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| Job offer | |
| Name of position: | PhD Student |
| Field: | Chemistry, physics, biotechnology, electronics or related |
| Type of payment: | Scholarship/grant |
| Number of job offers: | 1 |
| Scholarship amount/month: | 3 800 PLN |
| Date of commencement: | 1.10.2021 |
| Period of employment: | 24 months |
| Institution (department / institute / faculty / academy / institution, city): | Department of Optoelectronics, Faculty of Electrical Engineering, Silesian University of Technology, Gliwice, Poland |
| Project leader: | Dr hab. Alicja Bachmatiuk |
| Team leader of Silesian University of Technology | Dr hab. inż. Paweł Karasiński, prof. PŚ |
| Project title: | *„Hybrid sensor platforms for integrated photonic systems based on ceramic and polymer materials (HYPHa)”* The project is carried out under the TEAM-NET program of the Foundation for Polish Science. |
| Project description: | The project aims to create a research network consisting of centers specializing in integrated optics. The newly formed group of specialists will be based on the experience of cooperation and commitment of research groups. In the project, we propose creating a competence integration mechanism and creating a universal material platform based on newly tested hybrid materials. The basis of these materials will be silica compounds with the addition of, e.g., TiO2, SnO2, used as structural matrices, polymer coatings with dopants (active or protective layers), organic dyes, and functional two-dimensional materials such as transition metal dichalcogens, graphene hybrids, and boron nitride. All these materials have demonstrated unique structural, optical, and electrical properties in other studies. The project will include fabrication and characterization of materials, technology, design, and fabrication of passive and active components. |
| Research tasks: | Development of functionalization methods of metallic and dielectric surfaces, especially oxides.Production of sensor layers using biomolecules, polymers, or virions (viral particles), in particular intended to detect bacteria.Integration of sensory layers and transducers. Validation of sensor parameters to detect both model bacteria (e.g., Escherichia coli) and bacteria in medical, industrial or environmental samples.Processing data and results, keeping research documentation in the form of a lab book, and reporting research results to the research group leader and the project leader.Ongoing analysis of the results and preparation of publications in scientific journals, presenting the results at conferences. |
| Other duties | The necessity to attend a doctoral school and organized pieces of training. |
| Expectations for candidates | Completed second-stage of studies (MSc or equivalent) in chemistry, physics, biotechnology, electronics, or related.Knowledge of materials engineering and physical chemistry.Knowledge of the basics of working with microorganisms.Knowledge of optical characterization methods for liquid materials and layers.Knowledge of the English language sufficiently to enable the use of a highly specialized scientific base.Knowledge of the Polish language at the communicative level. |
| List of required documents: | Application with the statement *"I consent to the processing of my personal data contained in the documents sent by me, necessary for the recruitment process currently conducted by the Faculty of Electrical Engineering of the Silesian University of Technology, ul. B. Krzywoustego 2. 44-100 Gliwice.  I declare that I am aware of the voluntary disclosure of my personal data and that I have been informed about the rights that I have in the scope of processing my data* ".CV containing data on the course of a possible scientific career.Two recommendation letters about the candidate (including one from a scientist with at least the title of PhD) in the field of - chemistry, physics, electronics or related.Copy of the graduation diploma.List of possible publication achievements.A copy of an exemplary report from the conducted experiments with the preparation of the results. |
| We offer: | Possibility of scientific development and realization of scientific work within the framework of a unit carrying out research on a global level.Scientific supervision.Competitive salary.Access to specialized research equipment.Opportunities to participate in training courses and thematic conferences. |
| Additional information about the recruitment process (e.g., www page address): | The recruitment results will be announced by 09/01/2021.  (re@polsl.pl) |
| Link to Euraxess webpage: | https://euraxess.ec.europa.eu/jobs/511923 |
| Submission address (e-mail): | [re@polsl.pl](mailto:re@polsl.pl) |
| Deadline for submitting applications: | 25.08.2021; 24:00 |