

The University of Namur owns a very long tradition in the field of radiation. Created in the late sixties, the LARN laboratory is equipped with a particle accelerator and all the related technologies to perform irradiation and detect any type of radiation. In addition, the members of the physics and biology department perform teaching duties in relation to nuclear physics, radiobiology, accelerator technology or radioisotope production.

### Research axes & Expertise

- Monte-Carlo modelisation (MCNPx, Geant4, Geant4-DNA)
- Radiobiology
- Radioisotope production
- Radiochemistry
- Radiolabelling
- Nanotechnology
- Nuclear Reaction Analysis (RBS, ERD, NRA, ...)
- Nuclear Physics

### Application fields

- Radioimmunotherapy
- Permanent Brachytherapy
- In vitro proton therapy
- In vitro carbon therapy
- In vitro radiobiology
- Nanotoxicity
- Radioisotope production by particle beam & generators

### Major projects/partnerships/collaborations

- Study of the hypersensitive response of tumour cells after low-dose irradiation with heavy charged particles
- Integrated system for <sup>68</sup>Ga labelling
- Study of the effects of X-rays, protons and alpha particles on the interactions between tumoral and endothelial cells
- Development of radiation-responsive bioassays for biodosimetry applications
- Study of gold nanoparticle radiosensitizing effect on tumor cells exposed to protons
- Study of resistance mechanisms to charged particles in rotifer *Adineta Vaga*

### Key figures

- Founded in 1969
- 25 researchers
- Over 300 publications
- 10 patents

- Strong interdisciplinary team

**Contact**

- Address: University of Namur, Rue de Bruxelles, 61 5000 Namur
- Website: [www.unamur.be](http://www.unamur.be)
- Contact person: Prof. Stephane Lucas, [stephane.lucas@unamur.be](mailto:stephane.lucas@unamur.be), Prof. Anne-Catherine Heuskin, [anne-catherine.heuskin@unamur.be](mailto:anne-catherine.heuskin@unamur.be)