9th International Training School on
CONVECTIVE AND VOLCANIC CLOUDS (CVC)
detection, monitoring and modelling
5-13 October 2024

Keynote lecturers	Lecturers
Fred Prata (AIRES Ltd, Australia) **Dorinel Visoiu** (ROMATSA, Romania) **Marcello Miglietta** (ISAC-CNR, Italy)	*Riccardo Biondi* (CIMA Foundation, Italy) *Tatjana Bolic* (Univ. of Westminster, UK) *Hugues Brenot* (BIRA, Belgium) *Alejandro Cervantes* (Univ. Intern. de la Rioja, Spain) *Stefano Corradini* (INGV, Italy) *Lorenzo Guerrieri* (INGV, Italy) *J. Kerkmann* (Germany) *Mario Montopoli* (CNR, Italy) *Federica Pardini* (INGV, Italy) *Antonio Parodi* (CIMA Foundation, Italy) *Matteo Picchiani* (ASI) *Giuseppe Salerno* (INGV, Italy) *Simona Scollo* (INGV, Italy) *Nicolas Theys* (BIRA, Belgium) *Cecilia Tirelli* (CNR, Italy) *Mark Woodhouse* (University of Bristol, UK)

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

Program

*	Sat 5 Oct	Sun 6 Oct	Mon 7 Oct	Tues 8 Oct	Wed 9 Oct	Thu 10 Oct	Fri 11 Oct	Sat 12 Oct	Sun 13 Oct*
08.20-09.10		F. Prata (1)	N. Theys (7)	Etna Field Trip (+)	J. Kerkmann (13)	A. Parodi (18)	Field Measurements (25)	Data Analysis (26)	D. Visoiu (31)
09.20-10.10		F. Prata (2)	N. Theys (7)		J. Kerkmann (13)	A. Parodi (18)		Data Analysis (26)	D. Visoiu (31)
		Coffee break	Coffee break		Coffee break	Coffee break		Coffee break	Coffee break
10.30-11.20		M. Miglietta (3)	M. Montopoli (8)		M. Woodhouse (14)	H. Brenot (19)		Data Analysis (26)	C. Tirelli (32)
11.30-12.20		M. Miglietta (4)	M. Montopoli (9)		M. Woodhouse (15)	H. Brenot (20)		Data Presentation (27)	C. Tirelli (32)
Lunch 12.30									
14.00-14.50		Students Presentations (5)	S. Corradini (10)		M. Woodhouse (15)	S. Scollo (21)	Free Time	A. Cervantes (28)	R. Biondi (33)
15.00-15.50		Students Presentations (5)	S. Corradini (10)		F. Pardini (16)	G. Salerno (22)		A. Cervantes (29)	R. Biondi (33)
		Coffee break	Coffee break		Coffee break	Coffee break		Coffee break	
16.10-17.00		Students Presentations (6)	M. Picchiani (11)		F. Pardini (17)	L. Guerrieri (23)		T. Bolic (30)	
17.10-18.00		Students Presentations (6)	M. Picchiani (12)		F. Pardini (17)	Field Meas. Prep. (24)		T. Bolic (30)	
Dinner 20.00	Ice-Breaker				Social Dinner				

Field Trip and Measurements	**Student´s time**	**Labs**
Keynotes	**Lectures**	**Organized Meals**

*The schedule of Sunday 13 October will be sightly adjusted to finish at about 15:00 and get the time to reach the airport in the afternoon.

(1) Hazardous volcanic clouds: state of the art, challenges and future *(F. Prata)*
(2) Volcanic clouds monitoring from satellite in the TIR spectral range *(F. Prata)*
(3) Atmospheric convection *(M. Miglietta)*
(4) Theory and atmospheric soundings Lab (*M. Miglietta*)
(5) Students' oral presentations: Vasconez-Muller, Kumar, Balagizi, Bacles, Tanner, Dozzo, Naranjo, Nigro
(6) Students' poster presentations
(7) Volcanic clouds monitoring from satellite in the UV spectral range *(N. Theys)*
(8) Volcanic clouds monitoring in the MW spectral range *(M. Montopoli)*
(9) Convective clouds monitoring in the MW spectral range *(M. Montopoli)*
(10) Volcanic monitoring using ground based TIR systems *(S. Corradini)*
(11) Machine Learning (ML) techniques for volcanic clouds detection (*M. Picchiani*)
(12) ML Lab using SNAP (*M. Picchiani*)
(+) Field trip to the Etna summit craters
(13) Deep convection from satellite (*J. Kerkmann*)
(14) Volcanic Plume modelling *(M. Whoodhouse)*
(15) Volcanic Plume modelling Lab *(M. Whoodhouse)*
(16) Volcanic Cloud dispersion modelling *(F. Pardini)*
(17) Volcanic Cloud dispersion modelling Lab *(F. Pardini)*
(18) Numerical Weather prediction models *(A. Parodi)*
(19) GNSS for weather forecasting *(H. Brenot)*
(20) Volcanic monitoring using ground-based UV systems *(H. Brenot)*
(21) Volcanic monitoring using ground-based VIS systems *(S. Scollo)*
(22) Volcanic monitoring using ground-based UV systems *(G. Salerno)*
(23) Volcanic monitoring using ground-based IR systems *(L. Guerrieri)*
(24) Preparation for the field measurements *(S. Corradini)*
(25) In situ measurements of the Etna plume by using TIR and UV cameras
(26) Data analysis of the measurements acquired during the field campaign
(27) Data presentation of the measurements acquired during the field campaign
(28) Machine learning techniques (*A. Cervantes*)
(29) Machine learning techniques for convective clouds detection and retrieval Lab (*A. Cervantes*)
(30) Decision support tools for ATM (*T. Bolic*)

(31) Provision of early warnings on convective and volcanic clouds for aviation – current practices and future challenges (*D. Visoiu*)

(31) Provision of early severe weather warnings for aviation – current practices and future challenges (*D. Visoiu*)

(32) Synergistic use of atmospheric data: the Complete Data Fusion method (*C. Tirelli*)

(33) The use of GNSS Radio Occultations for "extreme clouds" detection and monitoring *(R. Biondi)*