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## **Report on the 36th International Conference on Alpine Meteorology**

**(19-23 June 2023, St. Gallen, Switzerland)**

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I want to express my sincere gratitude to the European Meteorological Society for supporting me with the Young Scientist Conference Award (YSCA) to participate in the 36th International Conference on Alpine Meteorology (ICAM) in St. Gallen (Switzerland), and for recognizing my work as an early career scientist.

ICAM is a conference with a long history (the first one was in Milan&Turin 1950) that bring together scientists of mountain meteorology from all over the world, especially from Alpine countries and from the United States. ICAM is held bi-annually in one of the ICAM member countries (Austria, Croatia, France, Germany, Iceland, Italy, Slovenia, Switzerland, United Kingdom).

The 36<sup>th</sup> ICAM was very well organized at the Conference Einstein Hotel in the city centre of St. Gallen from the 19<sup>th</sup> to the 23<sup>rd</sup> of June 2023 by MeteoSwiss and ETH. It was a hybrid event: there was the possibility to attend the conference both in presence and online. Even if the hybrid option was a challenging decision, it was successful: there were about 130 people in presence and about 30 people remotely connected to the conference. The poster session was completely online on the 27<sup>th</sup> of June 2023, but during the plenary sessions there were poster pitches (90 seconds for each speaker).

The conference covered a wide range of topics about alpine meteorology, ranging from dynamics of orographically forced airflow to boundary layer processes and numerical weather prediction over complex terrain, mountain climate, renewable energies and future field campaigns. In particular, emphasis was given to the upcoming TEAMx field campaign: it will be held from winter 2024 to summer 2025 in Germany, Austria and Italy, to understand better the multiscale processes in complex terrain. I really appreciated the presentation of Manzato about convection initiation in the Alpine region; the presentation of Durran about the current limit of numerical weather prediction in mountain terrain; and the presentation of Schär, who gave an insightful overview of the history of numerical weather prediction over complex terrain.

I presented an oral presentation untitled "The effect of complex orography on the development of a tornadic outbreak in the Po Valley". We analysed a tornadic outbreak that occurred on the 19<sup>th</sup> September 2021 both in terms of observations and numerical simulations. We found that different flow regimes of the southwesterly flow crossing the Apennines, may shift and dramatically modify supercell development in the Po Valley. Then, we found a relation between the Froude number of the southwesterly flow (an index used in the context of mountain meteorology) to the Updraft Helicity in the Po Valley (an index used by the severe storm community).

The 36<sup>th</sup> ICAM was an exciting conference, that allowed me to create connections with other scientists, receive useful insights for my own research and broad my understanding of mountain meteorology. I think that this conference will be significantly beneficial for my Ph.D.

To conclude, taking part in this conference was a very important step for my professional and scientific growth. I am extremely grateful to the EMS for supporting my participation with YMCA, and to ICAM organizers for selecting my abstract for an oral presentation. I would also sincerely acknowledge Silvio Davolio, Mario Marcello Miglietta and Vincenzo Levizzani (CNR-ISAC) who supported me in preparing my research. I am looking forward for the 37<sup>th</sup> ICAM in Croatia 2025!