

Masaryk University	
Faculty	Faculty of Science
Procedure field	Geology
Applicant	Mgr. Tomáš Kuchovský, Ph.D.
Applicant's home unit, institution	Faculty of Science, Masaryk University
Habilitation thesis	Anthropogenic impact on the groundwaters between Bohemian Massif and Western Carpathians
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Evaluation of the applicant's scholarly/artistic qualifications

Although Dr. Kuchovský's scientific discipline is primarily applied, the candidate meets all requirements for the scientific level of his work. The number of publications indexed in WoS is 17 (according to the faculty summary table), the number of citations excluding self-citations is 88, and the H-index is 6. Nine publications are in Q1 or Q2 journals.

The main focus of the publications lies in the categories Water Resources (7 publications) and Geosciences, Multidisciplinary (4 publications). The work addresses hydrogeological issues in relation to mineral extraction, prediction of mining impacts on groundwater and risk definition for strategic water resources, as well as the geothermal potential of deep sedimentary structures. Earlier work focused on contamination hydrogeology and pollutant issues in river basins.

The candidate has completed several long-term research stays in Spain and Belgium, as well as a number of shorter stays in Sweden, Switzerland, and Germany. In Spain, in addition to teaching as a visiting professor, he is involved in the research project "Cenozoic uplift of the N-Iberian margin at different scales: influence on seismic activity, relief, emerged/submerged lands and underground aquifers (CUNIMS)" (Reference: PID2021-126357NB-I00). Within this project, he contributes to addressing geological and climate risks affecting strategically important coastal aquifers.

He is the author of three outputs in the category results utilized in legislative, non-legislative, or strategic documents (expert witness reports). He is also the author of one output in the category certified methodologies, specialized maps, medical, or conservation methods. In addition, he has authored 24 contract research reports prepared for companies or public administration bodies.

Contract research reflects current practical needs and focuses on hydrogeology of sites for deep geological repositories of radioactive waste, hydrogeology in landslide-prone areas, and in recent years primarily on the impact of mining on groundwater and risks associated with expanding mining areas affecting important drinking water resources. Advanced hydrogeological research methods are applied in this work (e.g., advanced modeling, isotope hydrology). The results are published, used in diploma theses, and incorporated into innovations in teaching. The annual volume of contract research ranges between 0.5–1.2 million CZK.

Contract partners include SURAO, ŘSD s.p., DIAMO s.p., Heidelberg Materials CZ a.s., GEOTest a.s., BUDIŠ a.s., AQUA ENVIRO s.r.o., ENVI AQUA s.r.o., SONDEO s.r.o., SUBTERRA a.s., and others.

His expertise is also demonstrated by his role as an examination commissioner of the Ministry of Justice of the Czech Republic for the appointment of expert witnesses in hydrogeology. In the past, he served as an expert in the Ministry of the Environment commission for evaluating foreign development projects and as a member of an expert team of the State Office for Nuclear Safety for the amendment of the Atomic Act.

In recent years, he has been the principal investigator of three Interreg projects focusing on groundwater use in the border region of the Czech Republic, Slovakia, and Austria—specifically in the Morava and Dyje river basins. A broad international team of experts from institutions in these countries addresses, among other topics, the long-term sustainability and coordination of groundwater use in the region, as well as strategic groundwater resources linked to deep geological structures that remain stable during prolonged drought periods.

Conclusion: The applicant's scholarly/artistic capabilities **meet** the requirements expected of applicants participating in a habilitation appointment procedure in the field of Geology.

Evaluation of the applicant's pedagogical experience

Dr. Kuchovský is likely the most heavily engaged lecturer at the Institute of Geological Sciences. He has been regularly involved in teaching since 2002. At Masaryk University, he teaches a total of 10 standard courses at the bachelor's and master's levels. Some of these courses he has taught throughout his entire teaching career, while others he introduced gradually in response to the need to innovate teaching in line with practical demands. In addition, he lectures in two university-wide Core courses. Since 2011, he has also regularly taught Applied Hydrogeology at the University of Oviedo in Spain.

There is strong student interest in his teaching, as evidenced by the large number of supervised theses—91 successfully defended bachelor's theses and 76 master's theses. One of his students has completed a doctoral degree and, in 2026, became the recipient of the Dean's Award in the category Best Doctoral Student.

His teaching is highly rated by students in course evaluations.

He has significantly contributed to the development of the study programs Water Resources Management at both the bachelor's and follow-up (master's) levels. He serves as the guarantor of the bachelor's study program and, pending a successful habilitation process, is expected to become the guarantor of the master's program as well.

Dr. Kuchovský teaches courses across a broad spectrum of hydrogeological disciplines. There is strong demand for graduates in this specialization, and his students therefore typically have no difficulty finding employment. However, this also requires instructors in this field to continuously monitor practical requirements and incorporate them into teaching, which Dr. Kuchovský successfully achieves. Most of his bachelor's and master's students work on their theses based on requirements from companies or public administration bodies, or in direct collaboration with them. As a result, graduates transition more easily into professional practice and employment. Students also participate in contract research projects, enabling them to gain practical skills beyond standard coursework. For students in follow-up study programs, he arranges professional internships in companies specializing in hydrogeology and remediation geology.

At the same time, thanks to his international stays and teaching at a foreign university, Dr. Kuchovský incorporates current knowledge and trends from international research into his teaching. In doing so, he indirectly contributes to raising the professional level of hydrogeological and environmental geology companies in the wider region, where his graduates find employment.

The candidate is also involved in several practically oriented Interreg cross-border cooperation projects focused on drought mitigation. His students are also engaged in these projects through bachelor's and master's theses. The knowledge gained from these projects is subsequently used to further innovate his teaching.

Conclusion: The applicant's pedagogical capabilities **meet** the requirements expected of applicants participating in a habilitation appointment procedure in the field of Geology.

Habilitation thesis evaluation

The habilitation thesis of Dr. Kuchovský, "Anthropogenic Impact on the Groundwaters between the Bohemian Massif and the Western Carpathians," consists of a set of eight published papers accompanied by an extensive introduction and conclusions. The total length of the work, excluding the attached publications, is 70 pages.

The thesis addresses three anthropogenic processes that affect groundwater in the area of interest.

The impacts of mining activities are documented through studies of groundwater affected by deep mining of energy resources—uranium in the Dolní Rožínka area and coal in the Rosice–Oslavany Basin. The effects of surface mining are illustrated by the example of sand and gravel extraction at the Mohelnice deposit.

Another part of the thesis is devoted to groundwater contamination by organic substances and to methods for their removal.

The final part of the thesis deals with the impact on groundwater caused by the extraction of thermal waters at the Pasohlávky site, where thermal waters are used for recreational purposes.

The habilitation thesis was reviewed by three opponents: Associate Professor Ličbinská from VSB–Technical University of Ostrava, Associate Professor Šembera from the Technical University of Liberec, and Professor Poblet from the University of Oviedo.

All three reviewers recommend the thesis for acceptance as a habilitation thesis. In total, they raised eight questions, which the candidate answered during the public lecture.

Conclusion: The applicant's habilitation thesis **meets** the requirements expected of habilitation theses in the field of Geology.

Secret vote results

Voting took place: electronically

Number of board members		5
Number of votes cast		5
of which	in favour	5
	against	0

Board decision

Based on the outcome of the secret vote and following an evaluation of the applicant's scholarly or artistic qualifications, pedagogical experience and habilitation thesis, the board hereby submits a proposal to the Scientific Board of the Faculty of Science of Masaryk University to **appoint the applicant associate professor** of Geology.

In Brno on 04.05.2026

prof. RNDr. Jaromír Leichmann, Dr. rer. nat.