



INSTITUTION:	Gdańsk University of Technology, Faculty of Civil and Environmental Engineering, Department of Mechanics of Materials and Structures
CITY:	Gdańsk
EMPLOYEE GROUP:	research staff
POSITION:	Assistant professor
NUMBER OF OFFERS AVAILABLE:	1
DISCIPLINE:	civil engineering, geodesy and transport
POSTED:	07.03.2025
EXPIRES:	31.05.2025
PLANNED DATE OF COMPETITION ENDS:	16.06.2025
PLANNED DATE OF EMPLOYMENT:	01.10.2025
WEBSITE:	https://praca.pg.edu.pl/jobs/m/3548/en
KEYWORDS:	smart composite, self-sensing material, self-healing material, 3D printing, polymer matrix conductive composite, electrical properties, Joule effect, damage detection, structural health monitoring

TASKS/ ROLE

Implementation of research tasks planned in the NCN OPUS 27 project "Multifunctional smart composite with integrated self-sensing, self-heating and selfhealing capabilities manufactured using 3D printing (SMART-S2H3D)" (project leader: Prof. Dr. Hab. Eng. Magdalena Rucka), in particular:

- optimization of the geometry of conductive composite samples manufactured using 3D printing technology
- participation in experimental research (mechanical, thermographic, and electrical measurements)
- development of coupled electrical-thermal-mechanical numerical models
- numerical modeling of self-healing processes in conductive composite materials
- development of probabilistic algorithms for damage detection and localization
- preparation of reports and presentations on conducted research
- contribution to the preparation of scientific publications presenting project results
- presentation of research findings at conferences and seminars

REQUIREMENTS



- a doctoral degree in civil engineering, mechanical engineering, biomedical engineering, technical physics, or a related field (degree obtained in 2025 or within 7 years before January 1, 2025; this period may be extended depending on circumstances specified in separate regulations)
- research profile related to the mechanics of composite materials, non-destructive testing, electrical conductivity of composites FEM modeling, optimization, machine learning, and evolutionary algorithms
- extensive knowledge of composites and conductive composites
- programming skills (MATLAB, Python) and digital signal processing
- proficiency in FEM modeling software (Abaqus, Ansys)
- experience in machine learning and evolutionary algorithms
- documented scientific achievements (lead author of at least several publications in international scientific journals)
- fluent communication in English (minimum B2 level), enabling independent study of specialized scientific literature, contribution to publications, and oral presentation of results at international conferences

The candidate must meet all the conditions specified in the Regulations for awarding funds for the implementation of tasks financed by the National Science Centre in the field of research projects (NCN Council Resolution No. 23/2024 of March 4, 2024 r), https://ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2024/uchwala23_2024-zal1_ang.pdf

ADDITIONAL REQUIREMENTS

- experience in 3D printing technology and non-destructive testing techniques

BENEFITS

- full-time employment (40 hours per week)
- fixed-term employment contract, for 24 months
- a position with no teaching duties
- monthly gross salary of 8987 PLN
- start date: October 1, 2025 (exact date to be determined with the selected candidate)
- work for one of the leading technical universities in Poland
- academic organisational culture based on the principles of respect
- stable employment conditions
- additional annual salary
- opportunity to relax at Gdańsk Tech's Resort, located in the picturesque Kaszuby Lake District
- internal trainings
- access to the university library
- option to join: employee group life insurance, private medical care, sports and recreation program (Benefit MultiSport card)
- on campus there are: kindergarten, baby changing and feeding stations, refreshment kiosks, relaxation areas and free parking lot
- sports activities at Gdańsk Tech's facilities
- on campus there are: kindergarten, baby changing and feeding stations, refreshment kiosks, relaxation areas and free parking lot
- holiday subsidies



- preferential loans
- work in a well-connected place
- and much more... For a full list of benefits visit: <https://chr.pg.edu.pl/en/join-us>

DOCUMENTS

- CV
- documents confirming obtained academic degrees/titles and professional qualifications
- information on professional achievements
- chronological list of publications
- reference letter from an independent academic researcher (recommended)

SELECTION / ELIGIBILITY CRITERIA

The eligibility criteria will relate to the requirements of a given competition and will concern a qualitative and quantitative assessment of the candidate's qualifications, competences, experience and achievements.

PLACE AND FORM OF THE OFFERS

Documents should be sent by e-mail to:
magdalena.rucka@pg.edu.pl

CONTACT EMAIL ADDRESS

magdalena.rucka@pg.edu.pl

IN THE TITLE OF E-MAIL, PLEASE ENTER

Post-doc in OPUS 27, no. 2024/53/B/ST8/01144

Please include following clause:

"In accordance with Article 6 (1) (a) of the General Data Protection Regulation of 27 April 2016 (EU Journal of Laws L 119, of 04.05.2016) (GDPR) I hereby agree to the processing of personal data included in my job offer by the Gdańsk University of Technology (Politechnika Gdańska), ul. Narutowicza 11/12, 80-233 Gdańsk for the purposes required for recruitment."

In accordance with Article 13 of the General Data Protection Regulation of 27 April 2016 (EU Journal of Laws L 119, of 04.05.2016) (GDPR) we hereby inform that:

- 1. The Data Controller presented in the job offer is Gdańsk University of Technology (Politechnika Gdańska), ul. Narutowicza 11/12, 80-233 Gdańsk (postal code: 80-233).*
 - 2. The Data Controller appointed the Data Protection Officer, who may be contacted via email address: – dpo@pg.edu.pl*
 - 3. Your personal data will be processed for purposes related to servicing the Employer portal of Gdańsk University of Technology in accordance with Article 6 (1) (a) RODO (consent).*
 - 4. Your personal data will be stored until the recruitment process is completed or when employment is terminated. After this time your personal data will be archived and stored for the period of 10 years.*
 - 5. Granting the consent for data processing is voluntary but necessary for recruitment purposes.*
 - 6. The data provided will not be made available to third parties. The recipients of the data will only be institutions authorized by law.*
 - 7. You have the right to request access to the content of your data and the right to rectify, supplement, delete or limit processing, the right to data portability, the right to object to the processing, and the right to withdraw consent at any time. Moreover, you have the right to file a complaint with the supervisory authority in charge of personal data protection (i.e. the President of the Personal Data Protection Office).*
 - 8. Your data will not be subject to profiling.*
 - 9. The Data Controller will not transfer any personal data to a recipient in a third country or an international organization.*
- The contest may be closed without selecting a candidate.
We will contact the selected candidates.
All the documents sent will not be returned.*