

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

is offering:

### **A Stipend under the Role of Stipendist in the Department of High Temperature Electrochemical Processes, Center for Hydrogen Technologies CTH<sub>2</sub>**

#### **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](#).

The Stipendist will be actively involved in following work packages of the project: Development of the chemical composition of the suspension and optimization of the fuel electrode impregnation process (WP1), modification and optimization of the composition of the functional cathode layer by introducing an additional phase based on MIEC oxides (WP2), and preparation of cells for, planned within the package WP4: Electrochemical tests of the developed SOC cells in the co-electrolysis mode under various conditions with comprehensive analysis of the gained data. The Stipendist will take part in the development of compositions of suspensions and optimization of the impregnation process, as well as the development of the functional cathode layer and SOC preparation with modified fuel electrode. The described tasks will be conducted in collaboration with other team members. The Candidate will participate in the analysis of the catalytic activity of the fuel electrode, and assessment of the structure and microstructure of the developed layer. Moreover, the Stipendist will contribute to report and publication preparation.

#### **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 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 24 months
- Monthly 2500 PLN
- Supervision and mentorship by a team of internationally renowned experts
- Advanced training opportunities (skills, career)
- Starting date from late-November/beginning of December 2024

## 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](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](mailto:anna.niemczyk@ien.com.pl) by 28.02.2025. The selection process will end on 07.03.2025 with selection of the winning candidate. In the topic of the email, please write „SONATA – stipendist candidate”.

Application documents must include the statement: „I consent to the processing of my personal 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 November 16th, 2024. 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](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.

**The results of the opening will be published online upon completion of the evaluation on March 7<sup>th</sup>, 2025..**



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