6th International Training School on

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

6-17 September, 2021

Invited lecturers	**Lecturers**
Fred Prata (AIRES Ltd, Australia) ***Lorenzo Labrador*** (WMO) ***Frank S. Marzano*** (Univ. La Sapienza, Italy) ***Marcello Miglietta*** (ISAC-CNR, Italy) ***M. Pavolonis*** (NOAA, USA)	*Tatjana Bolic* (Univ. of Trieste, Italy) *Guergana Guerova* (Univ. of Sofia, Bulgaria) *Nina Kristiansen* (UK MetOffice) *Mario Montopoli* (ISAC-CNR, Italy) *Antonio Parodi* (CIMA Foundation, Italy) *Giuseppe Salerno* (INGV, Italy) *Manuel Soler* (Univ. Carlos II Madrid, Spain)

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

Istituto Nazionale di Geofisica e Vulcanologia

DIPARTIMENTO DI GEOSCIENZE

	Monday 6 Sept	Wednesday 8 Sept	Thursday 9 Sept	Friday 10 Sept
8:30-10:00	F. Prata (1)			
10.00-11.30	F. Prata (1)	F. Marzano (2)	ENGAGE Workshop	N. Kristiansen (3)
11.45-13.15		G. Salerno (2)	ENGAGE Workshop	
13.15-15.00			ENGAGE Workshop	
16:00-17:30				M. Pavolonis (4)

	Monday 13 Sept	Tuesday 14 Sept	Thursday 16 Sept
09:00-10:30			T. Bolic (10)
10.00-11.30	M. Miglietta (5)	L. Labrador (7)	
11.45-13.15		M. Montopoli (8)	M. Soler (11)
14.15-15.45		G. Guerova (9)	
15.00-16.30	A. Parodi (6)		

VOLCANIC MODULE (Lectures)

1. **Volcanic clouds detection and retrievals from satellite: challenges, techniques and future *(F. Prata) (3 hours)***
2. **Volcanic clouds detection and retrievals from ground based systems *(F. Marzano and G. Salerno) (3 hours)***
3. **Volcanic clouds transport and inverse modeling *(N. Kristiansen) (1,5 hours)***
4. **Volcanic Hazard Monitoring in the "Big Data" Era *(M. Pavolonis) (1,5 hours)***

CONVECTIVE MODULE (Lectures)

5. **Theory of convection (*M. Miglietta*) *(1,5 hours)***
6. **Convection from satellite (*L. Labrador*) *(1,5 hours)***

7. **Numerical Weather prediction model (*A. Parodi*) *(1,5 hours)***
8. **Convection from radar (*M. Montopoli*) *(1,5 hours)***
9. **Convection from GNSS *(G. Guerova) (1,5 hours)***

AVIATION MODULE (Lectures)

10. **Decision support tools for ATM (T. Bolic) (1,5 hours)**
11. **Severe weather and flight trajectories (M. Soler) (1,5 hours)**

ENGAGE WORKSHOP

9th of Septemeber 10:30-15:00

This workshop will explore meteorological and environmental topics requiring future research, development or community collaboration. The workshop will start with the panel discussing the MET & ENV topics requiring future developments from the scientific or technical point of view, intertwining suggestions from the audience. The following panel will discuss the paths and time need to cross from the basic research to implementation, and how these can be improved. We conclude the workshop with the discussion inviting participants to help us identify the elements needed in the future to facilitate the research (e.g data sharing, common platform, etc.), collaboration and shortening the time of the innovation pipeline for MET and ENV topics. The discussion will draw on a poll taken in advance of the workshop - what research infrastructure and future research can we already propose for SESAR 3, for example?

Draft agenda:

1. Welcome and introduction to the workshop (15 minutes)
2. Overview of MET and ENV topics being researched in SESAR 2020 (15 minutes)
3. Panel view on future MET and ENV research (45 minutes)
4. Coffee break (15 minutes)
5. Panel view on paths and time to MET and ENV products deployment. (45 minutes)
6. Lunch break (60 min)
7. Discussion on research, development and deployment "infrastructure" needed in the future for fast innovation cycles in MET. (45 minutes)
8. Wrap up (15 minutes)