

**Title:** New digital electronics for the AGATA array

**Description:** The AGATA gamma-ray array is the state-of-the-art European gamma-ray array aiming to provide the most complete and accurate nuclear gamma-spectroscopy measurements. Its only equivalent in the world in terms of overall performances is the GRETA array in the USA. The AGATA array, currently being installed at the Legnaro National Laboratories (LNL), is covering a solid angle of  $1\pi$ , and is coupled to the large acceptance magnetic spectrometer PRISMA. The AGATA digital sampling electronics is a fundamental part of the development since the processing of the sampled signals is in the core of the position sensitivity of the instrument. At the end of 2022, the new version of the AGATA digital electronics will be installed. This implies a full characterization of the performances of the new electronics and its readout. The student will be involved in all the tests, integration and installation of the newly built electronic chain and its readout via ethernet. The new electronics channels are the key to extend the number of available channels and consequently the efficiency, sensitivity, and solid angle coverage of the array.

**Activities:** Hands-on digital electronics, data analysis.

**Tutor:** Alain Goasduff ([alain.goasduff@lnl.infn.it](mailto:alain.goasduff@lnl.infn.it))

**Activity period:** September/October 2022

**Local Secretariat:** Luisa Pegoraro ([luisa.pegoraro@lnl.infn.it](mailto:luisa.pegoraro@lnl.infn.it))

**Other information:**

LNL Summer closing period August 4 – 29

Free lunch at LNL Canteen

LNL Free Guesthouse

Agata website: <https://agata.org>

Local gamma group webpage: <http://gamma.lnl.infn.it/>