

NCSR “Demokritos”



Institute of Nuclear and Particle Physics

Christos Markou

29/6/2026



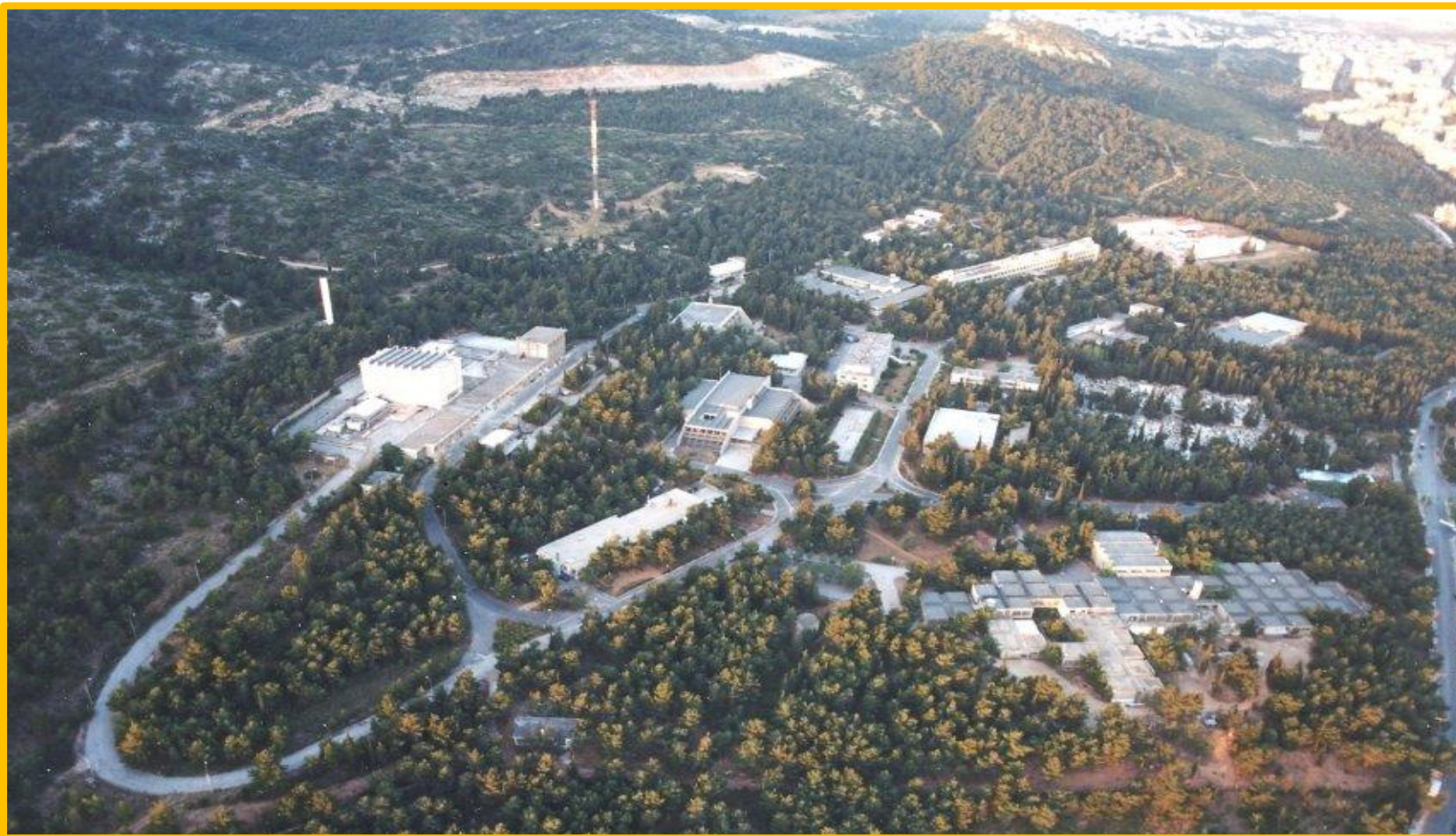
July 31, 1961

Inauguration of GRR-1

(Greek Research Reactor-1)







Human
Resources



Personnel
TOTAL

1.000

700
Scientific Personnel

300
Administrative
Technical
Support Personnel



The Institutes



**Informatics &
Telecommunications**



Biosciences & Applications



**Nanoscience &
Nanotechnology**



Nuclear & Particle Physics



**Nuclear & Radiological
Sciences, Energy & Safety**



**Quantum Computing &
Quantum Technology**



***Microengineering,
Microelectronics,
Microsystems***



Scientific Identity, our Mission

INPP is a unique research Institute in Greece in the fields of Nuclear and Particle Physics.

INPP is a, predominantly, [fundamental research institution](#), with activities focused on the areas of [High Energy Particle Physics \(HEP\)](#), [Nuclear Physics \(NP\)](#) and [Astroparticle Physics \(APP\)](#), with experimental and theoretical activities in these main research areas.

The main mission of INPP is to carry out world class experimental and theoretical research, achieve and retain scientific excellence and support innovation in High-Energy Physics, Nuclear Physics and Astroparticle Physics as well as their applications .



Personnel

15 Permanent/tenure track researchers

6 Staff scientists and technicians

2 Administrative personnel

1 Support personnel

4 research associates

12 Ph.D. candidates

14 Master and Undergraduate students

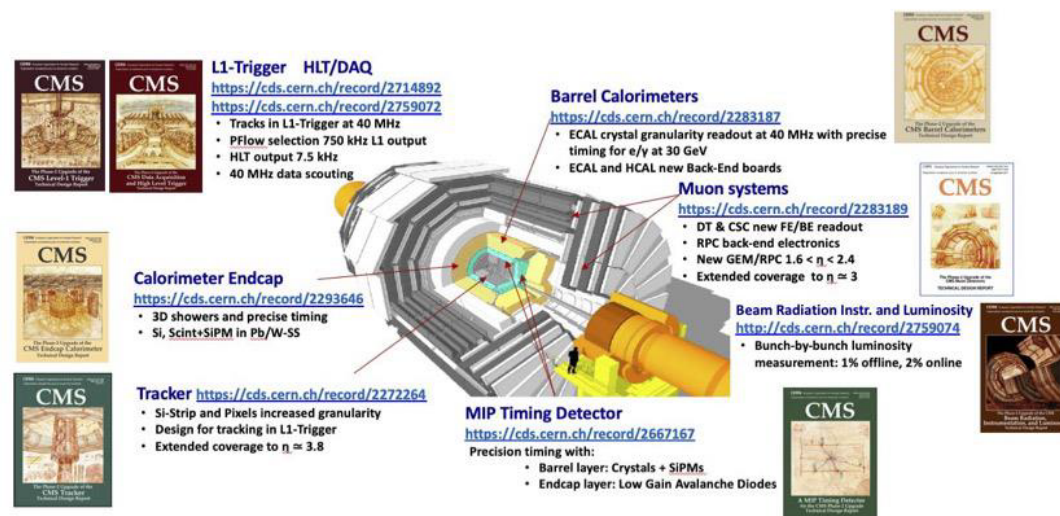
Experimental High Energy Physics – CMS

Part of the CMS in LHC since the inception of the experiment in the 1990s.

Development of the Si modules of the CMS Preshower of ECAL calorimeter, the global CMS trigger emulator project and numerous physics analyses.

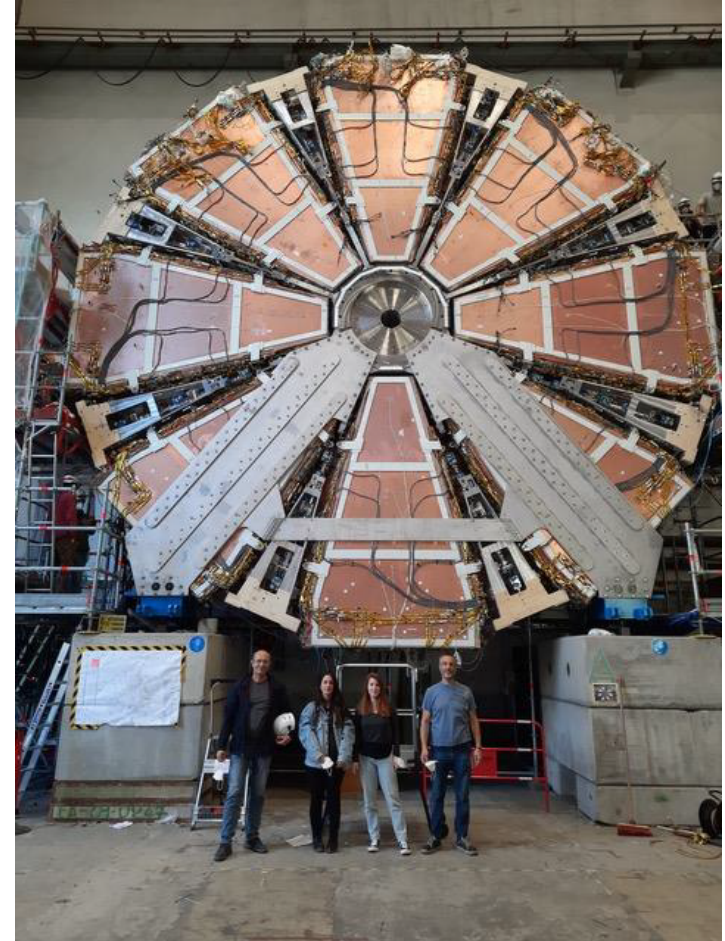
Since 2016, part of the Tracker Silicon project in view of the Phase II upgrade of the

CMS detector: development of the silicon sensors, the Data Acquisition System and the evaluation of the front-end electronics.



Experimental High Energy Physics – ATLAS

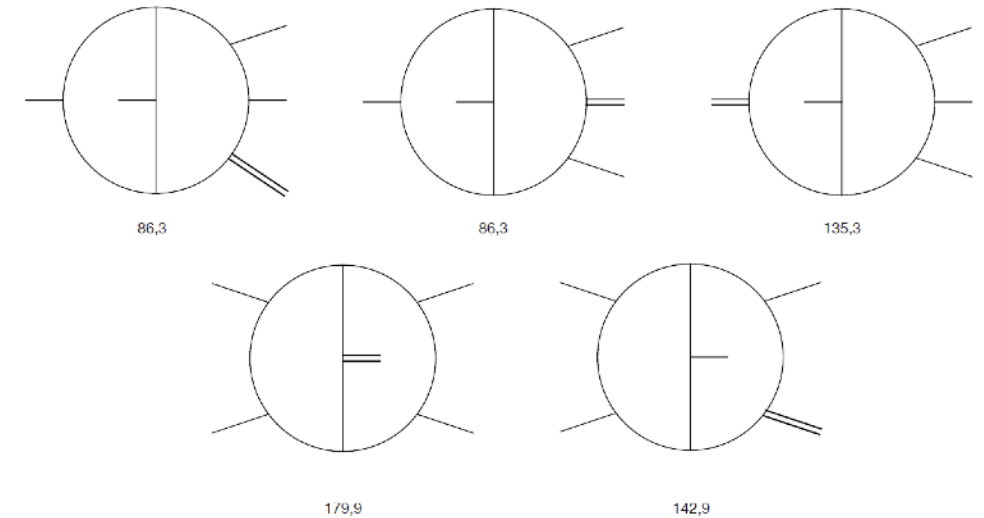
Contribution to the upgrade of the ATLAS detector, and in particular the **New Small Wheel (NSW) end-cap muon detector**. Heavy involvement in the construction of **electronics for the Trigger and the DAQ**, the **installation of the detector** and substantial responsibilities related to **Muon software Coordination** and the **sTGC Trigger Commissioning coordination**.



Theoretical High Energy Physics

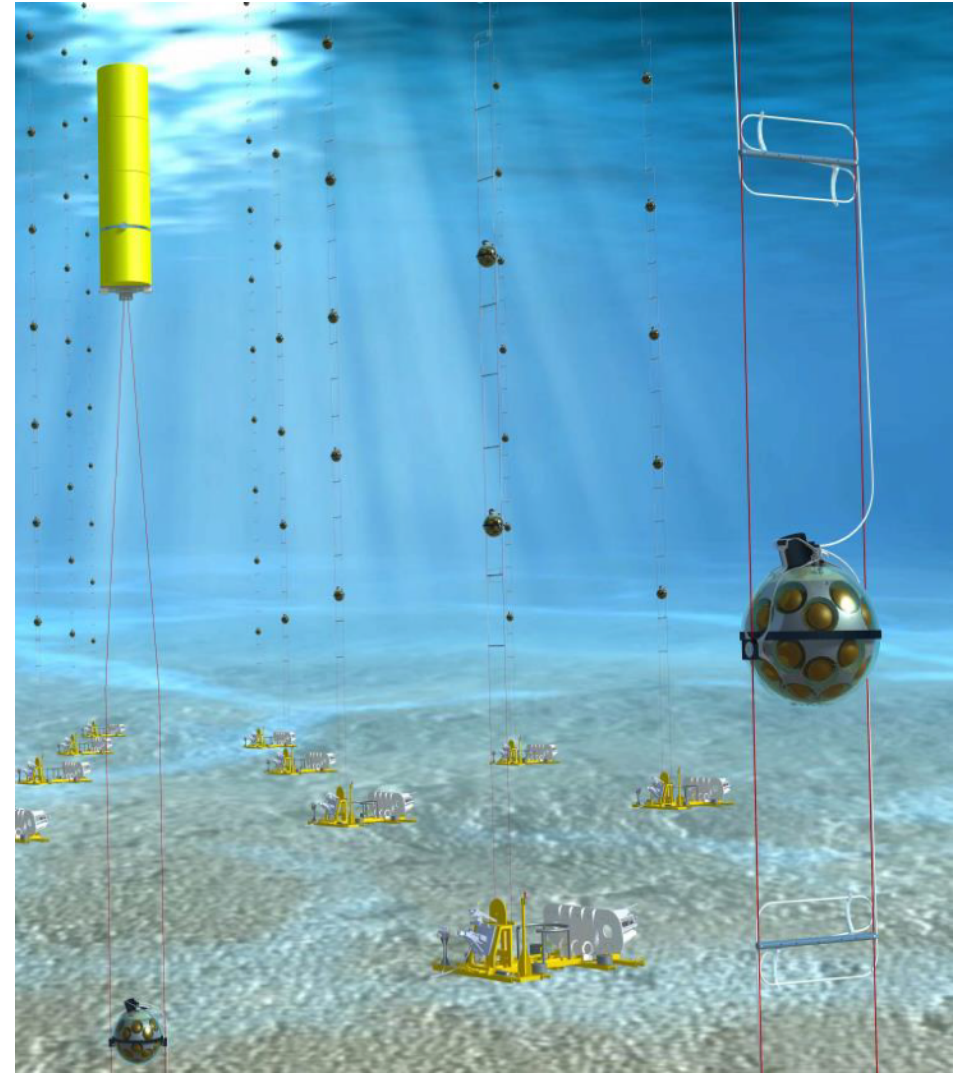
A very broad set of research topics ranging from [Quantum Field Theory](#), to [Scattering amplitudes](#) and [Particle Physics Phenomenology](#). Newest hire will expand the scope of research in the field of [Gravitational Waves](#) and related physics.

Strong ties with the our experimentalists.



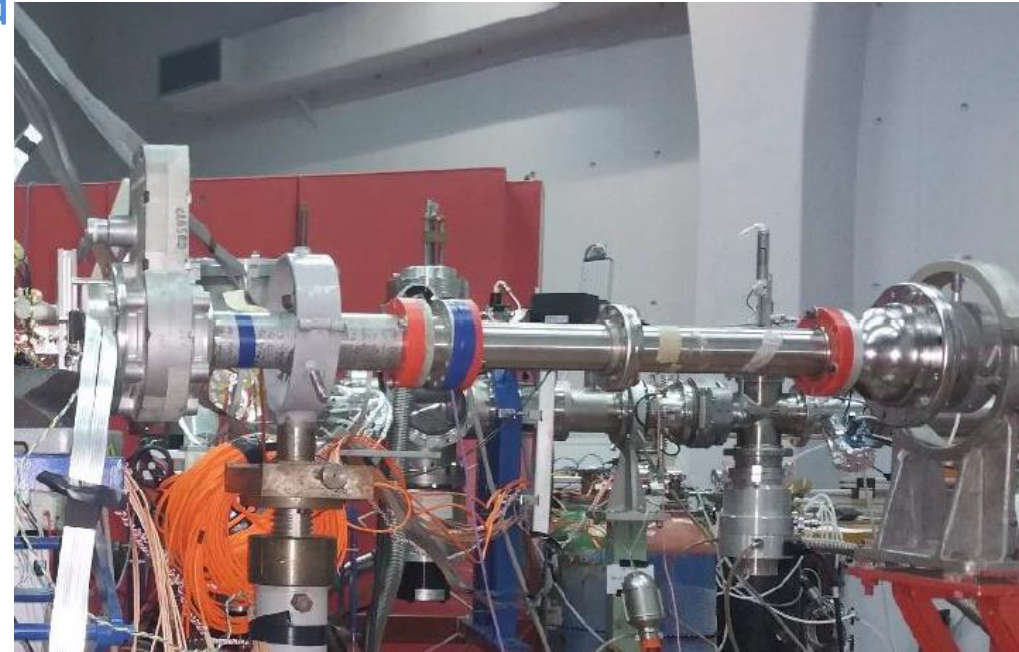
Astroparticle Physics

The group is part of the [KM3NeT](#) collaboration building a network of [underwater neutrino telescopes](#) in the Mediterranean Sea. [Development, construction, testing and validation of detector components, data collection and data analysis.](#) The INPP hosts a lab of [assembly, testing and calibration of Digital Optical Modules](#). Active program for the development of [novel neutrino detection techniques](#), and synergies with [geo-and marine scientists](#) and expansion of the experimental program. We also participate in [Hyper-K](#) in Japan, and [Annie](#) in FermiLab.



Nuclear Physics and Applications

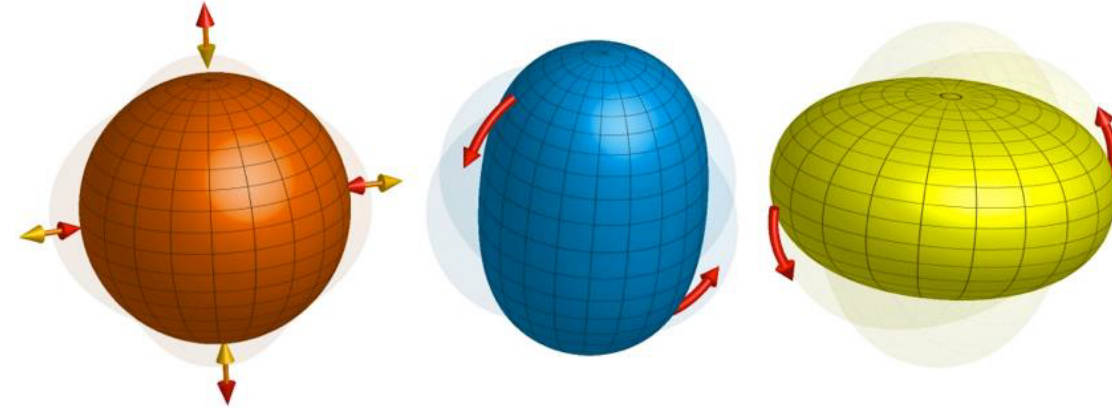
Experimental studies on [nuclear astrophysics](#) and [nuclear structure](#), interactions of [ion beams](#) and [X-rays with matter](#). Key infrastructure are the [Tandem Accelerator \(TAL\)](#) and [XRF Laboratory](#). Interdisciplinary applications with interest in [emerging technologies](#), [cultural heritage](#), [environmental monitoring](#), [human health](#), etc. The XRF lab provides technology transfer and on-site analytical services at [museums](#), [archaeological sites](#), etc. Joint research with national and European collaborators. TAL has undergone a major upgrade under the CALIBRA project, with a PET Cyclotron and an AMS just being added to the infrastructure.



Theoretical Nuclear Physics

Focusing on the study of nuclear structure, the Nuclear Theory Group achieved a breakthrough in 2017 with the introduction of the [proxy-SU\(3\) symmetry](#), for calculating the properties of medium mass and heavy Nuclei away from closed shells.

The proxy-SU(3) symmetry has recently produced [important, parameter-independent](#) predictions on the occurrence of [shape coexistence](#) and has triggered experimental proposals for its verification.



Thank you for joining us in INPP!

Looking forward to continuing a long-term fruitful
collaboration!

