



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



HR EXCELLENCE IN RESEARCH

KSN 8/2021

Kraków, 10.10.2021

Research assistant in the Cultural Heritage Research Group

- Employer: Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Krakow, Poland
- Research field:
 - Mechanical engineering > modelling of crack initiation and propagation,
 - Material science > determination of historic material mechanical properties,
 - Physics > solid state,
 - Physics > complex systems modelling.
- Researcher profile: R1 or R2
- Deadline for applications: 20.11.2021, time 15.00 GMT+1
- Place: Poland, Krakow
- Type of Contract: at least 24 months
- Job Status: full time
- Working hours/week: 40
- Start of employment: 01.01.2022

Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Krakow, Poland opens a position of a Research Assistant involved in the implementation of the NAWA-Craquelure and Craquelure-GRIEG1 projects in the Cultural Heritage Research Group of the Institute.

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. 4 for the position of research assistant are encouraged to apply for the position.

The Research Assistant reporting to the head of the Cultural Heritage Research (CHR) group will work on the development of a comprehensive mechanical and numerical model of historical, aged paint layers in paintings - innovative at a global scale. The paint layer is a complex assembly of strata of humidity-sensitive materials which have - over centuries - aged, cracked, and delaminated. Cracks join up forming the network - the craquelure pattern (CP) - which is a distinctive characteristic of materials and physical structure of the artwork, an outcome of the construction and painting techniques employed by the workshop and the artist,

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but there is no knowledge on how CPs have developed and what is the effect of CPs on painting vulnerability to environmental variations.

The Research Assistant will be responsible for:

- developing a comprehensive 3D mechanical model of historical paint layers, especially understanding mechanisms and processes involved in CP formation based on finite element modelling,
- determining the critical humidity variations of historical paint layers with developed CPs, also after conservation treatments using developed model,
- application for new projects.

Required education:

Master degree in one of the following disciplines: mechanical engineering, physics, material science or similar.

Skills/Qualifications:

1. Experience in data analysis, preferably supported by JRC publications.

Specific requirements:

- an application,
- 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 confirming acquainting with its content. The form is available on the institute website [[FORM](#)],
- a copy of Master degree certificate,
- full CV (including information on maternal leaves, voluntary work and periods of work in the industry),
- list of scientific achievements (scientific papers, research and implementation projects, grants etc.).

Languages:

Fluent in written and spoken English

Research experience:

- data analysis,
- modelling of complex systems using physical methods,
- determination of mechanical properties of materials.



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Additional information:

Remuneration:

The gross salary **5500-6200** PLN/month (roughly **1200-1400** Euro/month) depending on the Candidate's experience.

Eligibility criteria:

- Research experience documented by scientific publications in journals enlisted in JCR or patents,
- Master degree in one of the following disciplines: mechanical engineering physics, material science, PhD degree in the above disciplines will be additionally valued.
- Knowledge of one of the recognized programming languages will be additionally valued.

Selection process:

Applications should be sent in the electronic form to: ncikifp@cyf-kr.edu.pl with the subject title „CHR – assistant - KSN 8/2020”

Deadline for applications: 20.11.2021 at 15:00 GMT+1.

The two phase evaluation will take place. The group of selected candidates will be asked to participate in an individual meeting using teams platform.

The competition will be settled by 06.12.2021. The candidates will be notified of the results.

The employment will be proceeded in accordance to the rules of the Labour Code for at least 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](#)