

CONFERENCE SCOPE AND FRAMEWORK

ANIMMA

Conference brings together scientific, academic and industrial communities interested or actively involved in the R&D related to nuclear instrumentation and measurement methods.

The program is focused on instrumentation but emphasizes the latest developments in all measurement stages: signal detection, modeling, electronics treatment, signal acquisition and analysis, modeling interpretation and associated training/education activities.

ANIMMA offers an outstanding opportunity for scientists and engineers to meet and discuss new ways to address complex problems and find advanced solutions in nuclear instrumentation and measurement sciences and technologies.

ANIMMA INTERNATIONAL SUMMER SCHOOL-AISS

A three full days international school for a maximum of 40 students with an advanced program of courses will be held at the Instituto de Física Corpuscular (CSIC-UV) on June 7-9, 2025.

Starting from the physical principles, the courses will present a selection of applications of radiation detectors as well as nuclear measurements in various fields. The program will also include several classical sessions dedicated to the use of simulation software. Special emphasis will be put on hands-on demonstration sessions with state-of-the-art nuclear instrumentation equipment.

Updated information, detailed program and schedule will be available shortly.

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WORKSHOPS

A 1-day workshop session will be proposed on numerical works and on experimental R&D from fundamental physics to direct applications. Four topics will be addressed in parallel. This workshop session will be held on June 9 2025 at Hotel Meliá Valencia.

A detailed program will be available shortly on the conference website.

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STUDENT GRANTS

Financial support for a selected group of students is available. Best student papers and best posters awards will be offered. Detailed information will be given on the conference website.

CONTRIBUTIONS

Detailed instructions for the preparation of the papers, posters and oral presentations will be available on the conference website.

SPONSORSHIP AND INDUSTRIAL EXHIBITIONS

There will be exhibitions accompanying the conference, where industrials as well as research institutes and universities are invited to present and promote their products, offers or services at the conference. Furthermore, a special plenary session dedicated to additional intense promotion of the exhibitors is scheduled. Exhibitors will be also promoted as sponsors.

The sponsors will be listed in all publications related to the conference (on-line program, conference guidelines, printed material at the conference, website <http://www.animma.com>).

There are several levels of sponsorship. Platinum, gold and silver sponsorship including an exhibition booth as well.

ABSTRACTS

Authors are invited to submit their abstracts electronically through the Conference website:

<https://indico.utef.cvut.cz/event/40/abstracts/>
Please create an Indico account, login and submit the abstract using the Call for Abstracts tab. All abstracts will be reviewed by the scientific committee.

Accepted abstracts will be classified as either oral or poster contributions. Notification of acceptance or rejection will be sent to each author.

PUBLICATIONS

The associated papers to oral and poster contributions presented at the ANIMMA 2025 conference will be formally published as proceedings in the European Physical Journal Web Of Conferences EPJ-WOC with a specific ISBN reference number after a dedicated reviewing process. All ANIMMA 2025 published papers will be available online on the EPJ web page. Additionally, like at previous ANIMMA conference editions, a special IEEE TNS issue will be devoted to the ANIMMA 2025 conference.

SCIENTIFIC APPLICATION FIELDS: INSTRUMENTATION AND MEASUREMENT

FUNDAMENTAL PHYSICS

- nuclear and particle physics
- advanced electronics for radiation detection and radiation effects mitigation
- innovative data analysis methodologies
- simulation and modeling

SPACE SCIENCES AND TECHNOLOGY

- electronics and sensors vulnerability
- very low power and mass sensors
- miniaturization design techniques
- onboard control and data processing units
- robust and hardened architectures

FUSION DIAGNOSTICS AND TECHNOLOGY

- burning plasma diagnostics
- radiation hardened detectors and electronics
- experimental techniques for high-T plasmas
- high-availability electronics for DAQ and control

RESEARCH REACTORS AND PARTICLE ACCELERATORS

- calibration and tests of mock-up sensors under laboratory conditions (thermal-hydraulic, mechanical, thermal studies)
- radiation detection
- in-pile measurements of physical parameter including temperature, dimensions, gas release
- accelerator beam diagnostics and characterization
- material testing reactors safety experiments
- accelerator beam position monitors
- beam loss/beam profile measurement
- optical diagnostics
- collision rate measurement

NUCLEAR POWER REACTORS AND NUCLEAR FUEL CYCLE

- nuclear power plants (GEN II, GEN III, GEN III+)
- GEN IV reactors (SFR, LFR, VHTR, GFR,...)
- advanced modular reactors (AMR) & small modular reactors (SMR)
- simulation and modeling
- radioactive wastes management
- nuclear material and spent fuel
- nuclear fuel cycle facilities
- dismantling operations
- safeguards
- reprocessing plants
- nuclear material control and characterization
- nuclear fuel control and management

ENVIRONMENTAL AND MEDICAL SCIENCES

- advancements in mass spectrometry measurements
- application of radioactive tracers
- radiography, imagery, tomography
- methods in extreme conditions

NUCLEAR SAFEGUARDS, HOMELAND SECURITY AND CBRN

- illicit trafficking
- first responder prompt nuclear measurements intervention
- customs border inspections and access controls of radiological elements in transit
- radiological threats detection and identification
- high efficiency neutron measurements
- Active and Passive interrogation techniques (X-rays, gammas and neutrons)

DECOMMISSIONING, DISMANTLING AND REMOTE HANDLING

- materials and radioactive wastes management
- techniques and process improvements, radiological characterization, waste treatment, decontamination
- remote handling

SEVERE ACCIDENT MONITORING

- high temperature and pressure measurements
- radiation measurement in harsh media
- electronics hardening
- wireless and remote robotic measurements
- simulation and modeling

CURRENT TRENDS IN DEVELOPMENT OF RADIATION DETECTORS

- current trends in scintillator detectors and materials
- state-of-the-art radiation detectors for medical imaging
- engineering of scintillation materials and radiation technologies
- progress in the development of semiconductor radiation detectors

EDUCATION, TRAINING AND OUTREACH

- experimental sciences
- basics in instrumentation and measurement sciences and technologies
- measurement methods and their applications
- PhD. and summer schools, refresh courses
- communicating nuclear to the public