

JOB OFFER

Position in the project:	Junior Postdoctoral Researcher (postdoc) Workgroup 6 – Innovative 2-D materials: basic science and technology with potential THz applications.
Scientific discipline:	Physics
Job type (employment contract/stipend):	Employment contract , full-time position (40 hours per week)
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”):	15000 PLN of full remuneration costs, expected net salary (after all taxes) at approximately 8200-9500 PLN (ca 1930-2250 €) <i>[exact net salary depends on individual tax particularities]</i>
Position starts on:	Between December 1 st , 2022 and January 1 st , 2023
Maximum period of contract/stipend agreement:	Contract till August 31 st , 2023
Institution:	Center for Terahertz Research and Applications (CENTERA), an independent research unit of the Institute of High Pressure Physics, Polish Academy of Sciences
Project leader:	Prof. Wojciech Knap
Project title:	<i>Center for Terahertz Research and Applications (CENTERA)</i> Project is carried out within the International Research Agendas programme of the Foundation for Polish Science
Project description:	<p><i>Center for Terahertz Research and Applications (CENTERA)</i> is an independent research unit of the Institute of High Pressure Physics, Polish Academy of Sciences, crafted to become a specialized, world-class, interdisciplinary research unit offering an original inter-disciplinary approach to implement Terahertz science and technology to the benefit of the society. It is directed by Prof. Wojciech Knap and Prof. Thomas Skotnicki and funded within the International Research Agendas Programme of the Foundation for Polish Science, carried out from the funds of the European Regional Development Fund under the Smart Growth Operational Programme (SG OP), Priority Axis 4: Increasing the research potential (https://www.fnp.org.pl/en/centera-the-centre-for-terahertz-technology-research-and-applications/), CENTERA will be supported by two main strategic foreign partners, Goethe University Frankfurt, Germany (GUF), which runs the Goethe-Leibniz Terahertz Center, a joint research facility with the Ferdinand-Braun Institute (Leibniz-Institut für Höchstfrequenztechnik), Berlin, and the Institute for Electronics, Microelectronics and Nanotechnology, Lille, France (IEMN).</p> <p>The activity of CENTERA will be carried out by 5 interacting groups working in the following domains:</p> <ul style="list-style-type: none">• Solid State Physics - mainly THz plasma instabilities in semiconductor-based low dimensional systems and topological insulators (WG1) – leader: prof. Wojciech Knap;• Innovative 2-D materials: basic science and technology with potential THz applications (WG6)- leader prof. Marek Potemski

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Projekt "Centrum Badań i Zastosowań Technologii Terahercowych (CENTERA)" jest realizowany w ramach programu 'Międzynarodowe Agendy Badawcze' Fundacji na rzecz Nauki Polskiej współfinansowanego przez Unię Europejską z Europejskiego Funduszu Rozwoju Regionalnego.

	<ul style="list-style-type: none"> • Electronics - exploration of high-frequency limits of Field Effect Transistors (FETs), Heterojunction Bipolar Transistors (HBTs) (WG3)- leader prof. Alvydas Lisauskas • Innovative optics and antennas towards THz-Integrated-Circuit Electronics (WG4)- leader prof. Dmitry Lyubchenko. • THz applications - demonstrators, and technology transfer (WG5) – leader prof. Thomas Skotnicki. Applications considered include (but are not limited to): <ul style="list-style-type: none"> (i) security scanners for letters, parcels and packages; (ii) security scanners for people in crowded places; (iii) imaging systems for safety landing or driving; (iv) non-destructive control of products in factories; (v) monitoring of plant growth and content; (vi) examining living tissue or tissue samples for pathologies; (vii) wireless communication. <p>In course of the project the number of groups and the scope of their interests may evolve. Each WG will be led by an independent Team Leader, selected via international competitions under the supervision of the International Scientific Committee of CENTERA. More information on the pertaining regulations can be found in IRAP Competition Documentation 8/2017 [https://www.fnp.org.pl/assets/Competition-Documentation-IRAP_8_2017_en.pdf] and the web page of IRAP call [https://www.fnp.org.pl/en/oferta/irap/].</p>
<p>Key responsibilities include:</p>	<p>List of key responsibilities/activities of a successful candidate include:</p> <ul style="list-style-type: none"> - establish and use the technological procedures to fabricate structures made of two-dimensional materials (graphene, transition metal dichalcogenides, and layered magnetic materials). - develop and use the necessary experimental tools (e.g., Raman scattering, atomic force microscopy, THz spectroscopy, magnetotransport) to characterize the structures with respect to their anticipated optical properties in a wide spectral range: from GHz (microwaves) to hundreds of THz (visible spectral range). - advance the study of fundamental properties of 2D-material structures using optical spectroscopy methods: micro-photoluminescence and micro-Raman scattering at cryogenic temperatures, THz spectroscopy in time and frequency domains. - effectively collaborate with other CENTERA groups/members and CENTERA's associated partners, with the spirit to design novel devices relevant in particular for THz technologies.
<p>Profile of candidates/requirements:</p>	<ol style="list-style-type: none"> 1. PhD in physics or material science, obtained in year 2017 or later 2. Strong motivation to study and tailor the electronic and optical properties of innovative structures made of 2D materials. 3. Experience in crystal growth techniques, adequate to produce ultrathin layers, such as, for example, the method of MOCVD (metal organic chemical vapor deposition) 4. Experience in characterization methods of thin material layers by means of optical spectroscopy techniques (Raman scattering, photoluminescence) and atomic force microscopy 5. Ability to carry out independent research 6. Good communication skills (spoken and written English) and spirit of a collaborative work 7. Experience in use of magnetic field techniques and/or work with cryogenic equipment will be an asset.

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	8. Experience in THz spectroscopy techniques will be an asset.
Required documents:	<p>Required documents:</p> <ol style="list-style-type: none"> Detailed CV (up to 3 pages). Cover/motivation letter - please mention earliest possible starting date (max 1 page). Summary of professional accomplishments with concise information about the candidate's academic interests and past achievements, as well as possible participation in larger research projects (in a volume not exceeding 3500 characters). A PhD diploma (or equivalent document with a direct supervisor statement when the PhD diploma will be delivered) List of publications in international journals; List of presentations on international conferences. Personal data processing statement (see below) <p><i>All documents must be written in eligible way (font size 11 pts or more, no less than single line spacing, A4 page size, min. 1.5 cm margins). Violation of this rule will result in rejection of the applicant. Excessive pages will be trimmed off and disregarded.</i></p> <p><i>Candidates will be screened by a recruitment committee and selected candidates will be invited for a web-based or telephone-based interview (in-person interviews are also possible at the candidate's expense). CENTERA reserves the rights to close the competition without selecting a candidate. In such a case, a new job offer will be published.</i></p>
We offer:	<ol style="list-style-type: none"> 15000 PLN of full remuneration costs, expected net salary (after all taxes) at approximately 8200-9500 PLN (ca 1930-2250 €) (<i>exact net salary depends on individual tax particularities</i>) Full-time employment in a rapidly developing THz unit Research on exciting topics Work in an international research team at the new unit CENTERA within the well-recognized Institute in Pressure Research. Cooperation with foreign expert institutions like strategic partners GUF and IEMN, as well as NEST. Interactions with industrial partners.
Please submit the following documents to:	jobs_centera@unipress.waw.pl
Application deadline:	15 th November 2022
For more details about the position please visit (website/webpage address):	www.centera.eu
Euraxess job/stipend offer (in case of PhD and postdoc positions):	https://euraxess.ec.europa.eu/jobs/847915 (our Ref: CENTERAWP6jp6)

Due to the entry into force of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016, we also require that your job advertisements include a clause requesting the candidate's consent to the processing of his or her personal data by the institution which carries out the recruitment process.

To allow us to process your data, please include the following statement in your application:

"I hereby consent to have my personal data processed by the Institute of High Pressure of the Polish Academy of Sciences with its registered office at Sokolowska 29/37, 01-142 Warsaw, Poland for the purpose of carrying out a recruitment process and selecting an employee and concluding a contract for employment at the Institute of High Pressure of the Polish Academy of Sciences. I have been informed of my rights and duties. I understand that provision of my personal data is voluntary."

In accordance with Article 13 of REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data - general regulation on data protection (Official Journal of the EU L119/1 of 4 May 2016) the Institute of High Pressure of the Polish Academy of Sciences informs that:

1. The Controller of your personal data is the Institute of High Pressure of the Polish Academy of Sciences with its registered office at Sokolowska 29/37, 01-142 Warsaw, Poland.

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2. The Controller has designated the Data Protection Officer who supervises the processing of personal data, and who can be contacted via the following e-mail address: rodo@unipress.waw.pl
3. The Your personal data will be processed for the purpose of carrying out a recruitment process and selecting an employee and concluding a contract for employment at the Institute of High Pressure of the Polish Academy of Sciences;
4. The provided data will be processed pursuant to Article 221 § 1 of the Act of 26 June 1974 Labour Code (uniformed text: Dz. U. of 2018, item 917) and your consent for processing of personal data;
5. Provision of data in the scope stipulated in the Labour Code is mandatory, and the remaining data are processed according to your consent for processing of personal data;
6. The data will not be shared with any external entities;
7. The data will be stored until you withdraw your consent for processing of personal data;
8. You have the right to access your personal data, to rectify, erase them, restrict their processing, object to processing, and to withdraw the consent at any time;
9. You have the right to lodge a complaint to the President of the Office for the Protection of Personal Data.”

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