JOB OFFER

Position in the project:	Biomedical technologist
Scientific discipline:	biology, biophysic, medical physics
Job type (employment contract/stipend):	Employment contract
Number of job offers:	1
Remuneration/stipend amount/month:	5000 PLN/month - full remuneration costs including social and health insurances 2749 PLN /month net salary plus thirteenth salary
Position starts on:	01.07.2018
Maximum period of contract/stipend agreement:	33 months
Institution:	Jagiellonian University, Faculty of Physics, Astronomy and Applied Computer Science
Project leader:	Prof. dr hab. Paweł Moskal
Project title:	Jagiellonian Positron Emission Tomography: a novel in vivo morphometric imaging with positronium Project is carried out within the TEAM programme of the Foundation for Polish Science
Project description:	The project aims at the elaboration of novel cancer staging indicators based on the properties of positronium atoms formed in the human body during the PET diagnosis and the elaboration of the method for in vivo imaging of these indicators. The basis of the research constitutes the Jagiellonian Positron Emission Tomograph (J-PET) whose novelty lies in employing long strips of plastic scintillators instead of small size crystals as detectors of annihilation photons. We will explore new possibilities opened by the J-PET tomograph enabling measurement of the lifetime and production probability of positronium atoms formed copiously inside human body during the routine PET imaging. This fact was never used so far in the medical diagnosis. The probability of creation and lifetime of an ortho-positronium atom depend strongly on the size of the free volumes between molecules. By the realization of this project we aim at (i) establishing correlations between values of novel indicators based on properties of positronium atoms trapped in the inter-molecular voids inside the cells and the routinely available histopathological characteristics of tumors as well as (ii) evaluation and validation of the method for the reconstruction of novel morphometric images showing the spatial distribution in the diagnosed organism of positronium properties such as: mean lifetime, production probability and ratio of annihilation rates into two and three photons.
Key responsibilities include:	Maintaining contact with hospital staff providing biological material Participation in experiment design and data analysis Preparation and updating of the patient database Preparation of biological samples (conducting of cell culture) Participation in the preparation and writing of manuscripts Cooperation with the team

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Profile of candidates/requirements:	Master's degree or Master's in Engineering degree: biophysics, biomedical engineering or related field A strong motivation to conduct experimental research. Good knowledge of English (spoken and written). Experience in the use of biophysical methods: dynamic light scattering, nanoparticle tracking analysis, atomic force microscopy etc. Experience in human cell line culture and knowledge of molecular biology techniques (DNA/RNA isolation, enzyme immunoassays) Experience in working with clinical material and knowledge of standard biochemical tests Fluent knowledge of statistical programs: e.g. Statistica, Origin Pro
Required documents:	The candidates should submit applications containing the following documents 1. Short application including motivation letter (maximum two pages), 2. CV (including list of publications and conference presentations, if available) 3. At least one letter of recommendation
We offer:	We offer interdisciplinary research in the international group in the unique laboratory with the first in the world multi-photon positron emission tomograph. The project interfaces technologies from a variety of disciplines including biology, biophysics, computer science, electronics, engineering, physics and medicine.
Please submit the following documents to:	p.moskal@uj.edu.pl
Application deadline:	13.05.2017
For more details about the position visit:	http://koza.if.uj.edu.pl/pet/

Please include in your offer: "I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the Personal Data Protection Act as of 29 August 1997, consolidated text: Journal of Laws 2016, item 922 as amended."

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