

## JOB OFFER

Position in the project:	Doctoral student / PhD student
Scientific discipline:	Chemistry, physics, electronics or related fields
Job type (employment contract/stipend):	Stipend
Number of job offers:	1
Remuneration/stipend amount/month (“X0 000 PLN of full remuneration cost, i.e. expected net salary at X 000 PLN”):	3 800 PLN
Position starts on:	1.06.2020
Maximum period stipend agreement:	28 months with the possibility of prolongation
Institution:	Department of Optoelectronics, Faculty of Electrical Engineering, Silesian University of Technology, Gliwice, Poland
Project leader:	Dr hab. Alicja Bachmatiuk
Team leader from Silesian University of Technology	dr hab. eng. Paweł Karasiński, prof. SUT
Project title:	<b><i>Project is carried out within the TEAM-NET programme of the Foundation of Polish Science „Hybrid sensor platforms of integrated photonic systems based on ceramic and polymer materials (HYPHa)”</i></b>
Project description:	The aim of the project is to create a scientific network consisting of research groups specialized in the field of integrated optics. The new group of specialists will be based on the experience, willingness, cooperation and involvement of researches. In the project, we propose to create a mechanism for integrating competences and creating a universal material platform based on newly acquired hybrid materials. The basis of these materials will be silica compounds with the addition of e.g. TiO <sub>2</sub> , SnO <sub>2</sub> , used as structural matrices, doped polymer coatings (active or protective layers), organic dyes and active two-dimensional materials such as transition metal dichalkogenides, graphene hybrids and boron nitride. All of these materials showed already separately unique structural, optical and electrical properties. The project will

	cover the material and characterization,, technology, design and fabrication of passive and active components.
Key responsibilities include:	<ul style="list-style-type: none"> <li>• Modification of processes involving a sol-gel method and a dip-coating method processes, by means of which films of refractive index from 1,4 to 1,9 are fabricated. Optimization of processes parameters in view of envisaged applications.</li> <li>• Research on functionalization of films fabricated Rusing the sol-gel method by means of their doping with lanthanide ions (high temperature processes) and organic dyes (low-temperature processes).</li> <li>• Opracowanie metod funkcjonalizacji powierzchni warstw dielektrycznych, w tym badania nad immobilizacją warstw biosensorowych.</li> <li>• Design of passive integrated optic structures for sensing applications.</li> <li>• Material structuring using optical lithography and chemical etching, processes. Fabrication of strip, passive integrated optical structures.</li> <li>• Analysis and processing of data and measurement results, Measurements record-keeping in form of a laboratory journal. Reporting of research results to the research group leader and project leader.</li> <li>• Ongoing analysis of the results of research and their presentation at scientific conferences and development of publications for scientific journals.</li> </ul>
Outther duties	The need to participate in a doctoral school and organized trainings.
Profile of candidates/requirements:	<ul style="list-style-type: none"> <li>• MSc. degree in chemistry, physics, electronics or related fields.</li> <li>• Practical knowledge regarding chemical technology.</li> <li>• Knowledge of the basis of optics and molecular optics.</li> <li>• Knowledge of measurement methods used for characterization of a material structure.</li> <li>• Knowledge of optical methods for characterization of materials in the liquid state and materials having the form of thin films (layers).</li> <li>• English language skills at a level which allows to carry out a research work including: reading and carrying out analysis of articles published in international scientific journals.</li> </ul>
Required documents:	<ul style="list-style-type: none"> <li>• The application including the following statement: “I agree to the processing of my personal data provided in this document for realizing the recruitment process</li> </ul>

	<p>currently carried out by the Department of Electrical Engineering at Silesian University of Technology, ul. B. Krzywoustego 2. 44-100 Gliwice. I declare that I am aware about making my personal data available on a voluntary basis and that I have been informed about my rights in scope of personal data processing.”</p> <ul style="list-style-type: none"> <li>• Curriculum vitae containing full details regarding the course of scientific career.</li> <li>• Two letters of recommendation for the candidate (including one from a scientist with at least a degree “dr hab.” in one of the disciplines: chemistry, physics, electronics or a discipline related to them.</li> <li>• Copy of a university degree.</li> <li>• List of scientific publications if the candidate has such achievements.</li> <li>• A copy of an exemplary experimental research report containing analysis of experimental data.</li> </ul>
We offer:	<ul style="list-style-type: none"> <li>• Possibility of scientific development in an academic entity implementing scientific research at word level.</li> <li>• Scientific supervision.</li> <li>• Competitive salary.</li> <li>• Access to the specialized measuring equipment.</li> <li>• Opportunity to participate in training and thematic conferences.</li> </ul>
For more details about the position please visit (website/webpage address):	<p>The results of the recruitment will be announced on time by the 15 th May 2020.  <a href="mailto:re@polsl.pl">re@polsl.pl</a></p>
Euraxess job/stipend offer (in case of PhD, postdoc, leader and young leader positions):	<p><a href="https://euraxess.ec.europa.eu/jobs/511923">https://euraxess.ec.europa.eu/jobs/511923</a></p>
Please submit the following documents to:	<p><a href="mailto:re@polsl.pl">re@polsl.pl</a></p>
Application deadline:	<p>9.05.2020, 24:00</p>