

	DAY_1. Sunday 25th June	DAY_2. Monday 26th June	DAY_3. Tuesday 27th June	DAY_4. Wednesday 28th June	DAY_5. Thursday 29th June
	Arrival and welcome	Airborne turbulence measurements and flight strategies	Airborne measurements of aerosols and clouds	Flight 1 and WG activity (*)	Flight 2 and WG activity (*)
9:00-10:30		Welcome. General info on training course, and research site. Self- introduction of the EUFAR trainers, and SAFIRE members. Plan for training course and outline of the programme [FC] Self-introduction of participants and scientific Working Groups (WG) supervisors, divide participants into 4 scientific WGs (4 groups of 5 participants). [FC]	Lecture 5: Flight operations, aircraft limitations and flight procedures. Flight safety and working rules onboard. [Safire Staff]	8:00 Meteo and Flight 1. Departure to experimental site. Equipment and site preparation (flight targets) 9:00 Group work for other WGs	8:00 Meteo and Flight 2. Departure to experimental site. Equipment and site preparation (flight targets) 9:00 Group work for other WGs
10:30-11:00		Coffee break	Coffee break	Coffee break	Coffee break
11:00-12:15		Lecture 1: Introduction to atmospheric turbulence. (Definitions of turbulence, Reynolds averaging, Turbulent Kinetic Energy equation, introduction to Kolmogorov theory, elementary information on atmospheric turbulence). [SM]	Lecture 6: EGADS Tool for Data Analysis and Visualization [OH]	Group work for other WGs	Group work for other WGs
12:15-13:00			Met Forecast Discussion: Weather forecast of Meteo-France for June 28 and decision about flight plan for FLIGHT 1 – Inform Airport Authorities	Met Forecast Discussion: Weather forecast of Meteo-France for June 29 and decision about flight plan for FLIGHT 2 – Inform Airport Authorities	Met Forecast Discussion: Weather forecast of Meteo-France for June 30 and decision about flight plan for FLIGHT 3 – Inform Airport Authorities
13:00-14:00		Lunch	Lunch	Lunch	Lunch
14:00-15:00		Lecture 2: The structure of marine/coastal boundary layers and some flight sampling strategies [IF]	13:45-15:15 Visit to the ATR42 in Shannon Airport. Briefing with the aircraft crew. (All groups). [Safire Staff]	Lecture 8: Flux estimation, scalar budgeting techniques, and atmospheric chemistry [IF]	Lecture 10: Estimation of turbulence properties from airborne measurements. (Focus on TKE and TKE dissipation rate, and scaling) [SM]
15:00-15:30		Coffee break	Coffee break	Coffee break	Coffee break
15:30-16:30	15:30 departure from the Dublin International Airport by shuttle bus	Lecture 3: Airborne measurements of aerosols and clouds 1 [FC]	Lecture 7: Processing core parameters of the ATR42 [BP]	Lecture 9: How to manage quick looks and high-frequency data [BP]	Lecture 11: More on data files and analysis tools [BP]
16:30-18:30		Lecture 4: 16:30 to 17:30 Aircraft modifications and possible measurements on board the ATR42 [Safire Staff] Lecture 4a: 17:30 to 18:30 Real Time Data display onboard Quick-looks [Safire Staff]	16:30 to 19:00 Student activity 1: Allocation of group science projects. Design of flight experiments. Flight objectives and sampling strategies. Data base management.	Student activity 2: Measured data analysis &/or tutorials with analysis tools. Brief report of Flight 1 from associated WG.	Student activity 3: Measured data analysis &/or tutorials with analysis tools. Brief report of Flight 2 from associated WG.
18:30-19:00	18:00-19:00 Registration and room allocation. Ice breaking refreshment		Tutorial 1: Sample exercise of turbulent data analysis [IF & BP] REPORTING: Each scientific working group reports on sampling strategy and flight plan [for each WG, one rapporteur]		
19:00-20:00	Dinner	Dinner	Dinner	Dinner	Dinner

	DAY_6 Friday 30th June	DAY_7. Saturday 1st July	DAY_8. Sunday 2nd July	DAY_9. Monday 3rd July	DAY_10. Tuesday 4th July
	Flight 3 and WG activity (*)	Flight 4 and WG activity (*)	Airborne data processing	Visit to MaceHead Atmospheric Research Station	Student presentations
9:00-10:30	8:00 Meteo and Flight 3. Departure to experimental site. Equipment and site preparation (flight targets). 9:00 Group work for other WGs	8:00 Meteo and Flight 4. Departure to experimental site. Equipment and site preparation (flight targets). 9:00 Group work for other WGs	Lecture 16: Coastal meteorology 2. Air Sea Land interactions [MM]	7:30 Departure from Shannon to Mace Head Atmospheric Research Station	FINAL REPORTING Scientific Working Group 1: Presentation Scientific Working Group 2: Presentation Scientific Working Group 3: Presentation
10:30-11:00	Coffee break	Coffee break	Coffee break		Coffee break
11:00-12:15	Group work for other WGs	Group work for other WGs	Lecture 17: Remote vs ground measurements of aerosols and their impact on climate [DC]		11:00 to 11:30 Scientific Working Group 4: Presentation 11:30 to 12:00 Conclusions
12:15-13:00	Met Forecast Discussion: Weather forecast of Meteo-France for July 1 and decision about flight plan for FLIGHT 4 – Inform Airport Authorities				
13:00-14:00	Lunch	Lunch	Lunch	Packed lunch at the site	12:15 -13:15 Lunch
14:00-15:00	Lecture 12: Flux estimations [IF]	Lecture 14: Marine Aerosols [DC]	Student activity 6: Measured data analysis &/or tutorials with analysis tools. Student presentations preparation.		14:00 Departure to Dublin international airport by shuttle bus
15:00-15:30	Coffee break	Coffee break	Coffee break		
15:30-16:30	Lecture 13: Airborne measurements of aerosols and clouds 2 [FC]	Lecture 15: 15:30-17:00 Coastal meteorology 1 . Concepts and equations [MM]	FREE AFTERNOON		
16:30-18:30	Student activity 4: Measured data analysis &/or tutorials with analysis tools. Brief report of Flight 3 from associated WG.	Student activity 5 17:00-18:30: Measured data analysis &/or tutorials with analysis tools. Brief report of Flight 4 from associated WG.			
18:30 -19:00				18:30 Estimated arrival in Shannon	
19:00-20:00	Dinner	Dinner	Dinner	Special Dinner	

(*) Depending on weather forecast and on the flight goals, the flight can be moved to the afternoon. Then, the afternoon program will be moved to the morning.

Training School Organizers

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Trainers

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DC – Darius Ceburnis - National University of Ireland Galway, Ireland, darius.ceburnis@nuigalway.ie	EUFAR trainer
OH – Olivier Henry - Meteo France, Toulouse, France, olivier.henry@meteo.fr	EUFAR trainer
Dominique Duchanoy (Captain), Guillaume Seurat (Pilot), Pierre Vitupier (Flight engineer) Tetyana Jiang, Cyrille Rioux, Hubert Bellec, Frédéric Pouvesle, Michel Cluzeau (Test engineers), Jean-Christophe Canonici (Ground coordinator)	SAFIRE staff (9 people)

Group tutors

FC – Francesco Cairo, CNR – ISAC, Rome, Italy, f.cairo@isac.cnr.it	Group 1 Tutor
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