Institute of Power Engineering - National Research Institute (IPE-NRI)

is offering:

Role of Stipendist in the Department of High Temperature Electrochemical Processes,
Center for Hydrogen Technologies CTH_2

JOB DESCRIPTION

Institute of Power Engineering – National Research Institute is opening a position for a researcher who will be involved in the project as a Stipendist - a member of the research team. The winning candidate will receive a stipend, and will be responsible for research activities within the project Study of the impact of modification of the surface and composition of the fuel electrode on the efficiency of the co-electrolysis process of carbon dioxide and steam in solid oxide electrochemical cells and the rate and mechanism of their degradation which received funding from the National Science Centre through SONATA programme.

The project is led by Dr. Eng. Anna Niemczyk.

Stipendist (Stipendist 2 in the project) will participate in WP3 (Development of a CFD-based numerical model of SOC cells working in the co-electrolysis mode, considering the proposed surface modifications, alternative composition and/or microstructure of the fuel electrode), WP4 (Electrochemical tests of the developed SOC cells in the coelectrolysis mode under various conditions with comprehensive analysis of the gained data) and WP5 (Long-term tests of SOC cells with a modified fuel electrode at selected operating points) using his/her skills in numerical research as well as experimental analysis. The young researcher will co-work with PI and Post-doc on the development of the numerical model, as well as supervision of ongoing SOC measurements, data collection and their post-processing for model validation will be in the scope of his/her responsibility. Taking part in both, model development and data acquisition, will be helpful for the effective realization of the planned activities, and undoubtedly will broaden knowledge of the Stipendist. He/she will be involved in the generalization of the mathematical model, describing the mechanisms of co-SOE operating in the developed cells, and preparation of the scientific articles and reports. If applicable, Stipendist, if he/she is a PhD candidate, will prepare PhD thesis or series of doctoral publications based on the gained within the project results.

WORK ENVIRONMENT

The workplace is Augustówka 36, 02 981 Warsaw, Poland at the Department of High Temperature Electrochemical Processes. The candidate will be part of a research group with more than

ten years of experience in the field of solid oxide cells. The group is supported by funds from national and international research projects, as well as collaboration with industry. Moreover, the team collaborate with top-research groups worldwide on topics related to the hydrogen technologies. The laboratories of IPE-NRI are equipped with several testing rigs (measurement of ASR, single cells and SOC stack) and is equipped with all the necessary infrastructure to carry out the research with state-of-the-art standards.

WHO SHOULD APPLY

- PhD or MSc student with a background in chemistry, materials engineering, chemical engineering power engineering, or related fields
- PhD candidate or MSc Student (proof of the status will be required)
- Experience in laboratory work, especially at work related to ceramic powders, and/or paste/suspension preparation
- Experience and knowledge regarding the high-temperature electrochemical devices and materials dedicated to hydrogen technologies
- Good command of English
- Publications related to the project field (will be an added value)

WHAT WE OFFER

- Contract for 18 months
- Monthly 2500 PLN
- Supervision and mentorship by a team of internationally renowned experts
- Advanced training opportunities (skills, career)
- Starting date from January 2026

REQUIRED DOCUMENTS FOR APPLICATION

- Curriculum vitae (CV)
- List of scientific achievements including publications, conference presentations, participation in research projects, internships and research stays, trainings/courses, awards and distinctions received, other
- Motivational letter
- BSc diploma or MSc diploma or proof of being enrolled in postgraduate/PhD studies or being a master student
- Declaration of agreement to process of personal data for recruitment purposes
- Declaration of meeting the formal requirements of the National Science Centre for the stipendist position in the project details to be found at: https://ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2022/uchwala124_2022-zal1.pdf

SELECTION CRITERIA

The scholarship committee assesses candidates taking into account the scientific achievements to date, the achievements in scientific research and competences to carry out specific tasks in the research project, with the following selection criteria and scores:

- Scientific achievements, including publications in journal and elsewhere and research career (50% of the final grade):
  - 4 - outstanding;

- 3 – very good
- 2 – good;
- 1 – weak;
- 0 – no achievements

- Achievements, including activities in research, scholarships, awards and scientific experience gained in Poland or abroad, scientific workshops, participation in research projects (20% of the final grade):
  - 4 - outstanding;
  - 3 – very good
  - 2 – good;
  - 1 – weak;
  - 0 – no achievements
- Competences to carry out specific tasks in the research project (30% of the final grade):
  - 3 – very good
  - 2 – good;
  - 1 – weak;
  - 0 – no achievements

In the event none of candidates scores at least 2.2 points, researcher will not be recruited.

HOW TO APPLY

Please send the application documents by email to anna.niemczyk@ien.com.pl by 17.12.2025. In the topic of the email, please write „SONATA – stipendist candidate".

Application documents must include the statement: „I consent to the processing of my perso- nal data for the purpose of recruitment in accordance with art. 6 sec. 1 lit. a of the Regulation of the European Parliament and of the Council (EU) 2016/679 of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (general regulation on data protection)".
Documents are considered delivered on time, if they were delivered to the above-mentioned address by December 17th, 2025. Persons qualified for the recruitment interview will be informed about its date by phone. We reserve the right to conduct a competency test during the interview with selected candidates. The recruitment process may be conducted online as a videoconference.

The Candidate will be selected in an open competition to be conducted by the committee in accordance with the Regulations for awarding research scholarships in research projects financed by the National Science Centre https://ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2022/uchwala124_2022-zal1.pdf

Application which are not complete or submitted after the deadline will not be considered. Results of the selection process will be made public in accordance with the regulations of the National Science Centre. The decision of the committee may not be appealed.

Headquarters of the Center for Hydrogen Technologies CTH2, Institute of Power Engineering – National Research Institute, Augustówka 36, Warsaw, Poland