The advertisement on the special recruitment to the Wrocław Doctoral School of Institutes of Polish Academy of Sciences for the Ph.D. student position in the program "Implementation doctorate I", financed by Ministry of Science and Higher Education in Poland and carried out in the Division of Optical Spectroscopy of ILT&SR PAS – Theme 3

INSTITUTION: Institute of Low Temperature and Structure Research Polish Academy of Science (ILT&SR PAS)
CITY: Wrocław
POSITION: Ph.D. student in the program "Implementation doctorate I", financed by Ministry of Science and Higher Education (MNiSW) in Poland
SCIENTIFIC DISCIPLINE: Physical sciences
ANNOUNCEMENT DATE: **10.08.2020**
DEADLINE FOR APPLICATIONS: **10.09.2020**
DURATION AND INITIAL DATE OF EDUCATION: **4 years**, starting from **01.10.2020**
WSD IPAN website**: http://wsdipan.intibs.pl**
INTiBS PAN website: **www.intibs.pl**

Keywords: photonics, carbon materials, coherent white light sources

The Wrocław Doctoral School of Institutes of Polish Academy of Sciences (WDS IPAS) announces **special recruitment for a Ph.D. student scholarship in IV edition of the program "Implementation doctorate I" – Theme 3**: *"Investigation and application of laser induced emission in carbon materials"*, funded by Ministry of Science and Higher Education in Poland (Project ID 485802 in OSF system, Reg. no. DWD/4/40/2020), and carried out under the supervision of **Prof. Wiesław Stręk the Division of Optical Spectroscopy of ILT&SR PAS** in cooperation with the company **Nanores Sp. z o. o. Sp. k. in Wrocław**.

I. Description of Theme 3:
LEDs are commonly applied light sources in lighting systems and displays. However, the application of coherent light sources (laser) might be a new attractive solution in view of energy efficiency. The application of laser-induced white emission of graphene materials is very promising. Similar properties are demonstrated by other carbon materials like nanodiamonds. The purpose of research project within the framework of the application doctorate is the development of technology for the construction of white light sources based on graphene and other carbon-like hybrids in laser-like lighting systems.

II. Additional information
The Ph.D. student program is performed based on the Communication of 29.05.2019 of MNiSW on the establishment of the "Implementation Doctorate" program (Communication of MNiSW) that grants the Ph.D. fellowship, defined in the Act of 20 July 2018 – Law on higher education and science (Dz. U. no. 1668 as amended) in article 209 paragraph 1, as below.

The total Ph.D. fellowship per month will be provided:

1. **3450 PLN** (gross) – till the month of the mid-term evaluation (planned at the end of II academic year);
2. **4450 PLN** (gross) – starting from the next month after the mid-term evaluation (during III and IV academic years).

In addition, the Ph.D. student has granted **financial support** for His/Her use of the research infrastructure at ILT&SR PAS, amounting to about **25 000 PLN per each academic year**.

The recruitment is carrying out according to the Act of 20 July 2018 – Law on higher education and science, the Communication of and the Rules of recruitment for WDS IPAS.

III. Duties and obligations of the Ph.D. student:

- timely doctoral schedule completion,
- experimental studies of synthesis of composite materials based on graphene and nanodiamonds,
- structural characterization of materials,
- experimental studies of optical and electric properties,
- application of the obtained materials for laser systems,
- studies of energy efficiency of constructed laser systems,
- optimization of technological processes,
- analysis and presentation of the results, elaboration of reports and publications, participation in scientific conferences,
- following rules and recruitment procedures of Wrocław Doctoral School of Institutes of Polish Academy of Sciences.

IV. Requirements from the candidate:

- **master's degree in physics,** chemistry, material engineering or related disciplines
- scientific interests in solid state physics
- knowledge and experience in experimental work including spectroscopic methods
- good knowledge of English
- motivation for scientific work, independence, ability to work in a team, creativity.

V. Required documents:

According to the rules of recruitment for WDS IPAS:
http://wsdipan.intibs.pl/images/Recruitment_Rules_WDS_IPAS.pdf
Additional obligatory documents:
1. Consent to the processing of personal data by MNiSW (GDPR) on the form (attachment 1).
2. Statement of the company Nanores Sp. z o. o. that in the case of admission to **Wrocław Doctoral School of Institutes of Polish Academy of Sciences** the candidate will remain or will be employed full time in the period of the doctoral studies and the consent to His/Her education in the doctoral school within the program.

VI. Applications for admission to the School must be submitted by 10.09.2020 until 3:00 p.m.:

- **in person** at the School's Secretariat at the Institute of Low Temperatures and Structural Research of the Polish Academy of Sciences at Okólna Street 2 in Wrocław from 9:00 a.m. to 3:00 p.m.
  or
- **by registered mail or courier service** (date of receipt of documents at the School's premises decides) to the address: WSD IPAN, ul. Okólna 2, 50-422 Wrocław
  or
- **by e-mail** to wsdipan@intibs.pl, the original documents should be, however, delivered before the beginning of the education (failure to meet this requirement will result in the removal from the list of doctoral students).

For further information, please contact prof. Wiesław Stręk (w.strek@intibs.pl, tel. +48 71 3954 177).

The information concerning the processing of your personal data is given on the website: http://www.intibs.pl/en/the-institute/gdpr.html