

KSN 5/2021

Kraków, 21.07.2021

## ADJUNCT PROFESSOR in the group of Heterogeneous Catalysis: Theory and Experiment

- Employer: Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Krakow, Poland
- Research field:  
Chemistry> computational chemistry, heterogeneous catalysis, inorganic chemistry, physical chemistry, reaction mechanisms and dynamics, solar chemistry , structural chemistry)  
Physics> Applied physics, chemical physics,
- Researcher profile: R2
- Deadline for applications: 1.09.2021, 3:00 pm GMT+1
- Place: Poland, Kraków
- Type of Contract: temporary (18 months with possibility for the extension up to 24 months)
- Job Status: Full-time
- Working hours/week: 40
- Start of employment: 1.10.2021
- Key Words: DFT calculations, photochemistry methane activation

Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences invites applications for a ADJUNCT PROFESSOR in the Heterogeneous Catalysis: Theory and Experiment group within SolarMethaChem: Solar Light-Driven Processes for Methane Photochemical Conversion. The candidates who meet the conditions stated in the act “Ustawa o Polskiej Akademii Nauk” dated 30 April 2010 (Dz.U. 2018 poz. 1475 z póź. zm.), art 89. Ust. 3 for the position of ADJUNCT PROFESSOR are encouraged to apply for the position.

The Candidate will take part in research conducted by the group of Heterogeneous Catalysis: Theory and Experiment, which focus on light-assisted methane coupling within the project of Solar Driven chemistry Network. The major goals of this project are i) the nanoengineering of new materials for efficient oxidative coupling of methane to ethane and higher hydrocarbons, ii) identification of the reaction mechanisms of methane coupling and iii) optimization of the photochemical reactor and operating conditions. The adjunct professor will be involved in theoretical modelling of structure of catalysts and reaction mechanisms.

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In particular the adjunct professor will be responsible for:

- theoretical studies of the properties (including photochemical properties) of the catalysts composed of semiconductor/metal/ heteropolyacid, mostly with DFT and TD-DFT,
- theoretical modelling of methane coupling reactions.

### Required education:

Ph.D. title in chemistry or related area.

### Skills/qualifications:

1. experience in solid state / catalysts modelling using quantum chemistry methods, confirmed by the publications from the JCR list,
2. experience in modelling of reactions' mechanisms using quantum chemistry methods, confirmed by the publications from the JCR list,
3. knowledge of the DFT method confirmed by the publications from the JCR list,
4. knowledge / experience of at least two programs for quantum-chemical calculations (eg. Gaussian, Turbomole, VASP, CP2K, etc.)

### Specific requirements:

1. An application.
2. Consent to the processing of personal data for the needs necessary to carry out the recruitment process in accordance with the Act of 29 August 1997 on the protection of personal data (t.j. Dz. U. z 2016 r. poz. 922, z 2018 r. poz. 138, 723.) and fill in the form „Consent to the processing of personal data” confirming acquainting with its content. The form is available on the institute website [\[FORM\]](#).
3. A copy of scientific degree certificate.
4. Full CV (including information on maternal leaves, voluntary work and periods of work in the industry).
5. At least one opinion on the Candidate given by an independent researcher.
6. List of scientific achievements (scientific papers, patent, patent applications, grants, etc.).
7. Copies of 3 best publications connected to the topic of the call.



Instytut Katalizy i Fizykochemii Powierzchni  
im. Jerzego Habera  
Polskiej Akademii Nauk



HR EXCELLENCE IN RESEARCH

8. The Candidate's report on his/her scientific interests and research aims (an A4 page).

**Languages:**

Fluent in written and spoken English.

**Research experience:**

4-10 years

**Additional information:**

**Remuneration:**

The gross salary will be at least **8 200 PLN/month** depending on the Candidate's experience.

**Eligibility criteria:**

- Ph.D. degree in chemistry or related area,
- Documented achievements confirmed by publications from the JCR list.

**Selection process:**

Applications should be sent in electronic form to: [sekretariat@ikifp.edu.pl](mailto:sekretariat@ikifp.edu.pl) with the subject title „TYTUŁ ZGŁOSZENIA KSN 5/2021”

Deadline for applications: 01.09.2021 at **3:00 pm GTM+1**. The competition will be settled by **30.09.2021**. The candidates will be notified of the results.

The employment will be proceeded with accordance to the rules of Labour Code for 18 months with the possibility for the extension for 24 months.

**Additional information:**

The Institute has been adapted to the needs of the disabled. The Institute does not provide accommodation. The recruitment process is conducted according to [OTM-R policy](#).