UKCTRF Annual Meeting

Held at Selwyn College, Cambridge on 12th to 13th September 2018
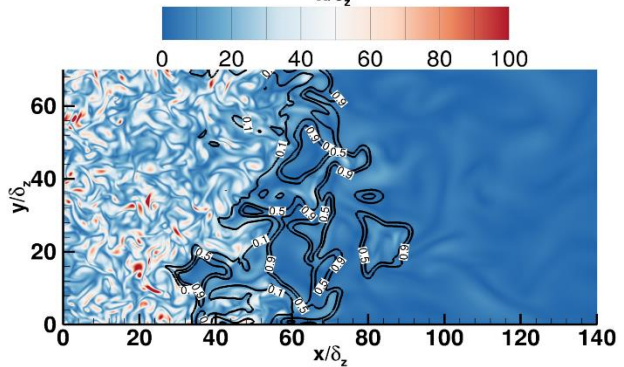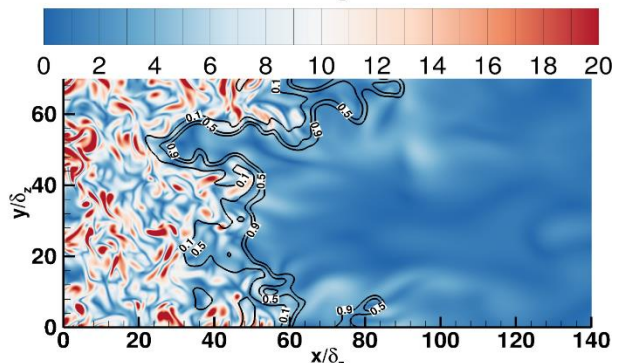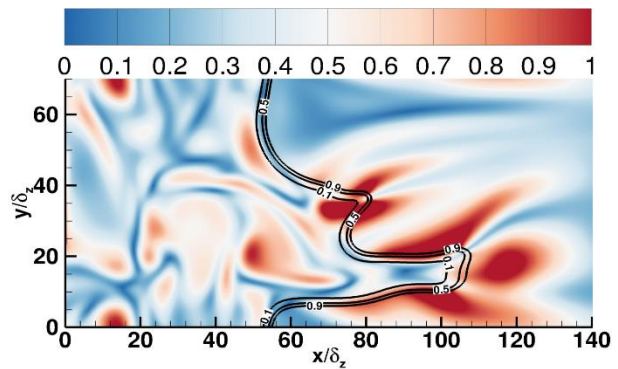
By Air

Stansted Airport is very convenient for Cambridge, being connected by both direct bus and rail links (journey time about 45 mins). Heathrow Airport is further away, but there is a regular direct bus link (jour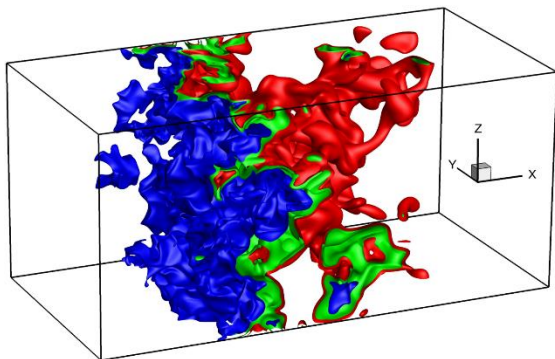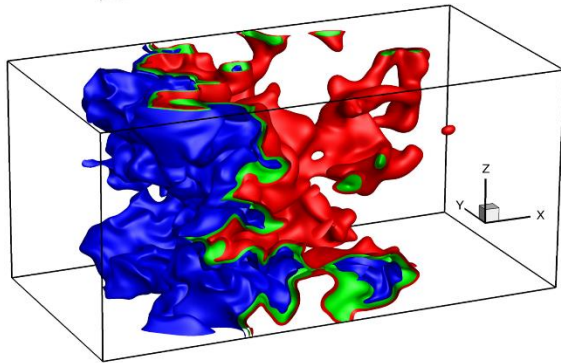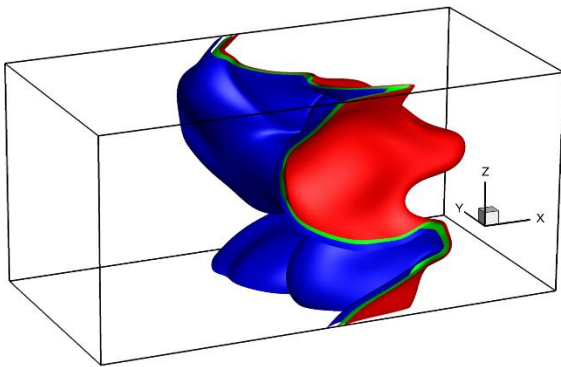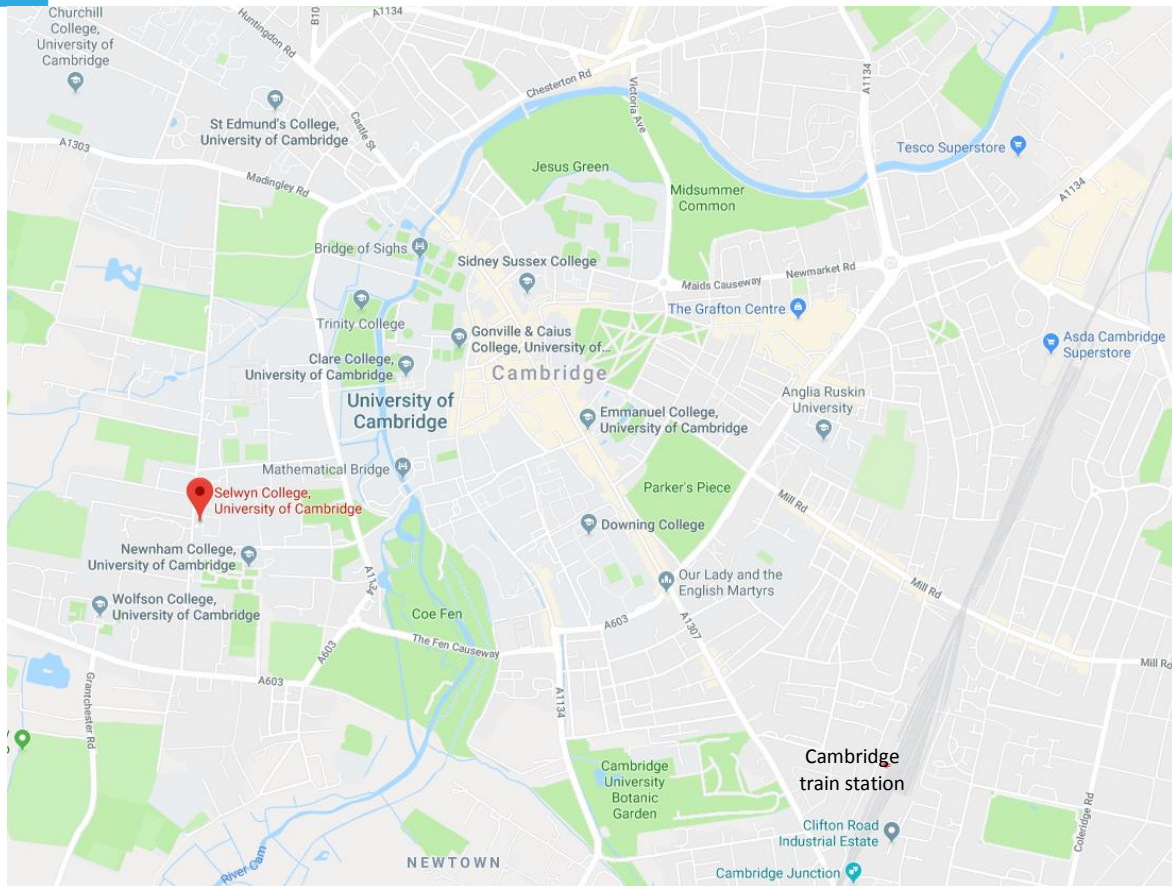ney time two and a half hours). To travel by train from Heathrow to Cambridge there are two options: (1) a long tube journey on the Piccadilly line from Heathrow to King's Cross station, and then by train to Cambridge; (2) the Heathrow Express from Heathrow to Paddington Station, followed by a short tube journey to King's Cross and then the train to Cambridge.

By Rail

Cambridge rail station is well served by trains from London King's Cross, London Liverpool Street, Stansted Airport, Norwich, Peterborough and Birmingham. East Coast mainline services can be accessed by changing at Peterborough. From London, the fastest journey times are from King's Cross, with a frequent non-stop service during the day. The rail station is a 30-35 minute walk from the College. The U bus goes direct from the railway station (stop 8) to the University Library stop next to Selwyn, and runs Mondays to Saturdays. There is an extensive taxi rank at the station.

By Car

Leave the M11 at junction 12 and head into Cambridge along the A603 (Barton Road), turn left into Grange Road. After about 500m Selwyn is on the right, just after the junction with Sidgwick Avenue.

If approaching from the East or West using the A14, usually the best option is to carry on until you can join the M11 southbound at junction 14, proceed south to junction 12, and then follow the instructions above.

There is limited parking available at the College, and metered parking on some nearby side streets. We recommend that you use one of the Park & Ride car parks. The most convenient one is at Madingley Road, accessible from the M11 northbound at junction 13. From there you can take the U bus, and get off at the University Library stop in West Road, which is right next to Selwyn.

SELWYN COLLEGE MAP

SELWYN COLLEGE
CAMBRIDGE CB3 9DQ

On arrival at Selwyn College, please check-in at the Porters Lodge at the Main Entrance to the Old Court.

Cripps Court will provide en-suite accommodation, with complimentary Wi-Fi available, along with Tea & Coffee making facilities in each bed-room.

The Diamond Building, adjacent to Cripps Court, is the main meeting room, where registration and all presentations will take place.

The Dining Hall in the Old Court will be used to serve breakfast and lunch and the Conference Dinner.
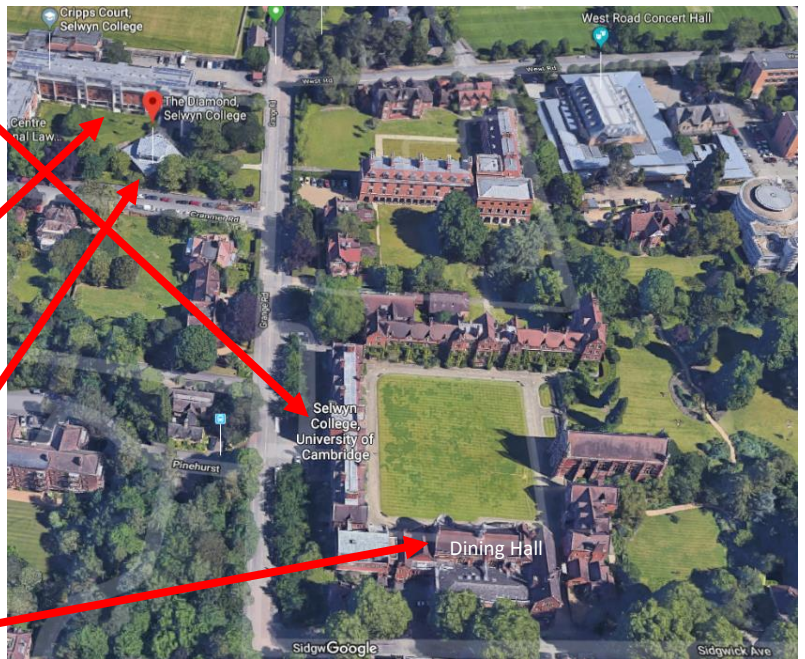
The New Senior Combination Room, next to the Dining Hall will be used for the Drinks Reception.

Local Taxi Services

There is a Freephone link to Panther Taxis from the Porters Lodge.

Wednesday 12th September 2018

08:00 – 09:00 **Breakfast**

09:00 – 10:00 **Registration and Coffee**

09:45 – 10:00 **Welcome and Introduction – Professor Nilanjan Chakraborty**

10:00 – 10:15 **EPSRC Update – Dr William McAlister**

10:15 – 11:00 **Keynote Speaker: Dr Jacqueline H Chen, Sandia National Laboratories, Distinguished Member of Technical Staff, Reacting Flows Department**
DNS of Turbulent Combustion in Complex Flows
(Chaired by Professor N Swaminathan)

11:00 – 11:15 **Coffee Break**

11:15 – 11:35 **S Rigopoulos, F Sewerin, G Papadakis, H Y Tang, A Liu, Imperial College**
Population Balance Modelling in Turbulent Reacting Flows
(Chaired by Professor N Swaminathan)

11:35 – 11:55 **D H Shin, E S Richardson, University of Edinburgh, University of Southampton**
Modelling of Ensemble-Averaged Premixed Flame Front under Harmonic Oscillation
(Chaired by Professor N Swaminathan)

11:55 – 12:15 **E Illana, X. Jiang, Queen Mary University**
Numerical Simulation of Biogas Flames in a Practical Combustion System
(Chaired by Professor N Swaminathan)

12:15 – 12:35 **K Bowal, J Martin, L Pascazio, M Kraft, University of Cambridge**
Nucleation and Structure of Soot Particles
(Chaired by Professor N Swaminathan)

12:35 – 13:35 **Lunch**

13:35 – 14:20 **Keynote Speaker: Professor Andreas Kronenburg, University of Stuttgart**
Nanoparticle Agglomeration – Towards Scale Preserving Computations
(Chaired by Dr Salvador Navarro-Martinez)

14:20 – 14:40 **C Turquand d'Auzay, V Papapostolou, N Chakraborty, Newcastle University**
Effect of Turbulence Intensity and Mixture Composition on the Localised Forced Ignition of Turbulent Homogeneous and Inhomogeneous Mixtures
(Chaired by Dr Salvador Navarro-Martinez)

14:40 – 15:00   **X Wang, T Jin, K H Luo, University College**
Response of Heat Release to Equivalence Ratio Variations in High Karlovitz Premixed H2/Air Flames at 20 atm
(Chaired by Dr Salvador Navarro-Martinez)

15:00 – 15:20   **C M R Vendra, J X Wen, University of Warwick**
Modelling Structural Responses in Vented Deflagrations
(Chaired by Dr Salvador Navarro-Martinez)

15:20 – 15:35   **Coffee Break**

15:35 – 15:55   **Y Xia, D Laera, A S Morgans, Imperial College**
Effect of Flame-to-Flame Interaction on the Flame Describing Function of a Turbulent Swirling Annular Combustor
(Chaired by Professor David Emerson)

15:55 – 16:15   **G Nivarti, R S Cant, University of Cambridge**
Stretch Rate and Displacement Speed Correlations for Increasingly-Turbulent Premixed Flames
(Chaired by Professor David Emerson)

16:15 – 18:30   **Back to accommodation, networking, own time**

16:15 – 17:15   **Impact Advisory Panel Meeting (Walters Room)**

18:30 – 19:15   **Drinks and Nibbles – networking**

19:15 – 21:30   **Conference Dinner**

Thursday 13ᵗʰ September 2018

08:00 – 08:30   **Breakfast**

08:30 – 09:00   **Registration and Coffee**

09:00 – 09:45   **Keynote Speaker: Professor Suresh Menon, Georgia Institute of Technology, College of Engineering Hightower Professor**
Multi-Scale Subgrid Modelling of Turbulent Premixed Combustion at Engine Relevant Conditions
(Chaired by Professor Epaminondas Mastorakos)

09:45 – 10:05   **N A K Doan, N Swaminathan, University of Cambridge**
Analysis of Experimental Techniques for MILD Combustion Using DNS Data
(Chaired by Professor Epaminondas Mastorakos)

10:05 – 10:25   **D Fredrich, W P Jones, A J Marquis, Imperial College**
The Stochastic Fields Method Applied to a Partially Premixed Swirl Flame with Wall Heat Transfer
(Chaired by Professor Epaminondas Mastorakos)

10:25 – 10:40   **Coffee Break**

10:40 – 11:00   **B S Soriano, E S Richardson, University of Southampton**
DNS Analysis of DME Pilot-Ignited Methane Air Combustion
(Chaired by Dr Stelios Rigopoulos)

11:00 – 11:20   **S Trivedi, R S Cant, University of Cambridge**
Comparison Between Flame-Flame Interactions in Hydrogen and Hydrocarbon Flames
(Chaired by Dr Stelios Rigopoulos)

11:20 – 11:40   **U Ahmed, G Ozel Erol, N Chakraborty, Newcastle University**
Turbulent V-Flame Interaction with (i) Droplets and (ii) Inert Walls
(Chaired by Dr Stelios Rigopoulos)

11:40 – 12:00   **H Zhang, M P Sitte, A Giusti, E Mastorakos, University of Cambridge**
LES/CMC of Unsteady Flame Behaviour
(Chaired by Dr Stelios Rigopoulos)

12:00 – 13:00   **Lunch**

13:00 – 13:45   **Keynote Speaker: Dr Khawar Syed, Senior Engineering Manager, Infosys**
Flame Dynamics Within Low Emissions Swirl-Stabilized Gas Turbine Combustion
(Chaired by Professor William P Jones)

13:45 – 14:05   **R S Cant, J Fang, U Ahmed, G Nivarti, C Moulinec, D R Emerson, N Chakraborty, University of Cambridge, STFC Daresbury Laboratory, Newcastle University**
Numerical Simulation of Reacting Flows Using an Unstructured Adaptive Mesh Refinement Based Code HAMISH
(Chaired by Professor William P Jones)

14:05 – 14:25   **D Noh, S Navarro-Martinez, Imperial College**
Large Eddy Simulation of Combustion Instabilities in Gas Turbine Engines
(Chaired by Professor William P Jones)

14:25 – 14:40   **Coffee Break**

14:40 – 15:00   **T Jin, X Wang, K H Luo, University College**
Low Temperature Combustion in Ignition of Turbulent Dual Fuel Mixture
(Chaired by Professor David Emerson)

15:00 – 15:20   **J C Massey, Z X Chen, I Langella, N Swaminathan, University of Cambridge**
Large Eddy Simulation of a Swirl Stabilised Partially Premixed Flame Close to Blow-Off
(Chaired by Professor David Emerson)

15:20 – 15:40   **Y Gong, W P Jones, A J Marquis, Imperial College**
Large Eddy Simulation of a Premixed Turbulent Counter-Flow Flame
(Chaired by Professor David Emerson)

15:40 – 16:00   ***J Yang, University of Leeds***
Characterization of Premixed Combustion Using Particle Image Velocimetry
(Chaired by Professor David Emerson)