



# Institute of Physics of the Polish Academy of Sciences

## Scholarship for a PhD Student



Job ID: #JOB53/2021

### Job Description

**Job Title:** PhD student

**Job Summary:**

Quantum structures based on wide band gap semiconductors for application in UV optoelectronics

**Job Description:**

ZnO-based materials have important potential industrial and medical applications due to their biocompatibility and biodegradability properties. Due to the low cost of ZnO layers, their high crystal quality and resistance to radiation, the oxides can compete with GaN-based materials. In the far UV range, ZnMgO-based quantum structures crystallizing in rocksalt (RS) structure with an energy gap of 4.2-7.8 eV are promising candidates.

In light emitting diodes or lasers, light emission is tuned by changing the chemical composition of the quantum structure and/or the thickness of its layers, and thus by changing the value of the energy gap. In the project ab-initio studies of materials based on RS-ZnMgO will be performed, taking into account the influence of all microscopic mechanisms on energy gaps.

The aim of the project is to create a theoretical basis for the applications of wide-gap quantum structures in far UV optoelectronics. Quantum structures based on RS-ZnMgO will be examined. Final indications for extending the range of wavelengths emitted in optoelectronic devices towards far UV will be formulated on the basis of theoretical results compared to experiments conducted at the Institute of Physics PAS.

**Main research field:** Physics

**Sub Research Field:** Physics of semiconductors

**Career Stage:** Early stage researcher

**Research Profile** ([details](#)): First Stage Researcher (R1)

**Type of Contract:** Fixed term (36 months)

**Status:** Full-time

**Salary:** grant funding of **5000** PLN per month (untaxed scholarship).

### Contact

More information can be obtained from  
Henryk Teisseyre (e-mail: [teiss@ifpan.edu.pl](mailto:teiss@ifpan.edu.pl)).

### Application details

**Application deadline:** 10.12.2021 Later applications will be no considered.

**Required materials:**

- Curriculum Vitae
- List of publications

- Consent to process your personal data

All materials should be submitted in electronic form to the address:  
[rekrutacja@ifpan.edu.pl](mailto:rekrutacja@ifpan.edu.pl) with Job ID in the subject.

#### **Information clause – scholarship competition**

Pursuant to Article 13 paragraphs 1 and 2 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation) Official Journal of the European Union, L 119, 4 May 2016, page 1, as amended, hereinafter referred to as “GDPR”, we hereby inform as follows:

1. The Institute of Physics of the Polish Academy of Sciences with its registered office in Warsaw, Al. Lotników 32/46, represented by its Director, is the Controller, i.e. an entity deciding about how your personal data will be used. You may contact the Controller using one of the contact forms available on the website: tel. (22) 116-2111, e-mail: [director@ifpan.edu.pl](mailto:director@ifpan.edu.pl)
2. The Director of the Institute of Physics of the Polish Academy of Sciences has appointed the Data Protection Officer (DPO), whom you may contact in matters relating to your personal data, by sending an email to the following address: [iodo@ifpan.edu.pl](mailto:iodo@ifpan.edu.pl)
3. Your personal data will be processed in connection with your participation in the scholarship competition and if you win the competition, in connection with receiving the scholarship – on the basis of your consent – Article 6 paragraph 1 item a GDPR.
4. Your personal data will be processed for a period of 6 months after the end of the scholarship competition and in the case of receiving the scholarship – for a period resulting from legal and tax regulations;
5. Your personal data will be made available to other entities that can finance and settle the scholarship granted and entities authorized under provisions of law. Your data will only be accessed by people authorized by the Controller;
6. Provision of your personal data is mandatory; in the event of failure to do so, you will not be able to participate in the scholarship competition;
7. You have the right to access your data, the right to rectify it and limit processing thereof;
8. You have the right to lodge a complaint to the President of the Office for Personal Data Protection, if you consider that the processing of your personal data violates provisions of the General Data Protection Regulation.

#### **Consent to processing:**

I hereby consent to the processing of my personal data contained in the application/request form by the Institute of Physics of the Polish Academy of Sciences to conduct the scholarship competition and in the case of being granted the scholarship, to pay and settle it. I provide my personal data voluntarily and I declare that it is accurate. I have read the content of the information clause.

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Date and signature