

JOB OFFER

PhD student position

From academic year 2022/2023 (start: 1.10.2022)

Position type:	PhD student
Scientific discipline:	Automatics, Electronics and Electrical engineering (AEiE)
Type of remuneration:	Stipend
Remuneration:	Approx. 5900 zł net / month during 1st and 2nd year of the PhD Approx. 7460 zł net / month during 3rd and 4th year of the PhD (the University covers also the ZUS insurance)
Position starts on:	October 1st, 2022
Period of contract:	1.10.2022 – 30.09.2026
Institution:	Wrocław University of Science and Technology; Faculty of Electronics, Photonics and Microsystems (W12); Department of Field Theory, Electronic Circuits and Optoelectronics (K35)
Scientific advisor:	Dr. Grzegorz Soboń, assoc. professor
Topic of the PhD thesis:	Design and fabrication technology of optical fiber components for lasers and amplifiers
Description of the PhD project:	<p>The PhD thesis is directly connected with the project entitled “<i>Design and fabrication technology of optical fiber components for lasers and amplifiers</i>”, financed by the National Science Centre (NCN) in the frame of Preludium BIS programme.</p> <p>The PhD topic is related to photonics, especiall fiber technology and laser technology. The Project aims to develop simple and low-cost fabrication technologies for various fiber-optic components, crucial for the development of compact, next-generation laser sources. The 4-year research program for a doctoral student is devoted to fundamental investigation on light propagation in various fiber-based structures. The research program includes both theoretical (numerical) and experimental investigation. The direct outcome will be a simple, low-cost fabrication technology of various components, based on well-established fiber processing equipment</p>
Main research tasks	<ol style="list-style-type: none">1. Design and modeling of various optical fiber structures, like lensed tips, tapers, ball lenses, etc. based on numerical modeling using beam propagation method (BPM) and Eigenmode Expansion method (EME), using commercially available software (e.g. BeamPROP, FIMMPROP)2. Fabrication technology of fiber structures using a three-electrode fiber processing workstation with a “ring of fire” heat zone around the fiber (3SAE LDS). Development of a side-combiner for double-clad fiber – in a novel configuration with the pump fiber bent around the double-clad fiber.3. Application of developed structures in lasers and photonic devices – such as waveguide-based supercontinuum generators,

	fiber amplifiers, photonic crystal fibers, fiber-based probes for optical sensors, etc.
Profile of candidates (requirements):	<ol style="list-style-type: none"> 1. Preferred background: electronics, telecommunications, technical physics, optics, or similar. 2. Basic knowledge in laser and fiber technology. Practical, hands-on experience with lasers and fibers (e.g., splicing, basic measurements) will be a strong advantage. 3. Required English language skills at minimum level B2 4. Enthusiasm, strong motivation and patience. 5. Availability (full-time contract) and mobility (doing a PhD requires traveling)
Required documents:	<ol style="list-style-type: none"> 1. Curriculum vitae with emphasis on scientific achievements and publications, research activities, awards, etc. 2. Copy of the BS/Eng/MSc diploma 3. List of grades from BS and MS studies 4. Copy of the BSc/MSc thesis (electronic version)
We offer:	<ul style="list-style-type: none"> • A stable and attractive stipend over the entire PhD period (4 years), • Possibility to accomplish a short-term research stay (up to 6 months) in a foreign research institution, • Participation in a very attractive scientific program focused on fundamental research, • Work in a recognized team of researchers, • Access to unique top-level equipment, • Dissemination of your results in scientific journals • Great opportunities to accomplish a very interesting PhD course • Participation in scholarships, schools, research visits, etc
Recruitment procedure:	<p>All proposals will be evaluated by the recruitment committee, consisting of the scientific advisor and two members (experts in the field of fiber optics), taking into account:</p> <ol style="list-style-type: none"> a) Competences of the candidates, i.e., experience in similar projects, knowledge in fiber optics and laser technology b) research achievements of the candidates (grades obtained during studies, publications, research activities) c) Awards and prizes obtained by the candidates <p>In the second round of recruitment, selected candidates will be invited to an interview with the recruitment committee.</p> <p>All candidates will be informed via e-mail about the results of the competition.</p>
E-mail for sending applications and inquiries:	grzegorz.sobon@pwr.edu.pl
Application deadline:	<p>Please send your applications until 24 May 2022 at latest</p> <p>The interviews will be held between May and June. After successful recruitment, the selected candidate shall submit his/her application to the Doctoral School of Wrocław University of Science and Technology, and pass the recruitment procedure of the School. Deadline of submission to the Doctoral School: 9.06.2022.</p>

Please include in your application:

"I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the Personal Data Protection Act as of 29 August 1997, consolidated text: Journal of Laws 2016, item 922 as amended."