# AtmoHEAD 2022
## ATmospheric MOnitoring for High Energy Astroparticle Detectors
### Villa Orlandi – Anacapri (Island of Capri (NA) - Italy)
### July 13th - 15th , 2022

## FIRST CIRCULAR

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We are pleased to announce the ATmospheric MOnitoring for High Energy Astroparticle Detectors - AtmoHEAD 2022 conference which will be held in Anacapri - Island of Capri (Italy) from 13th to 15th July, 2022.

**AtmoHEAD is a periodic 3-days international workshop on the influence of the atmosphere on high-energy cosmic-ray and gamma-ray astroparticle detectors. The 2022 workshop is focused on atmospheric monitoring and on the detection and study of events related to atmospheric electricity.**

The event follows the tradition of previous AtmoHEAD conferences - AtmoHEAD 2013 in Saclay, 2014 in Padova, 2016 in Olomouc and 2018 in Anacapri.

The atmosphere is an integral component of many high-energy astroparticle detectors. These include Imaging Atmospheric Cherenkov Telescopes (IACTs) and ground or space based cosmic-ray extensive air shower detectors. All these observatories use the atmosphere as a giant calorimeter where cosmic rays and gamma rays deposit their energy and initiate extensive air showers; it is also the medium through which the resulting Cherenkov and Fluorescence light propagates, and through which it is attenuated and scattered before reaching the detectors. Clearly, a precise and quantitative monitoring of the atmospheric aerosol and molecular conditions are mandatory for an accurate reconstruction of the detected events. Moreover, in the last years there is a growing interest in the detection of electrical phenomena (ELVES, TGFs, ...) developed in atmosphere with high-energy astroparticle detectors, which represent a unique opportunity to study the characteristics of these events with large statistics and precision.

New and common monitoring and calibration instruments including lidars, distant laser facilities, cloud monitors, all sky cameras, sun/moon photometers, satellite observations, lightning sensors, as well as simulations, are among the most important tools of these observatories.

The workshop focuses on the state-of-the-art and future perspectives of techniques and instruments.

The main topics of the conference, treated in dedicated sessions, are :

- the influence of the atmosphere on the measurements of present and future UHECR and gamma-ray experiments
- terrestrial gamma-ray flashes, transient luminous events and general topics in atmospheric electricity
- analysis techniques and instruments
- public global data sets, models and simulations

The workshop aims to encourage discussions among participants of different but complementary fields, allocating specific time slots for discussion.

AtmoHEAD 2022 proceedings will be published by EPJ-Web of Conferences and they are requested to be submitted right before the beginning of the conference.

 Important dates and deadlines:

- Registration : from March 14$^{th}$ to June 13$^{th}$, 2022
- Abstract Submission: Apr 25$^{th}$, 2022
- Notification of Acceptance: May 2$^{nd}$, 2022
- Conference dates: July 13$^{th}$ - 15$^{th}$, 2022
- Proceeding Submission: July 6$^{th}$, 2022

The conference will start in the morning of July 13$^{th}$ and will end by lunchtime of July 15$^{th}$

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*AtmoHEAD 2022 is organized by the Department of Physics "E. Pancini " of the University of Napoli Federico II and by the Napoli  Division of the National Institute of Nuclear Physics (INFN).*

*The AtmoHEAD 2022 Local Organizing Committee :*

Carla Aramo
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*The AtmoHEAD 2022 Scientific Organizing Committee :*

1. Rasha Abbasi        Loyola Physics Department – Chicago (USA)
2. Ashot Chilingarian   Yerevan Physics Institute, Yerevan (Armenia)
3. Bruce Dawson        University of Adelaide, Adelaide (Australia)
4. Joseph Dwyer         University of New Hampshire – Durham (USA)
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Conference Web site: https://agenda.infn.it/event/30210/