

## JOB OFFER

Position in the project:	Assistant (PhD student)
Scientific discipline:	Mechanical Engineering/Energy Engineering and/or similar
Job type (employment contract/stipend):	Employment contract
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”):	5 000 PLN of full remuneration cost, i.e. expected net salary at 2 940 PLN
Position starts on:	01.11.2018 r.
Maximum period of contract/stipend agreement:	01.11.2018 r. – 31.03.2021 r.
Institution:	Division of Boilers and Steam Generators / Institute of Power Engineering and Turbomachinery / Faculty of Energy and Environmental Engineering / Silesian University of Technology
Project leader:	dr hab. inż. Sylwester Kalisz
Project title:	<i>Process optimisation and valorisation of combustion by-products in transition to circular economy (UPS-Plus)</i>  <b><i>Project is carried out within the TEAM-TECH Core Facility programme of the Foundation for Polish Science</i></b>
Project description:	The main object of the project is the realisation of circular economy ideas by optimising the combustion process in order to obtain combustion by-products likely to valorisation and usable in industry. Optimization of low-quality solid fuels combustion (e.g. biomass or refuse-derived fuel) will be based mostly on upgrading fuel properties with additives, especially connected with slagging, fouling and high-temperature corrosion and on a reduction of harmful compounds (e.g. NO <sub>x</sub> , Hg, HCl, HF, NH <sub>3</sub> ). The purpose of the optimisation is to produce specific by-products subsequently subjected to thermal and chemical functionalization resulting in obtaining useful materials, e.g. geomats, insulations or sorption medium. Project objectives will be carried through the usage of innovative, multifunctional Core Combustion Facility (CCF) – semi-technical boiler stand allowing to develop research service concerning modification of combustion process in order to receive most useful by-products.
Key responsibilities include:	<ol style="list-style-type: none"> <li>1. Supervising of work concerning CCF technical part modification (partially).</li> <li>2. Research within Task 1.4 – Gas and solid emission control (analysis of additives impact on fly ash, NO<sub>x</sub>, HCl, HF and other harmful compounds emission fuel properties - measurements performed at CCF stand).</li> </ol>
Profile of candidates/requirements:	<ol style="list-style-type: none"> <li>1. Master Degree in Mechanical Engineering/Energy Engineering or/and similar.</li> <li>2. A PhD student status in a field of Mechanical Engineering/Energy Engineering or/and similar.</li> <li>3. Oral and written language skills in English (min. B2 level).</li> <li>4. Professional experience (or internship) in, at least, one research unit – industry or academic (min. month).</li> <li>5. Proven experience in thermal and flow analysis performing (connected with harmful compounds emission reduction during combustion process).</li> </ol>

	<ol style="list-style-type: none"> <li>6. Knowledge of industrial stoker fired boiler operational parameters.</li> <li>7. Knowledge of boiler technology, especially in the field of combustion process optimisation, emission of harmful compounds (inter alia HCl, HF, NO<sub>x</sub>) and methods of its reduction as well.</li> </ol>
Required documents:	<ol style="list-style-type: none"> <li>1. Covering letter including the reason of willing to realise the PhD thesis within the UPS-Plus Project (max. 1 page).</li> <li>2. CV including relevant professional experience and knowledge (max. 2 pages).</li> <li>3. Copy of the degree certificate(s) with grades list. Translations into English or Polish if the original documents are not issued in one of these languages.</li> <li>4. Confirmation of good oral and written communication skills in English (min. B2 level).</li> <li>5. Confirmation of professional experience, according to Requirements pt 4 (confirmed by direct superior).</li> <li>6. Confirmation of required skills, according to Requirements pt 5.</li> </ol>
We offer:	The possibility of realizing PhD research in a dynamic research environment in close cooperation with industries and advanced research centres in the world.
Please submit the following documents to:	agnieszka.sadowska@polsl.pl (e-mail subject: CCF – PhD student application 3)
Application deadline:	15.10.2018 r.
For more details about the position please visit (website/webpage address):	www.ccf.polsl.pl
Euraxess job/stipend offer (in case of PhD and postdoc positions):	<a href="https://euraxess.ec.europa.eu/jobs/337792">https://euraxess.ec.europa.eu/jobs/337792</a>

Please include in your offer:

“I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process within the project conducted by Silesian University of Technology which is the administrator of my personal data.

I am aware of the fact that providing personal data is voluntary and necessary in the recruitment process. I have the right to withdraw or limit the scope of consent to data processing.

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place, date and signature”