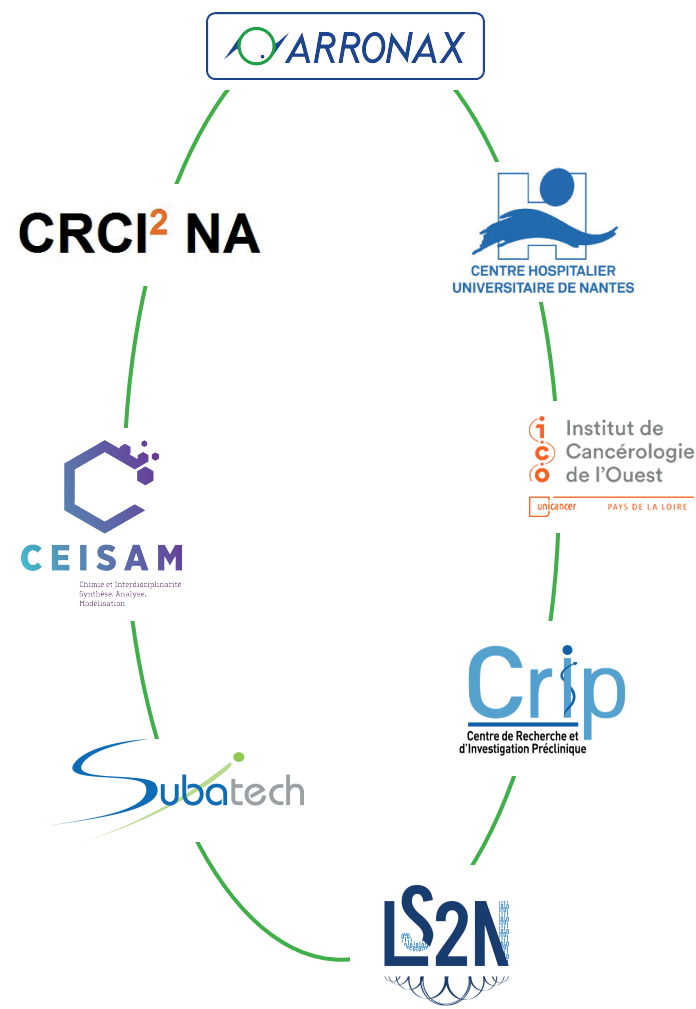


● **8 academic entities** engaged in basic research in physics, chemistry, biology and computer sciences for translational research in nuclear medicine



● **5 scientific and technological facilities** founded by the Equipex ArronaxPlus funded by the Future Investment Program (PIA))



www.arronax-nantes.fr/en
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Arronax Nantes members collaborate with high-level French and international academic teams to contribute to translational research in nuclear medicine.

At the regional level, Arronax Nantes has close interaction with the laboratory of excellence (LabEx) IRON and the SIRIC ILIAD. These exchanges enable researchers and hospital physicians to carry out high-quality and innovative research from bench to bedside.

Arronax Nantes is also open to the industrial world. It is done through contractual agreements between its members and companies, in particular from the pharmaceutical sector, and its involvement in the Atlanpole Biotherapies competitiveness cluster.



Translational Research in Nuclear Medicine



Production of radionuclides

Support the need for new radionuclides in nuclear medicine (β^+ , β^- and α) used in PET imaging, targeted radiotherapy and for the theranostics approach in oncology or cardiology.

- positron emission tomography (PET)
- β targeted therapy
- α targeted therapy

GIP ARRONAX
Subatech



Preclinical and clinical research

Provide a network of expertise and state-of-the-art equipment for preclinical imaging in rodents and large animals, and for clinical trials in nuclear medicine.

- rodent and large animal imaging
- clinical trials (promotion, investigation)
- artificial intelligence, radiomics

*Centre d'Imagerie Multimodale Appliquée (CIMA) - CRCI²NA
and University Hospital of Nantes
Centre de Recherche et d'Investigation Clinique (CRIP) - Oniris
University Hospital and ICO Nuclear Medicine Departments
LS2N*



Living and inert matter under beam

Study physical, chemical or biological transformations occurring during and after irradiation of matter with ionizing radiation.

- cross section measurements and targetry
- radiolysis in the context of radiopharmaceuticals
- radiolysis in the context of aqueous medias; radionuclide behavior under radiation applied to nuclear fuel cycle
- non-destructive ion beam analysis
- cells irradiation by alpha particles

GIP ARRONAX, CRCI²NA
Subatech, ICO




Chemistry and radiopharmacy

Conduct research and clinical activities ranging from the design to the preparation of radiopharmaceuticals for imaging and therapy.

- design of new radiopharmaceutical compounds
- synthesis of innovative precursors
- specific radiolabelling protocols
- purification, synthesis and distribution of radioisotopes
- production of injectable radiopharmaceuticals for clinical trials

CRCI²NA, Subatech,
Ceisam, GIP ARRONAX, University Hospital of Nantes



Arronax Nantes is the result of a long tradition of collaboration between its members committed to facilitating exchanges between disciplines, with the objective of creating in Nantes a nuclear institute for health, a world center for research and development in the field of nuclear medicine.

- 2010** NucSan - regional nuclear for health program
- 2012** Equipex ArronaxPlus (PIA) - technological facilities
LabEx IRON (PIA) - laboratory of excellence in nuclear medicine
- 2017** SIRIC ILIAD - integrated site for research in oncology
- 2018** IRC TransForMed I-SITE NExT (PIA) - scientific animation
- 2019** Arronax Nantes - integrated research cluster
- 2020** COST NOAR - Network for Optimized Astatine labeled Radiopharmaceuticals



Training activities

Carry out multidisciplinary training activities, from physics to nuclear medicine via chemistry, biology, pharmacy, engineering, computer science and promote them internationally.

- initial education
- continuing education in radiation protection
- MOOC «At the heart of medical radioactivity»
- ISI NucMed interdisciplinary school
- organisation of international meetings

LabEx IRON, SIRIC ILIAD