

FORM FOR EMPLOYERS

INSTITUTION: AGH University of Krakow

DEPARTMENT: Faculty of Geology, Geophysics and Environmental Protection

CITY: Cracow

POSITION: assistant professor in the research group

DISCIPLINE: Earth and related environmental sciences

POSTED: 14.10.2025

EXPIRES: 13.11.2025

WEBSITE: <https://www.agh.edu.pl/o-agh/praca-w-agh>

KEY WORDS: anisotropy, carbonates, sandstones, shales, porosity, permeability, tortuosity, conductance, diffusion tensor, nuclear magnetic resonance, magnetic resonance imaging

DESCRIPTION (field, expectations, comments, requirements):

Conducting research as part of the research project "OPUS 28" funded by the National Science Centre, contract no. UMO-2024/55/B/ST10/01980, entitled "Study of the use of diffusion tensor imaging and complementary geophysical techniques for spatial estimation of filtration parameters of carbonate, shale, and terrigenous rocks, with particular emphasis on rock core anisotropy."

Term of employment and remuneration: 12 months with the possibility of extension.

Specific Research Objectives:

The main objective of the project is to develop a comprehensive research approach that integrates diffusion tensor imaging (DTI) with complementary petrophysical methods to enable spatial estimation of filtration parameters in carbonate and terrigenous rocks, including sandstones and shales. Particular emphasis will be placed on identifying and quantifying pore space anisotropy in these rocks, which is crucial for the precise modeling of fluid and gas flow in anisotropic porous media.

Specifics of the work:

The work will place particular emphasis on the geological and geophysical interpretation of experimental results, including estimation of diffusion tensors, permeability, tortuosity, and electrical conductivity of rock cores, anisotropy characteristics, and the relationship of these parameters to pore microstructure.

Responsibilities:

- 1) supporting both theoretical and experimental aspects of the project;
- 2) direct participation in the implementation of WP1 tasks (theoretical work) and experimental research on the development of models of filtration parameters derived from the diffusion tensor (WP4-WP8);
- 3) conducting research using NMR techniques (low- and high-field), including measurements on carbonate, sandstone, and shale cores;
- 4) investigating petrophysical properties of rocks, including modeling permeability, porosity, tortuosity, and electrical conductivity based on DTI/NMR data;
- 5) integration of NMR data with results obtained from other geophysical and petrophysical methods;
- 6) close collaboration with the Project Manager (PI) and acting as an integrator within the research team;
- 7) preparation of scientific publications and conference presentations.

A candidate may be a person who meets the following requirements specified in the Act on Higher Education:

- 1) has the qualifications specified in the Act,
- 2) has full legal capacity,

- 3) has not been punished by a final court judgement for an intentional crime,
- 4) enjoys full public rights.

Requirements:

- 1) PhD in geophysics, physics, geology, petroleum engineering, or related fields,
- 2) scientific and organizational achievements and active participation in conferences and symposia,
- 3) experience in applying NMR techniques in scientific research,
- 4) experience in studying and modeling the petrophysical properties of rocks,
- 5) knowledge of methods for integrating NMR data with other geophysical/petrophysical data (preferred),
- 6) modeling and analysis skills in MATLAB, Python, or similar software,
- 7) excellent analytical skills,
- 8) conscientiousness and high diligence in carrying out assigned tasks,
- 9) English language proficiency at least at a B2 level.

REQUIRED DOCUMENTS:

- 1) cover letter, CV,
- 2) diplomas and certificates confirming qualifications,
- 3) list of scientific and organizational achievements, including publications, research projects, conferences, training courses, and internships,
- 4) documents confirming English language proficiency at least at a B2 level,
- 5) information about scientific interests and research plans.

DOCUMENTS MUST BE SUBMITTED AT:

Documents should be submitted in electronic form to the e-mail address: nagwizda@agh.edu.pl or at the Dean's Office of the Faculty of Geology, Geophysics and Environmental Protection AGH (30-059 Kraków, al. Mickiewicza 30, A-0 building, higher ground floor, office no. 20).

The AGH University will be the candidate's main place of employment.

The AGH University of Krakow does not require you to provide any information or data other than those resulting from the applicable law (name/names, surname, date of birth, contact details, education, professional qualifications and employment history). However, if you choose to include your photograph or any other information, please fill in and attach this statement of consent to the processing of personal data, which constitutes an attachment to this information.

The controller of your personal data processed in order to carry out the recruitment process for the above-mentioned position is the Stanisław Staszic AGH University of Krakow, al. A. Mickiewicza 30, 30-059 Krakow. You can read the full information concerning the processing of your personal data on the AGH University of Krakow website after going to the "Protection of personal data" tab at (www.agh.edu.pl/RODO).

The University reserves the right not to settle the competition without providing any reason or justification. Winning the competition is not tantamount to ensuring the candidate's employment. The result of the competition serves solely as a recommendation to the Rector in this regard. The final decision concerning the employment will be made by the Rector.

The AGH University of Krakow [has a procedure for reporting legal violations and taking follow-up action.](#)

Cracow, on

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name and surname

CONSENT TO PERSONAL DATA PROCESSING
(recruitment - employee)

Pursuant to Article 6(1)(a) of the Regulation (EU) 2016/679 of the European Parliament and of the Council of April 27, 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation), [OJ EU . L. 2016.119.1, May 4, 2016] hereinafter referred to as "GDPR", **I consent to the processing of my personal data other** than the data mentioned in Article 22¹ § 1 of the Labour Code and contained in my CV and other application documents, and to the reproduction of my physical likeness **for the purposes of recruitment and selection for the position of** (contest notice no.).

In addition, I declare that the request for consent has been presented in a clear and understandable manner and that I have been informed about a possibility of withdrawing my consent at any time as well as about consent accountability. The withdrawal of consent to have personal data processed shall not affect the legality of the processing, which is carried out on the basis of such consent prior to its withdrawal; The consent may be withdrawn by submitting a written representation on consent withdrawal at a place that was indicated in the contest notice as the place for submitting documents.

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Date and signature