12:00 - 12:15		CA-3	AI-7	AN-1	EX-5	BI-3	CA-8	TU-15	FD-15	-
12:15 - 12:30		CA-5	AI-8	AN-2	EX-6	BI-4	CA-9	<i>Lunch (12.00 - 13.00)</i>		
12:30 - 13:30		-	AI-9	AN-8	EX-7	-	CA-10	<i>Plenary 06 - D. Pender (13.00 - 13.45) Chair: IM (B004)</i>		
13:30 - 14:15		<i>Lunch (12.30 - 13.30)</i>			<i>Lunch (12.30 - 13.30)</i>			<i>Closing remarks, prize-giving and farewell</i>		
14:15 - 14:30		<i>Plenary 02 - R. Varvill (13.30 - 14.15) Chair: BE (B004)</i>			<i>Plenary 04 - M. Kersaudy-Kerhoas (13.30 - 14.15) Chair: BE (B004)</i>			<i>Coffee Break</i>		
14:30 - 14:45			<i>Chair: OH</i>	<i>Chair: MM</i>	<i>Chair: AC</i>	<i>Chair: AG</i>	<i>Chair: MF</i>			
14:45 - 15:00		-	TU-1	CF-1*	EX-8	FI-1	TU-5			
15:00 - 15:15		-	TU-3	CF-2	EX-9	FI-2	TU-6			
15:15 - 15:30	Bay Campus Accommodation - arrivals from 3pm	-	TU-4	CF-3	EX-10	FI-3	TU-7			
15:30 - 16:00		-	-	-	EX-11	FI-4	TU-8			
16:00 - 16:15		<i>Coffee Break</i>			<i>Coffee Break</i>					
16:15 - 16:30		<b>POSTER SESSION (4pm - 4.45pm)</b>			<i>Chair: RS</i>	<i>Chair: AG</i>	<i>Chair: MF</i>			
16:30 - 16:45					TU-9	OP-1	FI-5			
16:45 - 17:00					TU-10	OP-2	FI-6			
17:00 - 17:15					TU-11	AC-1	FI-7			
17:15 - 17:30					TU-12	AC-2	FI-8			
18:00 - 23:00	<b>Gower Hog Roast</b> ('pay as you go' welcome BBQ) <b>Tafarn Tawe</b> (drinks)	<b>Social activities</b>			<b>POSTER SESSION (5pm - 6pm)</b>					
					<b>Bay Campus experimental fluid dynamics facilities tour (6pm - 7pm)</b>					
					<b>Conference Dinner - Great Hall, Bay Campus (7pm - 11pm)</b>					

OP	Optimisation
EX	Experimental
AI	AI / Machine Learning
AC	Acoustics
AE	Aerodynamics
BI	Biological Fluid Dynamics
FD	Computational Fluid Dynamics
AN	Analytical
TU	Turbulence
CF	Complex fluids, rheology, dense suspensions
CS	(Dilute) colloidal suspensions
CA	Capillary and wetting phenomena
FI	Fluid instabilities and pattern formation

Plenary 01	Prof Tiina Roose
Plenary 02	Richard Varvill (Reaction Engines)
Plenary 03	Dr Chris Combs
Plenary 04	Prof Mainwenn Kersaudy-Kerhoas
Plenary 05	Dr Marco Fossatti
Plenary 06	Dr Doug Pender (JBA Consulting)

*CF-1	invited contributor (UKFN thesis prize winner 2024)
*NWTF	national wind tunnel facility presentation

\*Session Chairs

BE	Prof Ben Evans
RS	Prof Ruben Sevilla
XZ	Dr Xi Zou
OH	Prof Oubay Hasan
AC	Dr Alper Celik
AG	Prof Antonio Gil
HHK	Prof Hamed Haddad-Khodaparast
BS	Dr Bjornar Sandnes
JT	Dr Jennifer Thompson
MF	Dr Marco Fossati
DR	Prof Dominic Reeve (TBC)
FDG	Dr Francesco Del Giudice
MM	Dr Miles Morgan
DC	Dr Dan Curtis

PO	Poster
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## Program

me ID	Paper ID	Primary Author	Title
AC-1	93	Muhammad Nuramirul Hijjaz	A preliminary study on novel low noise UAV Propellers
AC-2	110	Saikat Datta	Unveiling the Potential of Nanoscale Vibrations for De-Icing
AE-1	8	Henry Lizzcano	Impacts of truncation and flight altitude on the flow and thrust of a plug nozzle
AE-2	55	Burak Turhan	Experimental Investigation of Boundary Layer Ingesting Propellers' Aerodynamics
AE-3	61	Shanshan Xiao	Aerodynamic Performance of a Blade Section with Droop Leading Edge
AE-4	114	Bryn M.F. Jones	Aerodynamic interactions between a propeller and a transonic wing-strut junction
AE-5	72	Charles A Proe	Avian flapping flyer response to discreet gusts.
AI-1	20	Usamah Adia	Machine Learning Based Intelligent CFD Surrogates for Interactive Design Exploration of Built Environments
AI-2	24	Martina Formichetti	Data-driven approach to modelling momentum deficit in a turbulent boundary layer over a rough surface
AI-3	38	Miranda J S Horne	Hard Constraint Projection in a Physics Informed Neural Network
AI-4	65	Harshinee Goordoyal	Multi-fidelity machine learning for improving RANS simulation data using DNS samples applied to the periodic hill
AI-5	66	Christian M Toma	Mixed data-source transfer-learning for a turbulence model augmented physics-informed neural network
AI-6	116	Agustina Felipe	Neural Network-driven Degree Adaptivity for Unsteady Incompressible Flows
AI-7	50	Jose Florido	Investigating Guiding Information for Adaptive Collocation Point Sampling in PINNs
AI-8	58	Ankan Banerjee	An Operator Learning-based Approach for Modelling Convective Zonal Jets
AI-9	98	Seun Coker	Neural Operators for Stable Prediction of Time-Dependent Partial Differential Equations
AN-1	36	Amanda S M Smyth	Extended linear theory of an oscillating foil propulsor
AN-2	43	Jack Keeler	Eliminating the Kelvin Wake
AN-3	62	Christian A Jones	Sharp Corner Singularity of the White-Metzner Model
AN-4	64	Aaron D'Cruz	Transient shear wave propagation in a solid-liquid coupled system
AN-5	74	Henry W Writer	Free-surface flow over generalised topographies using an arclength formulation
AN-6	86	D. Wall	The Relation between rotating curved channel flow and Taylor-Dean flow
AN-7	100	Josiah-Shem Davis	On Constructing Lagrangians for Dissipative Systems: Application to Hydrodynamics
AN-8	128	Ciara A Higham	A Quantitative Microbial Risk Assessment (QMRA) framework for comparing infection risk from aerosol generation during toilet flushing
AN-9	95	Ibrahim Abubakar Masud	On the evaluation of complex flow around a transparent non axi-symmetric corotating system mounted in an enclosure.
AN-10	70	Phil Trinh	The Saffman-Taylor viscous fingering problem in a wedge
AN-11	81	Jonathan Sewell	Steady Euler flows in a channel with piecewise constant vorticity
BI-1	73	Gregory Holba	A novel perspective on cerebrospinal fluid flow in perivascular spaces
BI-2	89	Isla Henderson	Study of arterial transit times in the brain modelled as a porous medium
BI-3	97	Cristina Teleanu	AUTOMATED WORKFLOW FOR CONSTRUCTING VIRTUAL TWINS FOR HAEMODYNAMIC ANALYSIS OF STENOSED NATIVE AORTIC VALVES
BI-4	99	Emily J Butler	An investigation of the fluid structure interaction in articular cartilage across disparate scales
BI-5	117	Ourania Giannopoulou	Modeling varicose veins
CA-1	23	Meg Richards	Development and testing of moving boundary theories for modelling dynamic contact lines on precursor films
CA-2	106	Nick Creasy	Quantifying stick-slip motion of droplets on chemical patterns
CA-3	30	Josh Shelton	Capillary effects in vorticity-driven surface waves
CA-4	46	Ahlem Mokhtari	High-Precision Modelling of Capillary Forces for Precision Microfabrication
CA-5	63	Kat Phillips	Filling the gap on drop dynamics
CA-6	69	Yatin Darbar	Quantifying the Importance of Diffusion in Mixing Printed Micro-droplets
CA-7	83	Jack R Panter	Engineering using capillary forces: using simulations, experiments and theory to understand capillary bridges on complex geometries
CA-8	94	Duncan Dockar	Origins of the nanobubble zeta-potential
CA-9	96	Benjamin Owen	Numerical investigation of particle separation in dense heterogeneous suspensions of soft particles using inertial microfluidics
CA-10	101	Alexander Saal	Impact of Surface Structure on Wetting Properties
CF-1	109	Jesse Taylor-West	Corner flows of viscoplastic fluids (invited contributor)
CF-2	42	Ahmad Mohamadiyeh	Erosion of Sediment beds Using Impinging Jets: Application to Nuclear Waste Mixing

CF-3	48 Freya C Bull	Multi-scale modelling of blood rheology in sickle cell disease
CF-4	52 Federico Peruzzini	Effective viscosity model for suspension of spherical particles in inelastic shear-thinning fluid matrices
CF-5	53 Rebecca J Hill	Effects of viscoelasticity and shear-thinning on the mixing performance of a T-channel geometry
CF-6	82 Isabel F Latimer	Towards modelling gas migration through dense sediment suspensions: LBM-DEM-FSLBM
CF-7	90 Andrea Sendula	A numerical study of stress distribution around a viscoelastic cut
CF-8	39 Anushka Herale	A minimal continuum model of clogging in spatio-temporally varying channels - <del>withdrawn</del>
CS-1	7 Mohamed Ashar Sultan Mohamed	Nanoparticle synthesis of Silica polymer in Vortex Mixer - <del>withdrawn</del>
CS-2	26 Jörg T Sommerau	Experimental Investigation of the Settling Behavior of Perforated Thin Disks
CS-3	56 Abhimanyu Gaur	Settling rates of non-spherical microplastic particles in a quiescent fluid using numerical simulation.
CS-4	68 John M Lawson	Physics Informed Kriging for Particle Tracking Velocimetry
EX-1	51 Murilo Cicolin	Flow-Induced Vibration of Porous Plates in the yaw direction
EX-2	104 Bappa Mitra	Drag of ammonite shell models
EX-3	54 Elias Arcondoulis	Internal flow fields of structured porous media subject to a grating flow
EX-4	57 Elias Arcondoulis	Wave interaction with a structured porous breakwater
EX-5	67 Hulya Biler	The effect of axial separation distance between coaxial counter-rotating rotors
EX-6	71 Tomos Rich	PIV-PLIF experiments of pollutant dispersion over a scaled urban model
EX-7	75 Ian Masters	Practical experiences from testing a renewable energy turbine prototype in a tidal estuary
EX-8	84 Filipa Adzic	Measurements of air mixing and stratification at full building scale
EX-9	91 Jan W Modrzyński	An experimental study on Moving Surface Boundary-Layer Control systems
EX-10	21 Zuhaib Nissar	Advancing Spray Analysis: Combining PDA and High-Speed Velocimetry
EX-11	22 Mostafa Soroor	Design and Validation of a Low-Deadtime Stopped-Flow Device for High-Resolution Reaction Monitoring
FD-1	14 André Lopes	A Homotopy-Based Modeling Approach for Poiseuille Flow in Fully-Filled Sewer Pipes with Egg-Shaped and Horseshoe-Shaped Cross-Sections
FD-2	16 Reece D Luetchford	A CFD Performance Study of Novel Vortex Bladeless Wind Turbines
FD-3	27 Jo Samuel	Study on Close-Coupled Gas Atomisation (CCGA) Process : CFD modelling via discrete-phase model (DPM)
FD-4		<del>WITHDRAWN</del>
FD-5	113 Qiming Yu	Integrating Mean-Line and CFD Approaches for the Redesign of a Single-Stage Micro Gas Turbine Stator-Rotor System
FD-6	59 Zhaoxin Ren	Unsteady rotating detonation structures and effects of wall temperatures
FD-7	79 Jac Clarke	High-fidelity simulation of cryogenic hydrogen jets for zero-carbon energy applications
FD-8	87 Nicholas J Copsey	Hydrodynamic forces on accelerating bluff bodies
FD-9	92 Raahil Sanjay Nayak	Transpiration Cooling Strategies and their Impact on Hypersonic Boundary Layer Flow
FD-10	112 Scott Bennie	Exhaust Jet - Wake Vortex Interactions Downstream of High-Lift Geometries
FD-11	124 Joseff Parke Sturrock	Modelling Aerodynamic Drag of a Very Low Earth Orbit 1U CubeSat with a Boltzmann-BGK Approach
FD-12	121 Callum D Lock	AI Mesh-Informed Techniques for Optimising the Design Process
FD-13	17 Chigozie Okwudiri Eleghasim	Body force modelling of surface Dielectric Barrier Discharge Plasma
FD-14	19 AMIT KUMAR SAINI	Electroosmotic Flow past an Array of Poly-Electrolyte Coated Solid Cylindrical Particles: A Particle-in-Cell Approach
FD-15	31 Julie Y Frank	Cooling next generation aircraft with PCM: Modelling of novel concept heat exchanger designs with CFD
FI-1	15 Shailesh Naire	Thermo-viscous fingering instability in cooling and spreading flows
FI-2	118 Rhiannon Nicholls	Rotating Rayleigh-Benard Convection with Fixed Flux Thermal Boundary Conditions
FI-3	125 Conor James Nolan	Over-reflexion of gravity waves by vortices in a rotating ocean
FI-4	123 Miles Morgan	Fluid-driven wormholes in granular silo flow
FI-5	29 Kasia Nowakowska	Nowcasting of Atmospheric Convection using a Simplified Model
FI-6	122 Ryan Doran	Predicting Bubble Fragmentation in Superfluids
FI-7	80 Jo J Kershaw	Dynamics of rotating convection in Earth's outer core
FI-8	120 Azza Al gatheem	Non-linear evolution of zonal zonal instability with varying magnetic field strength.
OP-1	45 Morgan T Taylor	Numerically augmented experimental analysis of inclined backward facing steps
OP-2	37 Luke Driver	A Design Optimisation Framework for Laval Nozzles in Uniform Supersonic Chemical Reactors
TU-1	10 Dea D Wangsawijaya	Characterisation of realistic rough walls in compressible turbulent boundary layers

TU-2	47 Andrew McMullan	On the evolution of the initially turbulent plane mixing layer: a numerical study -- <del>withdrawn</del>
TU-3	102 Mridu Sai Charan Arukalava Sesh	Wall function modifications in OpenFOAM for heterogeneous roughness modeling
TU-4	105 Xu Chu	End-to-end optimization of compressible turbulent flow over permeable interface via differentiable fluid dynamics
TU-5	119 Laura Irvine	The impact of turbulent patches on transition to triadic resonance in internal wave beams
TU-6	126 Jan Dobrzycki	Wall-modelled LES for BFS with injection of upstream turbulence
TU-7	32 Mariadebora Mauriello	Non-linearities induced by deterministic forcing in the low-frequency dynamics of transitional SBLI
TU-8	12 Jason Ferguson	Boundary layer flows over rough surfaces
TU-9	25 Xiaodong Li	Frequency-domain reduced-order modelling for nonlinear dynamics in turbulent flows
TU-10	33 Takfarinas Medjnoun	Flow Characteristics of High Reynolds Number Turbulent Boundary Layers Over Heterogeneous Ridges
TU-11	34 Prateek Jaiswal	Wall pressure fluctuations beneath a turbulent boundary layer subjected to mean pressure gradients at high Reynolds numbers.
TU-12	35 Thomas D Preskett	High Reynolds number smooth wall turbulent boundary layers with streamwise pressure gradients
TU-13	40 Aan Yudianto	Mitigating Delays in Turbulence Onset: SST-IDDES with Synthetic Eddy Method for Separated Flows
TU-14	41 Max C Walker	Transition to turbulence in supersonic flow over a Gaussian bump
TU-15	44 Jacqueline M Mifsud	Round jet impingement confined in a cylindrical cavity: a parametric study using Large Eddy Simulation
PO-1	9 James Afful	Enhancing Indoor Air Quality in Historic Educational Buildings: A Computational Fluid Dynamics Approach to Retrofitting HVAC Systems in K-12 Schools -- <del>withdrawn</del>
PO-2	103 Josiah-Shem Davis	On Constructing Lagrangians for dissipative systems
PO-3	107 Josh Parkin	Investigating the Breakup Dynamics of Liquid Gallium Jets
PO-4	108 Asif Mushtaq Ahmed Ansari	Multi-Objective Optimisation of an Aerofoil using DNN driven CFD and MCS algorithm framework
PO-5	111 Alexandra J Hardy	Hybrid particle-phase field hydrodynamic theory of dilute colloidal sedimentation and floatation close to a liquid-gas interface
PO-6	115 Ganesh Sahadeo Meshram	A Data-driven Model Based on Gated Recurrent Unit Neural Network for the Prediction of Fluid Flow a Past Triangular Cylinder
PO-7	13 Abdulaziz H Alharbi	Guided Oscillations in Partially Ionised Solar Chromosphere Driven by a Spectrum of Waves
PO-8	18 Danny A P Blundell	A Systematic Review: How are Pathogens Distributed in Respiratory Emissions?
PO-9	28 Marco Virgilio	Impact of Pressure Gradient History on Wall Shear Stress Using the Momentum Integral Equation: Validation of Existing Methods
PO-10	76 Robin Furze	PREDICTING FRICTION IN TOTAL HIP REPLACEMENT BEARINGS: A MULTISCALE APPROACH
PO-11	77 Arthur J Scott	Numerical modelling of the diffusive solidification of mushy layers with application to sea ice
PO-12	78 Jake L Cray	Blind Estimation of the Arterial Input Function in DCE-MRI
PO-13	85 Girindra Ramgobin	A multiscale multiphysics simulation framework for predicting heat exchanger performance in hydrogen powered aircraft
PO-14	88 Negar Razaghi	Spatiotemporal Evolution of the Flow Instabilities in Stagnation Regions: The Effect of Flow Rate and Porous Geometry
PO-15	127 Nasrollah Hajaliakbari	Interaction of Sedimenting Semi-Flexible Fibres in Stokes Flow
PO-16	49 Abdullah Mejbil	Initial Sizing of Conventionally Configured Hydrogen-Powered Commercial Aircraft