



# NOMATEN

## Centre of Excellence in Multifunctional Materials for Industrial and Medical Applications

NOW HIRING

## PhD candidates - Assistant Research (PL form “Asystent”) Novel Radiopharmaceuticals for Medical Applications

National Centre for Nuclear Research (NCBJ), Poland

NOMATEN Centre of Excellence (CoE) is formed through a scientific partnership between the National Centre for Nuclear Research (NCBJ-Poland), the French Alternative Energies and Atomic Energy Commission (CEA-France) and the Technical Research Centre of Finland (VTT-Finland) with joint financial support from the Foundation for Polish Science (FNP) and the European Commission. It is currently composed of 5 Research Groups and is directed by Mikko Alava. NOMATEN CoE focuses research on the development and assessment of innovative multifunctional materials for industrial and medical applications, and linked to the latter, is currently growing the “Radiopharmaceuticals” group.

2 positions exist on the PhD student level in NOMATEN Research Group „Radiopharmaceuticals” (leader dr. hab. Marek Pruszyński) related to conducting studies in the field of development of novel diagnostic and therapeutic radiopharmaceuticals, starting from the reactor and cyclotron production of theranostic radionuclides and their separation from irradiated targets; through radiolabelling of various biomolecules or nanostructures; up to preclinical *in vitro* and *in vivo* evaluation demonstrating their diagnostic potential or therapeutic efficacy.

PhD students will work on new approaches for stable coupling of medically useful radionuclides to biomolecules (monoclonal antibodies or their fragments, peptides and organic small molecules) either through chelating agents, prosthetic groups or nanoparticles, e.g. micelles, liposomes or inorganic/organic nanoparticles. Various diagnostic ( $^{18}\text{F}$ ,  $^{89}\text{Zr}$ ,  $^{68}\text{Ga}$ ,  $^{99\text{m}}\text{Tc}$ ,  $^{44}\text{Sc}$  etc) and therapeutic ( $^{90}\text{Y}$ ,  $^{177}\text{Lu}$ ,  $^{131}\text{I}$ ,  $^{225}\text{Ac}$ ,  $^{227}\text{Th}$  etc) radionuclides will be used. The synthesized radiolabelled compounds will be purified with utilization of preparative analytical methods such as dialysis, size exclusion or reversed-phase high-performance chromatography (SEC or RP-HPLC) and others. Radiolabelled biomolecules will be tested *in vitro* for their biological properties, including immunoreactivity, receptor binding affinity and specificity assays on tumour cells, cytotoxicity tests (e.g. cell proliferation, clonogenic assay, DNA double-strand break analysis), 3D cell culture etc. Also *in vivo* imaging and biodistribution studies are planned.

Research studies will be done in close collaboration with the research team of Radioisotope Centre POLATOM at NCBJ, a worldwide known manufacturer of radiopharmaceuticals, as well as with prominent scientists in the field of radiopharmaceutical sciences from CEA/JOLIOT partners in France and VTT in Finland.

During their employment, PhD candidates are required to timely fulfil all the obligations connected with the process of obtaining the Doctoral degree in the chosen scientific discipline (such as evaluation, passing exams, participating in lectures and other activities).

**Preferred background:** chemistry, radiochemistry, biology, biotechnology, pharmacy or related.

### Instructions to applicants:

The application must include the following documents in English:

- cover letter that explains the motivating factors for considering the position (max. 1 pp),
- CV with complete publication list,
- brief description of important scientific achievements and scientific outlook,
- a list of 2 reference persons including their positions and contact details (e-mail address),
- MSc diploma copy/scan:

The recruitment is open to candidates who, at the time of submitting their applications, do not have a diploma confirming MSc, but who have a fixed date for obtaining this title before the planned date of employment. In this case, it is necessary to provide documents prove that.

- as an attachment to your application please sign and enclose the following declaration: *I agree to the processing of my personal data included in this application for the needs necessary to carry out the recruitment.*

**Applications should be sent before August 24th, 2022 to:**  
magdalena.jedrkiwicz@ncbj.gov.pl

### We offer:

- 7,000 PLN per month (at current exchange rate 1,450 € per month); the details in each case depend on qualifications and experience, and the compensation is composed of the base salary and seniority addition, project bonus).  
Read more about contributions in Poland at <https://www.ncbj.gov.pl/en/hrcareer/contributions-poland>.
- One year initial employment with extension after a positive evaluation.
- Work in international network with research institutes and industrial companies.
- Access to the research potential of NOMATEN’s three partners between NCBJ (Poland), CEA (France) and VTT (Finland).
- Some of the positions are for joint collaborative research with NOMATEN partners CEA (France) and VTT (Finland) and thus include extensive visits to the collaborating institution.
- Travel funds for participation in conferences and collaboration, attractive working conditions, atmosphere of teamwork, family-friendly environment with flexible working hours, support of an experienced local team in legal, financial and organisational issues as well as logistic support and advice related to working in Poland - enabling smooth relocation and equal opportunities.

**Read more about required documents and NOMATEN** [www.nomaten.ncbj.gov.pl](http://www.nomaten.ncbj.gov.pl)



HR EXCELLENCE IN RESEARCH

The National Centre for Nuclear Research is awarded by “HR Excellence in Research”. Recruitment in NOMATEN is based on OTM-R system (Open, Transparent and Merit-based recruitment practices in Research Performing Organisations).

