

Name and surname	Dariusz Nowakowski
Academic Degree	dr hab. (DSc.)
Institute/Department	Institute of Environmental Biology
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ORCID	0000-0002-8301-7662
UPWr Base of Knowledge - link	https://bazawiedzy.upwr.edu.pl/info/author/UPWredff3fa1b78e477e8274205e64791312/Profil%2Bosoby%2B%25E2%2580%2593%2BDariusz%2BNowakowski%2B%25E2%2580%2593%2BUniwersytet%2BPrzyrodniczy%2Bwe%2BWroc%25C5%2582awiu?r=author&tab=&lang=pl&qp=
Researchgate	https://www.researchgate.net/profile/Dariusz-Nowakowski-2
Personal website / Working group website	
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca))	<p>- Mieszkańcy, kultura i środowisko przyrodnicze Górnych Łużyc na przykładzie badań mikroregionu Tomersdorf-Toporow (Grant UMO-2013/10/E/HS3/00368, kierownik dr J. Szczurowski), wykonawca, 2017-2020.</p> <p>- U progu industrializacji - ocena dobrostanu mieszkańców nowożytnego Wrocławia w ujęciu interdyscyplinarnym (Grant 2017/25/B/HS3/02006, kierownik dr P. Dąbrowski), wykonawca, 2017-2019</p> <p>- Differentiation of equine dental tissues using imaging techniques in scanning electron microscopy and light microscopy. Projekt badawczy, zespół naukowy UPWr.</p> <p>-Differentiation of human hyoid bone, 3D modeling. Projekt badawczy, zespół naukowy UMWr, PWr, UPWr.</p>
Do you plan to engage support of second supervisor or auxiliary supervisor?	NO
PhD topic	Reconstruction of living conditions and eating habits of medieval inhabitants of Europe, differentiation of the microstructure of dental tissue - histology, SEM, EDS.
Research discipline in Doctoral School	Biological Sciences
Short description of the research problem to be solved in the PhD (minimum 1000 characters)	<p>Some tooth abnormalities are rarely identified in archaeological material and may be difficult to diagnose, including changes in the structure of enamel and dentin. The diversification of the microstructure of the teeth is one of the problems of bioarchaeological research on the condition of the masticatory organ, in which the appropriate assessment of the course of carious, hypoplastic and other pathological changes in dentition subjected to both pathological and developmental processes, taking into account factors occurring in natural post-deposition conditions. Taphonomic processes, which are among the factors that essentially influence the diagnosis and statistical characteristics of tooth microstructure changes postmortem, can be classified as having a significant impact on the degree of sediment contamination in fissures, fissures, dimples and other natural retention sites; brittleness and brittleness of enamel subjected to the pressure of variability of environmental acidity or thermal pressure, and the nature of secondary discoloration caused by the chemical composition of the substrate in the place of deposition of the human skeleton. In the systems of anthropological evaluation of dentition described and used so far, pathological conditions of the examined tooth surfaces are primarily those that can be probed. This allows for the registration of relatively large and legible cavities in the hard tissues of the tooth, resulting from the intensity of the destructive factors. However, due to the nature of the changes, the states of disorders include the arrangement of enamel prisms are usually not recorded in macroscopic examinations. Therefore, there is a need to assess the structural and chemical differences between healthy and pathologically affected hard tissues of human permanent teeth using histological techniques (light microscopy of tooth cuts), SEM (scanning electron microscopy) and EDS (X-ray chemical composition analysis) in the excavated skeleton material from as wide as possible the area of European finds. Such research will allow for the assessment, and in some cases revision of the already existing views on the living conditions and eating habits of the medieval inhabitants of Europe.</p>
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters)	<p>Completed studies in the field of Biological Sciences or Medicine. Knowledge of human anatomy. Knowledge of basic histological techniques, including preparation of preparations, operation of the research light microscope, the ability to analyze the structure of the enamel on the basis of the Scanning Electron Microscope image. Interest in anthropology and archeology. Independence and creativity in conducting research. Availability during doctoral studies. Interest in teaching activities. Communicativeness.</p>
Details of the project to support PhD research	
a) Project title	none
b) Agreement number	none
c) Number of months in the project to support PhD (in months; starting from 1st of October 2022)	0
d) Project website	