

Wrocław 19.07.2019

Optical Spectroscopy Department

Luminescent nanoparticle Assisted Sensing and Imaging Group

Job summary: Luminescent nanoparticle Assisted Sensing and Imaging Group of Optical Spectroscopy Department, Institute of Low Temperature and Structural Research Polish Academy of Sciences in Wrocław (group leader dr hab. Artur Bednarkiewicz, prof. INTiBS) is offering a post-doc type position within the National Science Centre OPUS 16 (2018/31/B/ST5/01827) grant entitled ***“Photon Avalanche in colloidal nano and sub-micron sized inorganic crystals doped with lanthanide ions”***.

The objective of the project is to study a photon avalanche phenomenon in lanthanide doped luminescent nanoparticles for its potential use in single beam super-resolution imaging and enhanced biosensing. First, a wide range of appropriate luminescent colloidal nano-/micro-materials will be synthesized and characterized in terms of structure, morphology and fundamental spectral properties. Next, these materials will be versatilely characterized, searching for photon avalanche features (e.g. high non-linearity, slow emission build up time etc.). For the latter, a dedicated optical setup for temperature and excitation power dependent spectra and luminescence kinetics studies will be developed using fluorescence microscope, temperature chamber, photon counters etc. to automate some routine measurements. Simultaneously dedicated optical instruments will be developed to study the most promising materials for stimulated emission depletion (STED) based imaging, photon avalanche super-resolution imaging (PASSI) as well as to design a fluorescence microscope based well plate reader for enhanced FRET bio-assays.

We are looking for a highly motivated, well organized and diligent postdoctoral candidate with background in physics, optics, optoelectronics, spectroscopy (bio-spectroscopy, fluorescence) or similar and possibly with some basic experience in biology.

The successful candidate will join an interdisciplinary team of scientists and will be responsible for designing, constructing and testing optical instruments (STED/PASSI microscopes, FRET reader) and spectral characterisation of the obtained nanoparticles.

Responsibilities:

- Design, construction and testing of new optical systems (photon counting with PMT/APD, automation of spectral and kinetic studies of colloidal nanoparticles, development of fluorescence microscope based STED/PASSI microscopes)
- Characterisation of temperature and excitation power dependent properties of colloidal nanoparticles

- Data analysis, writing reports and scientific publications
- Cooperation with researchers, purchasing equipment, support and mentoring of PhD students

Requirements:

- PhD degree in physics, optics, optoelectronics or related fields
- Experience with design and optimisation of optical instruments (e.g. fluorescence, confocal, STED microscopes, optical setups)
- Experience in optical spectroscopy (fluorescence, biospectroscopy) and good knowledge of spectral instrumentation (spectrographs, cameras, microscopes, PMT/APD photodetectors, photodetection techniques)
- Experience in lasers and optoelectronics
- Experience in software development (C/C++, LabView, Matlab etc.) and electronic circuits development
- Experience in mentoring students is an advantage

Eligibility criteria:

- Enthusiasm, dedication and creativity measured, among others, by the quality and number of peer-reviewed publications and documented projects realized by the Candidate
- Mobility documented by fellowships, research internships (especially in foreign research institutions)
- Number of citations to the publications of the Candidate
- Experience in research related to the project, especially in microscopy systems, optical systems design and optimization, bio-spectroscopy
- Very good skills in spoken and written English
- Outstanding motivation for research

Application details:

- Envisaged Job Starting date 1st October 2019
- Application deadline 31st August 2019
- How to apply: Send an application to intibs@intibs.pl with e-mail title "recruitment to LANTAVALAN project"
- For more information contact: a.bednarkiewicz@intibs.pl
- Required Languages: English, Language level: very good

The competition will be held in line with the competition documentation of the National Science Center (NSC) for the NCN OPUS 31 project, including Attachment 4 of the 48/18 Act of the National Science Center dated 07.06.2018. According to the competition provisions in order to be eligible a candidate should obtain the academic degree of PhD no earlier than 7 years before the year of engagement in the project (please refer to the competition documentation for the exemptions from this rule).

Recruitment procedure:

Complete application should include the following documents:

- scientific curriculum vitae, including a list of scientific achievements (scholarships, publications, patents, conference presentations, etc.).
- motivation letter
- recommendation letter(s)
- citation report (e.g. from Web of Science) including the number of publication, number of citation without self-citation, h-index of the Candidate
- a scan of the PhD diploma
- a scan of the Msc diploma

The Recruitment Commission will take into account the following criteria:

- a. competences of candidates for specific tasks in a research project,
- b. previous scientific achievements of candidates,
- c. awards and distinctions of the candidate resulting from the conducted research.

The Commission evaluates applications on a point scale. In the first stage the submitted documents will be evaluated (50% of total points). Top candidates will be invited of interview (possible also via Skype). Interview will be evaluated (50% of total scores).

The position will be awarded to the Candidate who obtains the highest number of points.

The results of the competition are made public.

The competition can be cancelled without a notice.

What is offered

- 36-month full time work contract (12-month probationary period) in a well-equipped and modern laboratory
- Gross salary of ca. 8300 PLN (which amounts to net salary of ca. 5800 PLN) per month financed by the NCN OPUS 16 Project No. 2018/31/B/ST5/01827, 36 days of vacation, social security and health insurance within Institute, support in subscription to commercial medical center LuxMed
- Work in the outstanding scientific institution in the dynamic and young research group with members representing diverse interests and qualifications – see details on the website: <http://lunasi.intibs.pl/>
- Participation in international conferences and research visits
- Engagement into an ambitious research program and possibility to build the scientific career
- Support for subscription to sport centers

RODO details:

Who is the controller?

We would like to inform you that the Administrator of your personal data is the Włodzimierz Trzebiatowski Institute of Low Temperature and Structural Research of the Polish Academy of Sciences, Okólna Street 2, 50-442 Wrocław, hereinafter referred to as the "Administrator".

Data Protection Inspector (DPO)

The controller has appointed a Data Protection Officer (DPO) to be contacted at the e-mail address: iod@intibs.pl and via the contact form available on the website www.intibs.pl for all matters concerning your personal data.

Purposes and legal basis of data processing

Processing of your personal data will be carried out for the purpose of recruitment on the basis of applicable laws and we will act on the legal basis of Article 6(1)(c) of the General Regulation on Personal Data of 27 April 2016 (hereinafter: RODO). In order to achieve this goal, the data may be used in the profiling process, the purpose of which is to direct offers to candidates with appropriate qualifications for the position (Article 6(1)(f) RODO).

The processing of data in a broader scope than that resulting from the labour law regulations and for the purposes of future recruitment will be based on the consent given in the recruitment form (Article 6(1)(a) of the RODO).

Retention period of data

Your personal data will be stored for a period of 36 months from the date of application.

Personal data will also not be processed after your consent has been withdrawn or objected to, where appropriate.

Recipients of data

The recipient of personal data provided by you may be third parties supporting the Administrator in the recruitment process (recruitment consultancy, IT support). However, these entities process the data only in accordance with the Administrator's recommendations.

Rights of the data subject

You have the right to access the content of your data, request their correction, delete, file an objection, limit the processing, transfer the data to another controller, complain to the President of the Office for Personal Data Protection if you consider that the processing of your personal data concerning you violates the law.

Providing by you personal data collected by us on the basis of applicable laws is voluntary, but necessary for the implementation of the above mentioned purpose. The consequence of not providing personal data will be the inability to participate in the recruitment process.

Providing data based on your consent and processed based on our legitimate interest referred to above is voluntary and does not affect the recruitment process.

Your consent may be withdrawn at any time. Withdrawal will not affect compliance with the right to process your personal data. You may object to profiling at any time. Declaration of withdrawal of consent and objection should be sent to the e-mail address iod@intibs.pl or via the contact form available on the website [iod@intibs.pl](http://www.intibs.pl)

More information is available on the Institute's website. <http://bip.int.pan.wroc.pl/index.php?id=109>

Date of the announcement: 2019-07-24