

“A scuola di Astroparticelle”: a synergy between school education and scientific research

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The outreach program “**A scuola di Astroparticelle**” was born in 2016 with the idea to **engage teachers and students of High Secondary Schools in astroparticle physics projects**

→ since 2018, the program is part of OCRA - Outreach Cosmic Ray Activities - a national outreach project of INFN which collects outreach local activities in cosmic-ray field.

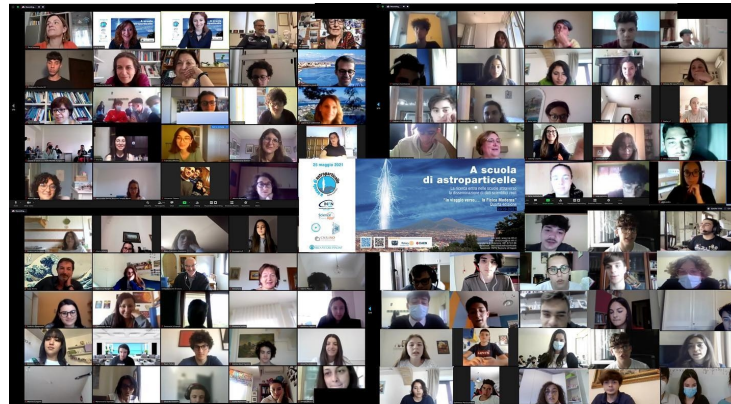
→ the program is also part of the Italian Educational Program PCTO – “Percorsi per le Competenze Trasversali e per l’Orientamento”, whose purpose is that students earn abilities to interact and work with others, problem solving skills, creativity, critical thinking, awareness, and capacities to address the complexity and uncertainty of changes.

“A scuola di Astroparticelle” fully satisfies PCTO requests.

The third edition (2018/2019) involved 18 schools for a total of 21 projects on several topics.

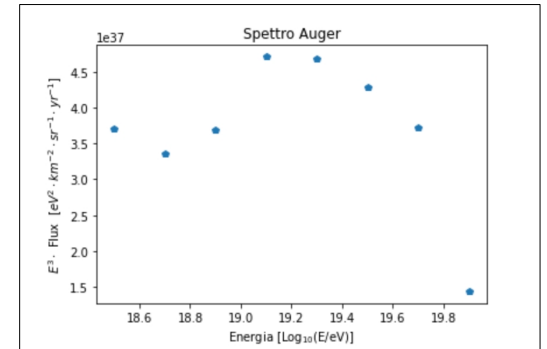
Students discover the life of researchers and take their place:

- they learn to investigate, build detectors, analyze data, solve problems;
- they learn to work in group;
- they learn to present the results of their work.



The COVID-19 pandemic didn’t stop “A scuola di Astroparticelle” and the eagerness to learn of 300 young students/researcher.

Being a researcher using the public data (DOI:10.5281/zenodo.4487613) of the Pierre Auger Observatory: **the measurement of the energy spectrum of high-energy cosmic rays.**



Python notebooks available on the OCRA webpage (<https://web.infn.it/OCRA/analisi-dati-dellosservatorio-auger/>) helped students in their work.

Students were enthusiastic about this experience. They used the newly acquired knowledge also for their final exam and the work done was highly appreciated by the jury.