7th International Training School on
CONVECTIVE AND VOLCANIC CLOUDS (CVC)
detection, monitoring and modelling
5-13 September 2022

In memory of Prof. Frank Silvio Marzano

Keynote lecturers	**Lecturers**
G. Grainger (Univ. Oxford, United Kingdom) ***Dorinel Visoiu*** (ROMATSA, Romania) ***Marcello Miglietta*** (ISAC-CNR, Italy) **Lecturers** *Riccardo Biondi* (Univ. of Padova, Italy) *Frances Beckett* (MetOffice, UK) *Tatjana Bolic* (Univ. of Westminster, UK) *Hugues Brenot* (BIRA, Belgium) *Alejandro Cervantes* (Univ. Int. de la Rioja, Spain) *Stefano Corradini* (INGV, Italy) *Markus Kerschbaum* (Austro Control, Austria)	*Nina Kristiansen* (MetOffice, UK) *Lorenzo Labrador* (WMO) *Mario Montopoli* (ISAC-CNR, Italy) *Antonio Parodi* (CIMA Foundation, Italy) *Vincent Realmuto* (JPL, USA) *Giuseppe Salerno* (INGV, Italy) *Simona Scollo* (INGV, Italy) *Manuel Soler* (UC3M, Spain) *Nicolas Theys* (BIRA, Belgium) *Cecilia Tirelli* (IFAC-CNR, Italy) *Marco Temme* (DLR, Germany)

Local organizing committee	**Local Organization**
Riccardo Biondi (Univ. of Padova, Italy) Cecilia Tirelli (IFAC-CNR, Italy) Stefano Corradini (INGV, Italy) Giuseppe Salerno (INGV, Italy) Simona Scollo (INGV, Italy)	Island Of Meetings by ER srls Phone: +39 3931302769 Email: info@islandofmeetings.com www.islandofmeetings.com

Program

	Monday 5 Sep	Tuesday 6 Sep	Wednesday 7 Sep	Thursday 8 Sep	Friday 9 Sep
Early morning		jogging		jogging	
08.20-09.10	G. Grainger (1)	F. Beckett (5)	G. Salerno (10)	Lab satellite (14)	Excursion to the Etna craters
09.20-10.10	G. Grainger (1)	F. Beckett (5)	S. Scollo (11)	Lab satellite (14)	
	Coffee break	Coffee break	Measurement Campaign (12)	Coffee break	
10.30-11.20	M. Montopoli (2)	N. Kristiansen (6)		Data analysis (15)	
11.30-12.20	M. Montopoli (2)	N. Kristiansen (6)		Data analysis (15)	
Lunch 12.30					
14.00-14.50	N. Theys (3)	Lab modeling (7)		Data comparisons (16)	
15.00-15.50	N. Theys (3)	Lab modeling (7)		Data comparisons (16)	
	Coffee break	Coffee break	Coffee break	Coffee break	
16.10-16.00	V. Realmuto (4)	S. Corradini (8)	Student pres. (13)	Student pres. (17)	
17.10-18.00	V. Realmuto (4)	H. Brenot (9)	Student pres. (13)	Student pres. (17)	
Dinner 20.00					

	Saturday 10 Sep	Sunday 11 Sep	Monday 12 Sep	Tuesday 13 Sep
Early morning		jogging		jogging
08.20-09.10	D. Visoiu (18)	M. Miglietta (22)	SESAR meeting (26)	R. Biondi (30)
09.20-10.10	D. Visoiu (18)	M. Miglietta (22)	SESAR meeting (26)	R. Biondi (30)
	Coffee break	Coffee break	Coffee break	Coffee break
10.30-11.20	T. Bolic (19)	M. Montopoli (23)	A. Parodi (27)	L. Labrador (31)
11.30-12.20	T. Bolic (19)	M. Montopoli (23)	A. Parodi (27)	L. Labrador (31)
Lunch 12.30				
14.00-14.50	M. Temme (20)	M. Miglietta (24)	NWP Lab. (28)	C. Tirelli (32)
15.00-15.50	M. Temme (20)	Atm. Sound Lab (24)	NWP Lab. (28)	C. Tirelli (32)
	Coffee break	Coffee break	Coffee break	
16.10-16.00	M. Kerschbaum (21)	H. Brenot (25)	M. Soler (29)	A. Cervantes (32)
17.10-18.00	M. Kerschbaum (21)	H. Brenot (25)	M. Soler (29)	A. Cervantes (32)
Dinner 20.00				

Free time	**Student´s time**	**Labs**
Keynotes	**Lectures**	**Meals**

VOLCANIC MODULE: from Monday 5 September at 08:20 to Saturday 10 September at 18.00 – Lectures 1-21
Friday 9 September Excursion to the Etna's summit craters
CONVECTIVE MODULE: from Friday 9 September at 08:20 to Thursday 13 September at 18:00 – Lectures 18-33

(1) Hazardous volcanic clouds: state of the art, challenges and future (G. Grainger)
(2) Volcanic clouds monitoring from satellite in the MW spectral range (M. Montopoli)
(3) Volcanic clouds monitoring from satellite in the UV spectral range (N. Theys)
(4) Volcanic clouds monitoring from satellite in the TIR spectral range (V. Realmuto)
(5) Dispersion modelling of volcanic ash clouds (F. Beckett)
(6) Combining volcanic dispersion modelling and observations (N. Kristiansen)
(7) Volcanic clouds modeling Lab (F. Beckett and N. Kristiansen)
(8) Volcanic monitoring using ground based TIR systems (S. Corradini)
(9) Early warning systems (H. Brenot)
(10) Volcanic monitoring using ground based UV systems (G. Salerno)
(11) Volcanic monitoring using ground based VIS systems (S. Scollo)
(12) In situ measurements of the Etna plume by using different TIR and UV cameras (S. Corradini, R. Biondi, G. Salerno, H. Brenot)
(13) Oral presentations: Kampouri, John, Azouay, Fougnie, Axebrink, Delbrel, Saint, Romeo
(14) Satellite data analysis Lab (S. Corradini)
(15) Data analysis of the data acquired during the field campaign (S. Corradini and H. Brenot)
(16) Data comparisons from different sensors and platforms (S. Corradini, R. Biondi)
(17) Student's Poster presentations

(+) Excursion to the Etna's summit central craters

(18) Provision of early warnings on convective and volcanic clouds for aviation – current practices and future challenges (D. Visoiu)
(19) Decision support tools for ATM (T. Bolic)
(20) Ai traffic management and control during severe weather (M. Temme)
(21) What the controllers operationally need? (M. Kerschbaum)

(22) Atmospheric convection (M. Miglietta)
(23) Convection from the ground – Radar (M. Montopoli)
(24) Theory and atmospheric soundings Lab (M. Miglietta)
(25) The importance of the GNSS for weather forecasting (H. Brenot)

(26) SESAR SINOPTICA ATM Stakeholders meeting
(27) Numerical Weather prediction model (A. Parodi)
(28) NWP Lab (A. Parodi)
(29) Severe weather and flight trajectories (M. Soler)
(30) The use of GNSS Radio Occultations for “extreme clouds” detection and monitoring (R. Biondi)
(31) Deep convection from satellite (L. Labrador)
(32) Synergistic use of atmospheric data: the Complete Data Fusion method (C. Tirelli)
(33) Machine learning techniques (A. Cervantes)

In collaboration with