



## TRAVEL & INFORMATION GUIDE

School and Training on Aircraft New and well-established  
techniques for Atmospheric Composition Observation  
STANCO

26 June – 6 July 2017

Cambridge, United Kingdom

Organised by:



Department of Psychological, Health and Territorial Sciences

University "G. d'Annunzio" of Chieti-Pescara (Italy)

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## 1. General Information

The 8<sup>th</sup> EUFAR Training Course, financed by EUFAR and jointly organised together with DiSPUTER of the University “G. d’Annunzio” of Chieti-Pescara, will take place from 26 June to 6 July 2017 in Cambridge, United Kingdom. Entitled “School and Training on Aircraft New techniques for Atmospheric Composition Observation”, the training course will take place at the Department of Chemistry of the University of Cambridge (UK). During the course, a visit of the FAAM ([Facility for Airborne Atmospheric Measurements](#)) at Cranfield airport will be organised to have a first overview of the [BAe-146](#) and of the instruments installed on board the aircraft.

## 2. Directions

### Access & Public Transport:

#### **Getting to Cambridge**

##### By air

Cambridge is relatively close to 4 major UK airports: Birmingham, London Stansted, London Heathrow and London Gatwick. Virtually, it is served by every airline in the world.

The Cambridge airport is also proposing flights to Scandinavia with British Airways and seasonal flights to Italy and few other European cities.

##### By train

There is a fast and frequent rail service from London King’s Cross & London Liverpool Street through to Cambridge. There are excellent connections from Scotland & the North via Peterborough, and regional services from Birmingham & the Midlands, East Anglia & the Northwest. For bus services from Cambridge railway station into the city centre look for the Citi 1, Citi 3 or Citi 7 services.

##### By coach

National Express operates coach services to Cambridge from major towns & cities throughout the U.K. There are frequent coach services from both Central London, and London Stansted Airport through to the city. The X5 cross county Stagecoach service links Oxford to Cambridge, via Bicester, Buckingham, Milton Keynes & Bedford.

#### **Transport in Cambridge**

Stagecoach operates a comprehensive service to the city from around the county. Please visit [www.stagecoachbus.com](http://www.stagecoachbus.com) for full details.

The Guided Busway offers an innovative and frequent service from Huntingdon to the city centre including stops at the Rail Station and Addenbrookes Hospital. Park and Ride sites for this service can be found at St Ives, Longstanton and Trumpington. Please visit [www.thebusway.info](http://www.thebusway.info) for full details.

#### **Transport to the Sidney Sussex College**

The Sidney Sussex College is a twenty-minute walk from Cambridge railway station: follow Station Road, Regent Street, St Andrews Street and then Sidney Street (see Figure 1 below).

There are regular buses from the railway station to the city centre (City 1, 3, 7 and 8, drop off on St Andrews street outside the Magistrates' Court. Follow this [link](#) for more information. There is also taxi ranked outside the station.

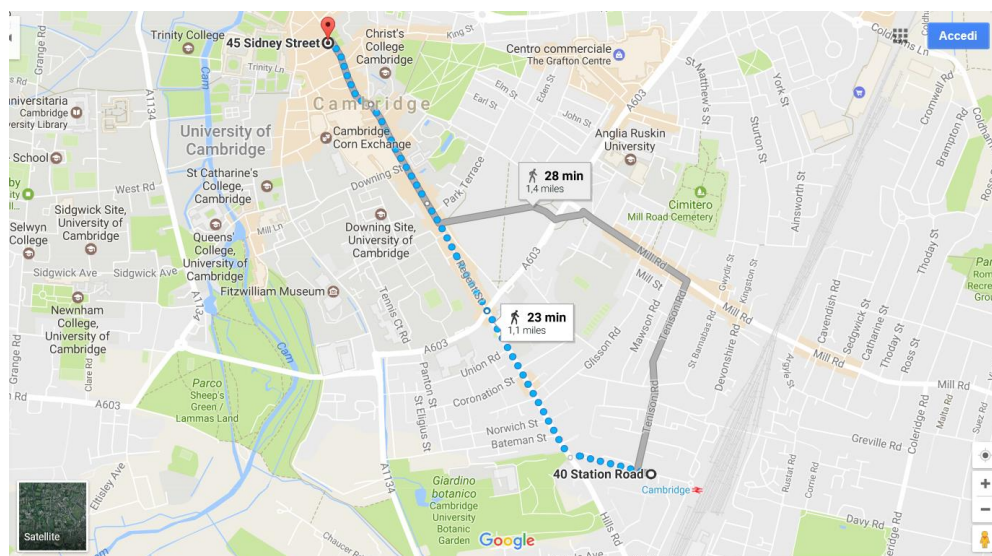
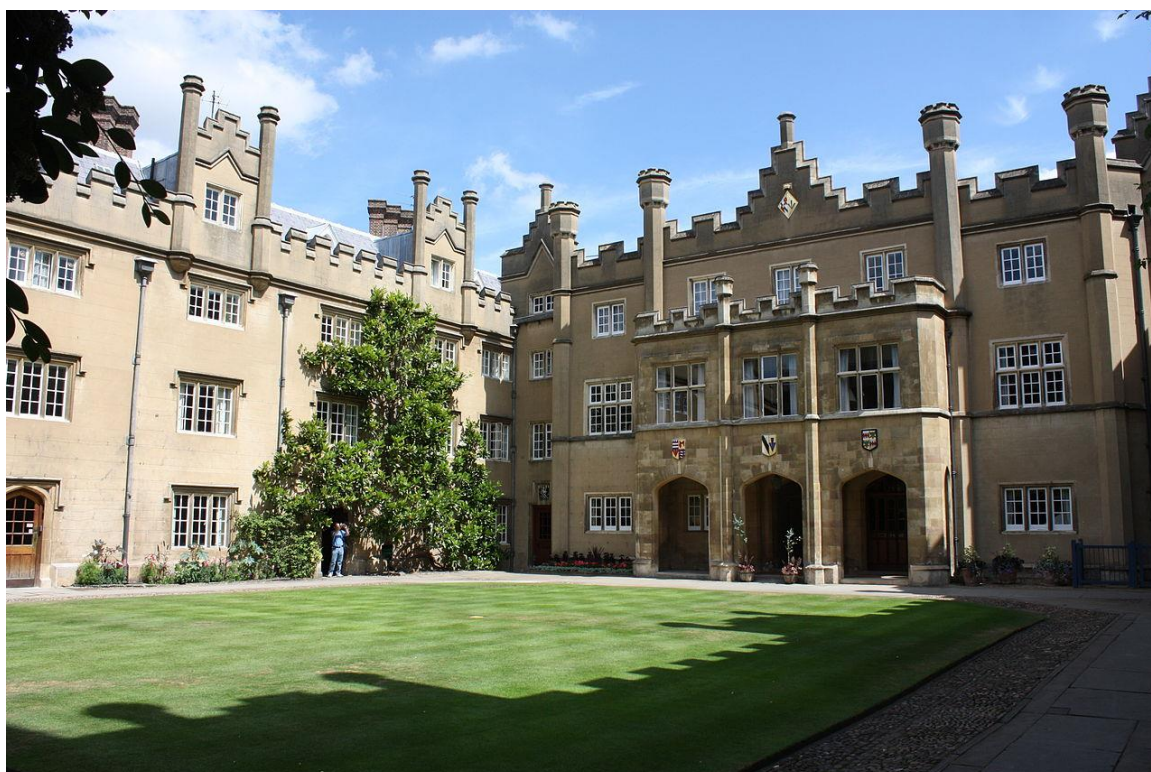


Figure 1. Map of the route from the Cambridge railway station to Sidney Sussex College

### 3. Accommodation

All training course participants and trainers will be accommodated at the Sidney Sussex College (<https://www.sid.cam.ac.uk/confer/accommodation>) between 26 of June and 6 of July 2017.



### EUFAR funded participants

Accommodation for EUFAR funded participants for the nights of 26th to 6th inclusive will be paid by EUFAR, therefore when checking-out you will not need to settle your bill. All meals from arrival to departure have also been booked on your behalf over the training course and will also be covered by EUFAR in advance. Lunches and dinners, for the entire Training course, will be at the Sidney Sussex College with the following exception (see below the program): On Tuesday 27, Wednesday 28 and Friday 30 June dinner will be at the D'Arry's Restaurant (see figure 2 for the route from the Sydney Sussex College). On Thursday 29 June and Saturday 1 July participants are free to have dinner where they like. These dinners, keeping the receipts (with the policy below), will be reimbursed by EUFAR.

However, if your arrival in Cambridge before 26 June and/or your departure after 6 July, are due to travel complications (e.g. no flight available arriving on the 26<sup>th</sup>), expenses linked to these extra days will be reimbursed by either EUFAR on provision of justifications (tickets, receipts, etc.). Any prolonged stay linked to personal/touristic reasons will be at your own expense.

At checkout kindly settle any extra expenses you have incurred during the stay such as telephone, bar, extra expenses related to spouse, etc.

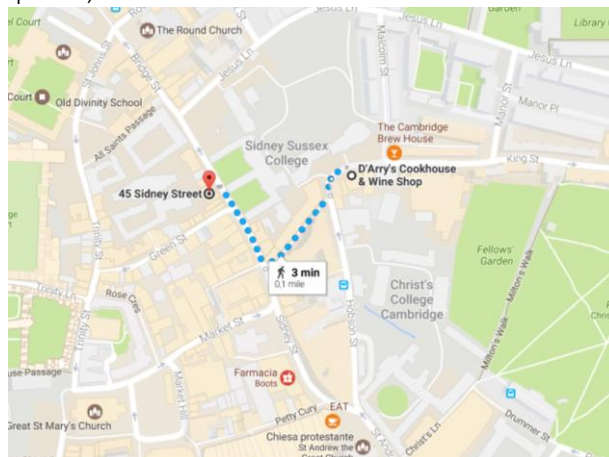


Figure 2. Route from Sydney Sussex College to D'Arry's Restaurant.

## 4. Classes

The training course will take place at Wolfson Lecture theatre of the Department of Chemistry of the University of Cambridge in Lensfield road. In figure 3 the route from Sydney Sussex College to the Department of Chemistry.

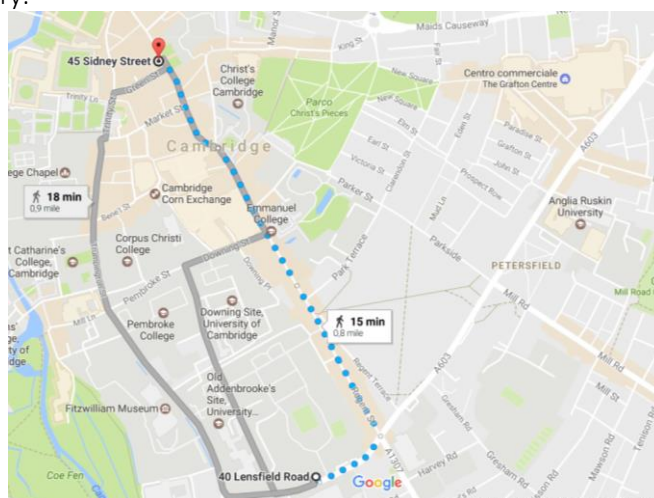


Figure 3. Route from Sydney Sussex College to the Department of Chemistry of the University of Cambridge



Only on Friday 30 June, the classes will be at the FAAM conference room in Cranfield to do also the flight planning and visit the BAe-146 aircraft.

## 5. Travel & Subsistence Reimbursement

The EUFAR Office/Météo-France will be responsible for the reimbursement of any extra travel and subsistence (T&S) expenses incurred, unless differently agreed. The reimbursement of individual costs by the EUFAR Office will be based on real costs upon receipt of the proofs of payment (such as taxi, bus, other receipts, etc.). Meal receipts are not required.

### *Meals:*

Regarding the meals not organised for STANCO, note that the reimbursement of the meals cannot exceed **€27.76 per meal** in accordance with Météo-France's T&S rate for UK.

### *Hotel:*

The maximum reimbursement of accommodation expenses is **€103.09 per night including breakfast** for those of the participants who will have reserved another hotel by themselves.

### *Travel:*

Your travel tickets, as proof of travel, will also be requested (boarding passes/train/metro tickets) even if paid by the EUFAR Office, thus please keep all your original tickets and receipts.

### *Use of a private car:*

Reimbursement of use of private car is on the basis of about **€0.32 per kilometre** (dependent of engine capacity). Fuel is included in the kilometre rate. Road tolls may be paid extra, so please keep all tickets. When two or more participants travel together by car, only one person will be reimbursed for the associated travel costs.

### *Use of taxi:*

Reimbursement of taxi fees requires prior approval from the EUFAR Office. As a general rule, participants with early or late flights are legible for reimbursement of taxi expenses.

To be reimbursed for travel and subsistence expenses, please fill in and send the travel claim form (also attached), along with original invoices/receipts to the following postal address:

Attn: Elisabeth GERARD  
EUFAR Office  
Météo-France/CNRM  
42, avenue Gaspard Coriolis  
31057 Toulouse Cedex 01  
France

This form needs to be sent before **6 August 2017**, unless you will be claiming your costs through Form C (only applicable to EUFAR2 partners), in which case kindly inform us.

## 6. Currency

United Kingdom is not in the EURO zone and its official currency is the Pound sterling (£, GBP). Its exchange rate with Euro is around 1.1528 € for 1 £ (08/06/2017).

## 7. Contact

For any questions concerning the meetings, please contact:

<b>DISPUTER</b>	<b>EUFAR Office</b>
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## 8. Programme

	Monday-26/06	Tuesday-27/06	Wednesday-28/06	Thursday-29/06	Friday-30/06	Saturday-01/07
9:00-10:30	Arrival	8:45-8:50-Welcome-(EUFAR) 8:50-9:15 P. Di Carlo & J. McQuaid: Welcome and general information on STANCO course 9:15-10:30 Self-introduction of students, division of students into working groups	R. Jones: Composition and climate change	R. Kreici: Aerosol microphysics and physically-based methods	7:00-7:30 Departure to Cranfield 9:00-10:00 P. Brown: Flight planning, mission objectives, goals and risk assessment 10:00-10:30 A. Woolley: BAe-146 aircraft introduction	9:00-10:30 O. Henry: Process, plot, analyze aircraft data: EGADS software
10:30-11:00		Coffee break	Coffee break	Coffee break	10:30-10:45 Coffee break	10:30-11:00 Coffee break
11:00-12:30		A. Archibald: Atmospheric chemistry: Key topics	J. McQuaid: Airborne measurements of VOCs, WAS and online techniques	J. Trembath: Aerosol Instrument Fittings on aircraft platform: setup, calibration	10:45-12:00 Meteo briefing, flight objectives and planning 12:00-13:00 Lunch	11:00-12:00 P. Di Carlo: New frontiers on airborne observations: from big aircrafts to drones
12:30-13:30		Lunch	Lunch	Lunch		Lunch
13:30-14:45		A. Archibald: Models application to aircraft observations	S. Bauquits: Chemistry of GHG airborne measurements of GHG-QC-L technique	B. Ouyang: Airborne Custom Instruments: BBCEAS	13:00-13:30 S. Deversau: Instrument Certification 13:30-14:00 M. Smith: BAe-146 safety rules 14:00-15:00 A. Wellpott: BAe-146 data access and use	
14:45-15:00		Coffee break	Coffee break	Coffee break		
15:00-16:00		S. Bauquits: NOx chemistry and airborne measurement techniques for NOx, O3 and CO	A. Vaughan: Aircraft flux measurements	A. Aruffo: Aircraft custom Instruments: TD-LIF	15:00-17:00 BAe-146 Visits	Afternoon off
16:00-17:00	17:00-18:00 Welcome Icebreaker Sidney Sussex College (JCR-TV-Room)	A. Vaughan: New emerging instruments and techniques for airborne measurements of the atmospheric composition	R. Kreici: Aerosol chemistry, mixing state, SOA	J. McQuaid: BAe-146 campaigns and main scientific results so far	17:00 Departure to Cambridge	
18:00	Dinner: College	Dinner: D'Arry's	Dinner: D'Arry's	Dinner: free	18:00 Dinner: D'Arry's	Dinner: free

**Travel & Information Guide - STANCO, 26 June - 6 July 2017 - Cambridge, United Kingdom**

Sunday-02/07		Monday-03/07- (*)				Tuesday-04/07- (*)				Wednesday-05/07	Thursday-06/07
		(Group-A)				(Group-B, C)					
	7:30	Departure-to-airport			7:00	Departure-to-airport			9:00-9:30	Debriefing	
Day-off Tour-of-Cambridge	9:00-12:00	Pre-flight Science-Briefing	9:00-10:30	M. Cain: Introduction-to-Airborne-measurements-analysis	8:30-10:00	Pre-flight Science-Briefing	9:00-10:30	M. Cain: Introduction-to-Airborne-measurements-analysis	9:30-10:30	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Data-pre-analysis, discussion	Student-presentations
	12:00-15:00	Mission-Flight-1 (Group-A)	10:30-11:00	Coffee-break	10:30-13:30	Mission-Flight-2 (Group-B)	10:30-11:00	Coffee-break	10:30-11:00	Coffee-Break	Coffee-Break
	15:15-16:45	De-briefing	11:00-12:30	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Classroom-Exercises Airborne-Data-analysis	13:30-14:00	Refuel; First-flight-De-briefing- (Group-B)	11:00-12:30	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Classroom-Exercises Airborne-Data-analysis	11:00-12:30	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Data-pre-analysis, discussion	Student-presentations STANCO-conclusions
	17:30	Departure-from-the-airport	12:30-13:30	Lunch	14:00-14:30	Science-Briefing- (Group-C)	12:30-13:30	Lunch	12:30-13:30	Lunch	Lunch
			13:30-14:45	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Classroom-Exercises Airborne-Data-analysis	15:15-18:15	Mission-Flight-3 (Group-C)	13:30-14:45	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Classroom-Exercises Airborne-Data-analysis	13:30-14:45	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Data-pre-analysis, discussion	Student-Departures
			14:45-15:00	Coffee-break	18:30-19:00	De-briefing (Group-C)	14:45-15:00	Coffee-break	14:45-15:00	Coffee-break	
			15:00-17:00	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Classroom-Exercises Airborne-Data-analysis	19:00	Departure-from-airport	15:00-17:00	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Classroom-Exercises Airborne-Data-analysis	15:00-17:00	E. Aruffo, A. Wellpott, J. McQuaid, R. Kreici, M. Cain, P. Di Carlo: Data-analysis, discussion, preparation-of-student-presentations	
Dinner-College	18:00			Dinner-College	18:00			Dinner-College	18:00	Dinner-College	

(\*) Students will be divided in 3 groups (Group-A, B, C): Group-A joins Mission-Flight-1, Group-B-Mission-Flight-2 and Group-C-Mission-Flight-3. For each mission-flight day the students not involved in the flight will attend classroom-exercises on airborne-measurements analysis, using data acquired during previous campaigns for the classroom-exercises on Monday-03/07 and data collected during the STANCO-mission-flights for classroom-exercises on Tuesday-04/07.