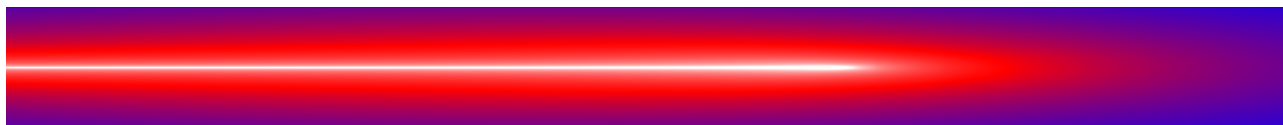


## **Two Ph.D. positions with scholarships**

in the NCN project – Sonata Bis 7 2018/26/E/ST2/00618:

### **On-line monitoring of deposited dose distribution in proton therapy using heavy scintillation fibres**



The aim of the project is development of method for on-line monitoring of deposited dose distribution in proton therapy. For this purpose an apparatus will be built, which utilizes prompt gamma rays emitted from patient during irradiation. In the design the latest developments in scintillation detectors will be exploited – fibres made from modern, heavy scintillators. The project is located where medical physics meets nuclear physics and comprises diversity of tasks, from tests of detector components, through building of a modern data acquisition system, to creation of fast algorithms for image reconstruction. The project is realized in the Faculty of Physics, Astronomy and Applied Computer Science of the Jagiellonian University in Kraków, Poland in collaboration with the RWTH University in Aachen, Germany. Project leader is Aleksandra Wrońska, PhD.

#### **Skills and experience:**

- M.Sc. in physics, computer science, electronics or similar,
- status of a Ph.D. student in a Polish research institution or at a university,
- passion for experimental work,
- knowledge of at least one programming language,
- ability to work in a group,
- good knowledge of English.

#### **Examples of tasks:**

- research on the properties of various scintillation materials,
- R&D towards a modern data acquisition system based on FPGA,
- tests and optimization of measurement system components,
- optimization of the geometry of the system by means of computer simulations,
- implementation of image reconstruction algorithms,
- analysis of experimental data,
- presentation of results on the group forum and at international conferences.

#### **Scholarship:**

For the time of student's involvement in the project PLN 3,000 per month.

#### **Documents:**

cover letter, cv, description of previous scientific work and other experiences / achievements

#### **Deadline and form of application:**

**30 September 2018**, documents merged into a single pdf file should be sent to [aleksandra.wronska@uj.edu.pl](mailto:aleksandra.wronska@uj.edu.pl). In the document, please include the consent for the processing of personal data according to the template from [http://bragg.if.uj.edu.pl/RODO\\_Stypendium.docx](http://bragg.if.uj.edu.pl/RODO_Stypendium.docx).

#### **Additional information:**

Scholarship holders will be selected by a committee chaired by the project leader. Selected candidates will be invited for an interview.