



5<sup>th</sup> International Training School on

# Convective and Volcanic Clouds (CVC) detection, monitoring and modeling

Nicolosi, Italy, 2-10 October, 2019

<p><b>Keynote lecturers</b></p> <p><i>Fred Prata</i> (AIRES Ltd, Australia)  <i>Lorenzo Labrador</i> (WMO)  <i>Frank S. Marzano</i> (Univ. La Sapienza, Italy)  <i>Marcello Miglietta</i> (ISAC-CNR, Italy)  <i>M. Pavolonis</i> (NOAA, USA)  <i>Dorinel Visoiu</i> (ROMATSA, Romania)</p>	<p><b>Lecturers</b></p> <p><i>Frances Beckett</i> (MetOffice, UK)  <i>Riccardo Biondi</i> (Univ. of Padova, Italy)  <i>Tatjana Bolic</i> (Univ. of Trieste, Italy)  <i>Hugues Brenot</i> (BIRA, Belgium)  <i>Gordon Granger</i> (Univ. of Oxford, UK)  <i>Stefano Corradini</i> (INGV, Italy)  <i>Guergana Guerova</i> (Univ. of Sofia, Bulgaria)  <i>Mario Montopoli</i> (ISAC-CNR, Italy)  <i>Giuseppe Salerno</i> (INGV, Italy)  <i>Simona Scollo</i> (INGV, Italy)  <i>Mark Woodhouse</i> (Univ. of Bristol, UK)</p>
<p><b>Local organizing committee</b></p> <p>Riccardo Biondi (Univ. of Padova, Italy)  Valeria Cigala (Univ. of Padova, Italy)  Stefano Corradini (INGV, Italy)  Giuseppe Salerno (INGV, Italy)  Simona Scollo (INGV, Italy)  Antonio Cristaldi (INGV, Italy)</p>	<p><b>Local Organization</b></p> <p>Island Of Meetings by ER srls  Phone: +39 3931302769  Email: <a href="mailto:info@islandofmeetings.com">info@islandofmeetings.com</a>  <a href="http://www.islandofmeetings.com">www.islandofmeetings.com</a></p> 



### Program

	Wednesday 2 Oct	Thursday 3 Oct	Friday 4 Oct	Saturday 5 Oct	Sunday 6 Oct
Early morning		jogging		jogging	
08.20-09.10	F. Prata (1)	G. Salerno (5)	H. Brenot (7)	F. Beckett (11)	Excursion (+)
09.20-10.10	F. Prata (1)	G. Salerno (5)	H. Brenot (7)	F. Beckett (11)	
	Coffee break	Coffee break	Coffee break	Coffee break	
10.30-11.20	F. Marzano (2)	S. Scollo (6)	G. Grainger (8)	M. Woodhouse (12)	
11.30-12.20	F. Marzano (2)	S. Scollo (6)	G. Grainger (8)	M. Woodhouse (12)	
Lunch 12.30					
14.00-14.50	F. Prata (3)	Students pres. (*)	S. Corradini (9)	Lab modeling (13)	
15.00-15.50	F. Prata (3)	Students pres. (*)	S. Corradini (9)	Lab modeling (13)	
	Coffee break	Coffee break	Coffee break		
16.10-16.00	M. Pavolonis (4)	Poster pres. (**)	Lab satellite (10)	Lab modeling (14)	
17.10-18.00	M. Pavolonis (4)	Poster pres. (**)	Lab satellite (10)	Lab modeling (14)	
Dinner 20.00					

	Monday 7 Oct	Tuesday 8 Oct	Wednesday 9 Oct	Thursday 10 Oct
Early morning		jogging		
08.20-09.10	M. Miglietta (15)	Students pres. (*)	Lab satellite (21)	Lab GNSS (25)
09.20-10.10	M. Miglietta (15)	Students pres. (*)	Lab satellite (21)	Lab GNSS (25)
	Coffee break	Coffee break	Coffee break	Coffee break
10.30-11.20	M. Miglietta (16)	Poster pres. (**)	M. Montopoli (22)	T. Bolic (26)
11.30-12.20	M. Miglietta (16)	Poster pres. (**)	M. Montopoli (22)	T. Bolic (26)
Lunch 12.30				
14.00-14.50	Lab convection (17)	L. Labrador (19)	G. Guerova (23)	
15.00-15.50	Lab convection (17)	L. Labrador (19)	G. Guerova (23)	
	Coffee break	Coffee break	Coffee break	
16.10-16.00	Visoiu (18)	L. Labrador (20)	R. Biondi (24)	
17.10-18.00	Visoiu (18)	L. Labrador (20)	R. Biondi (24)	
Dinner 20.00				



Free time	Student's time	Labs
Keynotes	Lectures	Meals

**VOLCANIC MODULE: from Wednesday at 08:20 to Saturday at 18.00 – Lectures 1-14**

**Excursion to the Etna's summit central craters**

**CONVECTIVE MODULE: from Monday at 08:20 to Wednesday at 12:30 – Lectures 15-26**

- (1) Hazardous volcanic clouds: challenges, techniques and future (*F. Prata*)
- (2) Volcanic clouds from and hyper-spectral satellite instruments (*F. Prata*)
- (3) Volcanic cloud detection and monitoring from ground based radars (*F. Marzano*)
- (4) Convective Hazard Monitoring in the "Big Data" Era (*M. Pavolonis*)
- (°) E: Bonilla, A. Prata, V. Cigala, J. De Leeuw, J. Bruckert
- (°°) A. Michaud-Dubuy, L. Di Antonio, J. Atkinson, C. Lamotte, J. L. Guerrero Rascado, A. Capponi, F. Zarei, P.-Y. Tournigand
- (5) Volcanic degassing and monitoring (*G. Salerno*)
- (6) Volcanic ash emission and monitoring (*S. Scollo*)
- (7) Early warning systems (*H. Brenot*)
- (8) Retrieval theory and applications with satellite spectrometers (*G. Grainger*)
- (9) Volcanic clouds detection and retrievals by using multispectral satellite data (*S. Corradini*)
- (10) Satellite volcanic clouds Lab (*S. Corradini and E. Carboni*)
- (11) Volcanic clouds transport and inverse modeling (*F. Beckett*)
- (12) Volcanic plumes modeling (*M. Woodhouse*)
- (13) Volcanic clouds modeling Lab (*M. Woodhouse and F. Beckett*)
- (14) Volcanic clouds modeling Lab (*M. Woodhouse and F. Beckett*)

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

- (15) Theory and atmospheric soundings (*M. Miglietta*)
- (16) Convection, Cyclones and orography (*M. Miglietta*)
- (17) Atmospheric soundings Lab. (*M. Miglietta*)
- (18) Provision of early warnings on convective and volcanic clouds for aviation – current practices and future challenges (*D. Visoiu*)
- (\*) A. Jardines, E. Lasota, E. Andres, D. Aslayan
- (\*\*)



- (19) Convection from satellite (*L. Labrador*)**
- (20) Deep convection and atmospheric transport (*L. Labrador*)**
- (21) Lab satellite**
- (22) Convection from the ground – Radar (*M. Montopoli*)**
- (23) Convection detection and monitoring from ground based GNSS receivers (*G. Guerova*)**
- (24) The use of GNSS Radio Occultations for sounding the atmosphere and extreme atmospheric events (*R. Biondi*)**
- (25) The use of ground based and satellite GNSS measurements – practice (*R. Biondi and G. Guerova*)**
- (26) Convective weather decision support tools for ATM (*T. Bolic*)**

