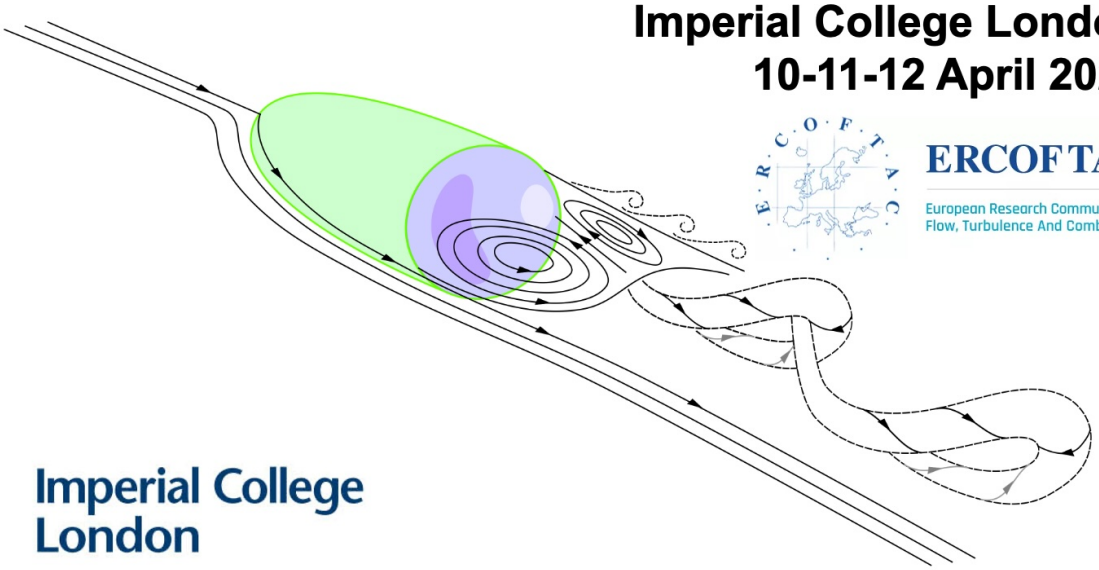
ERCOFTAC workshop SIG47 – 3D Wakes
Imperial College London
10-11-12 April 2024



ERCOFTAC
European Research Community On Flow, Turbulence And Combustion

Imperial College London

Venue

Department of Aeronautics
City and Guilds Building
Imperial College

CAGB 300 (lecture theatre)
CAGB 309 (social)

Programme

Wednesday 10 April

13:45 – 14:00
Welcome and Introduction– Jonathan Morrison

14:00 – 15:00
Invited talk
Bérengère Podvin – *Low-order modelling of bistable dynamics: application to the case of an Ahmed body*

15:00 – 16:20
Session 1a: Wake dynamics – Chair Jonathan Morrison

Di Bao – *Effects of underflow perturbations on the wake and drag of three-dimensional bluff bodies*

Abhishek Mishra – *Effect of height on the wake recovery behind building clusters*

Guangyuan Huang – *Experimental and Numerical Investigations of Flow-Induced Noise from a D-Shaped Bluff Body in Ground Proximity*

Simran Singh Panesar – *Low frequency dynamics of the axisymmetric bluff body wake*

16:20 – 16:50
Break

16:50 – 17:50
Session 1b: Wake dynamics – Chair Jacques Borée

Samaresh Midya – *An experimental investigation of a high Reynolds number turbulent wake generated by a vehicle-like bluff body*

Wouter Terra – *The near wake of the generic cyclist model*

Marco Placidi – *Wake structure in urban areas*

Thursday 11 April

9:00 – 10:00
Invited talk
Edouard Boujo – *Stability and dynamics of the laminar wakes of 3D prisms*

10:00 – 11:20
Session 2: Stability and transition – Chair José I. Jiménez-González

Kacper Janczuk – *The effect of frontal geometry on 3D bluff body wakes*

Ivan Kharsansky Atallah – *Random switching dynamics and low frequency oscillations around airfoil stall*

Olivier Cadot – *Stochastic modelling of the wake reversal dynamics of a bluff body under different Reynolds numbers*

Lukasz Klotz – *Influence of porous material on the flow behind a backward-facing step - experimental study*

11:20 – 13:00
Lab tour

13:00 – 14:00
Lunch

14:00 – 15:00
Invited talk
Manuel Lorite-Díez – *Self-adaptive flaps for drag reduction in the Ahmed body wake*

14:00 – 16:00
Session 3a: Wake control – Chair Georgios Rigas

Tauha Khan – *Examination of mass flux equilibrium in the 3D turbulent wake of the flat-back Ahmed body using stacked stereoscopic PIV*

José M. Camacho-Sánchez – *On the role of blowing configuration for efficient drag Reduction of a 3d blunt body*

Pedro Solis – *Experimental passive control of the Ahmed body without ground effect using deflectors at a low Reynolds number*

16:00 – 16:30
Break

16:30 – 17:30
Session 3b: Wake control – Chair Olivier Cadot

J.C. Muñoz-Hervás – *Exploring wake dynamics interaction with rear flexible Flaps on a squareback ahmed body*

Manuel Garrido-Martin – *Exploring the effects of spanwise wing deformation on lift coefficient and trailing vortices properties at low Reynolds number*

Quentin Martinez – *Stall Flutter Characteristics of a Pitching NACA 63(3)418 Aerofoil with Passive Camber Morphing Capabilities*

19:00-23:00

Buffet supper at Builder's Arms Pub
1 Kensington Court Place W8 5BJ
At participant's own cost
(10 min walk - see map below)

Friday 12 April

9:00 – 10:00

Invited talk

Georgios Rigas – *Reinforcement Learning for active flow control*

10:00 – 11:00

Session 3: AI and optimisation – Chair Aimee Morgans

Agostino Cembalo – *From on-road experiments to active closed loop control of base drag variations for slowly varying upstream flow conditions.*

Yajun Fan – *Optimised drag configurations of an Ahmed body in crossflow with top and bottom rear morphing spoilers allowing twisted deformations*

Yusuf Patel – *Reconstruction of turbulent bluff body wake using Physics Informed Neural Network*

11:00 – 11:30

Break

11:30 – 12:30

Discussion about the ERCOFTAC SIG47 "3D Wakes" – Chair Jonathan Morrison and Oliver Cadot

12:30 – 13:30

Lunch & close

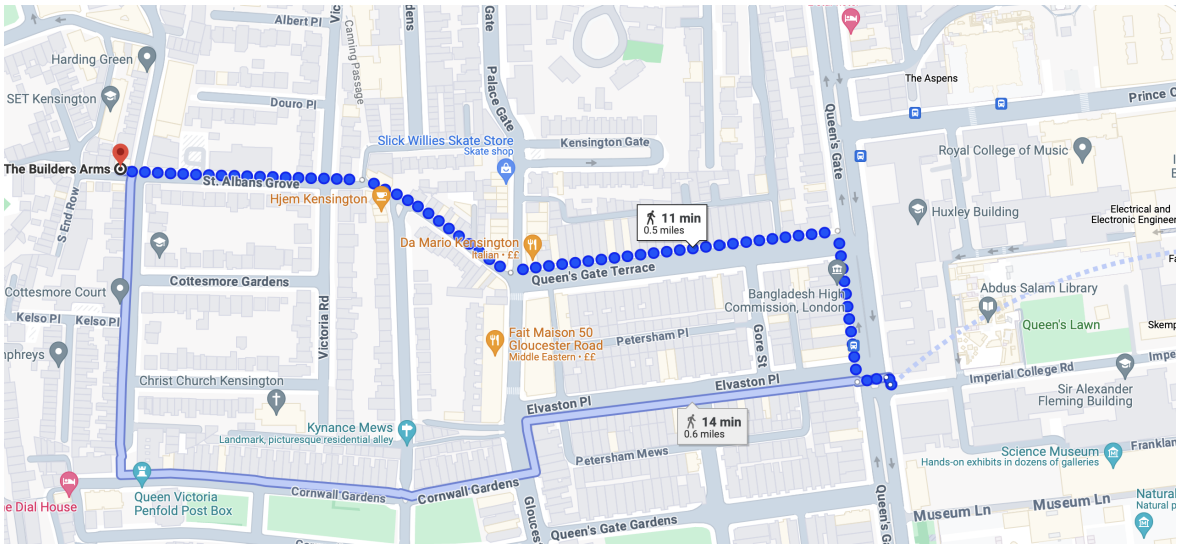


Figure 1: Supper Venue: Thursday, April 11, 19:00-23:00 Builder's Arms Pub (left)