

FORMAL OPINION

on a competition for the academic position of "**Associate Professor**"
in Professional Field 4.4 Earth Sciences, scientific specialty "Petrology"

Candidate: Assistant Professor Kameliya Yankova Marinova, PhD Department of Hydrogeology and Engineering Geology, Faculty of Geology and Prospecting, University of Mining and Geology "St. Ivan Rilski".

Member of the Scientific Jury: Prof. Marlena Ilieva Yaneva, PhD Geological Institute "Acad. Strashimir Dimitrov", Bulgarian Academy of Sciences (BAS).

This statement has been prepared in accordance with the decision of 15 June 2026 of the first meeting of the Scientific Jury, appointed by Order No. RD 13-16/15 April 2026 of the Rector of the University of Mining and Geology "St. Ivan Rilski". It has been prepared in accordance with the requirements of the Higher Education Act, the Academic Staff Development Act in the Republic of Bulgaria, the respective implementing regulations, as well as the institutional rules and the nationally established minimum criteria.

The competition for "Associate Professor" in Professional Field 4.4 Earth Sciences, scientific specialty "Petrology", for the needs of the Department of Hydrogeology and Engineering Geology, was announced in the *State Gazette*, issue No. 33/03 April 2026. Within the deadline, the sole candidate, Assistant Professor Kameliya Yankova Marinova, PhD, submitted an application for participation and was admitted to the competition.

1. Academic profile of the candidate and submitted materials

Assistant Professor Kameliya Marinova graduated with a Bachelor's degree in 2010 in "Geology and Geoinformatics", and in 2012 with a Master's degree in "Applied Mineralogy" at UMG "St. Ivan Rilski". In 2020, she obtained her PhD in Petrology after defending a PhD thesis on the topic "*Mineralogical and Petrographic Study of Artifacts from Cult Sites (Second Half of II Millennium BC – I Millennium BC) in the Eastern Rhodopes, Southern Bulgaria*". She held the position of "Assistant" from 2018 to 2022, and from 2022 to the present, she has been an Assistant Professor in the Department of Hydrogeology and Engineering Geology, Faculty of Geology and Prospecting, at UMG "St. Ivan Rilski".

Dr. Marinova attached a general list of 40 scientific publications, including articles, scientific communications, extended abstracts, one monograph, and one chapter in a collective monograph. For her participation in this competition, Dr. Marinova selected and presented 23 scientific publications, which are correctly listed in the compliance report according to the minimum national and institutional requirements. These publications were not used for acquiring the "PhD" degree or during the competition for the Assistant Professor position. Among them, two are in the journals in the second quartile (Q2), three in the third (Q3), and eight in the fourth quartile (Q4). She is the author of the monograph: *Rock Complex "Gluhite Kamani", Geoarchaeological Research*, 2026 – Megalan LLC, ISBN 978-619-04-0819-2, 140 pp. The publications in Bulgarian and English are almost equal in number. Assistant Professor Marinova has also participated in 9 national projects, serving as the lead researcher on one of them.

The candidate has submitted all materials and documents that comply with the requirements of the Higher Education Act, the Academic Staff Development Act in the

Republic of Bulgaria and the Regulations for its implementation, the Rules for Holding Academic Positions at the University "St. Ivan Rilski", the Minimum National Requirements, and the internal criteria of the institution.

2. Scientific and applied research contributions

Dr. Marinova's scientific production is characterized by a distinct interdisciplinary nature, combining petrology, mineralogy, geochemistry, geoarchaeology, and materials science. A significant contribution is the implementation of integrated analytical approaches to study natural and archaeological materials. The contributions can be grouped into the following areas:

1. **Contributions in Petrology, Mineralogy, and Geochemistry:** This includes new insights gained regarding the mineral composition, genesis, and evolution of igneous, metamorphic, and sedimentary rocks, the occurrences of corundum and copper mineralizations, and the factors controlling their formation. Integrated mineralogical, geochemical, and geophysical approaches were developed and applied to characterize geological environments and promising sites for strategic raw materials.
2. **Contributions in Geoarchaeology and Archaeometry:** Knowledge regarding the origin of raw materials, production technologies, and firing conditions of ancient ceramics and construction materials has been expanded. A complex interdisciplinary approach was developed, combining petrographic, mineralogical, geochemical, and modern instrumental methods (XRD, SEM-EDS, Raman, IR, X-ray tomography), providing a reliable reconstruction of ancient manufacturing techniques. A significant contribution is the creation of a methodological foundation for future geoarchaeological research, applicable to the study of archaeological sites in Bulgaria and abroad.
3. **Contributions in Materials Science and Applied Research:** This group encompasses new results on the composition, structure, and properties of traditional and novel ceramic materials, as well as materials used in construction and cultural heritage; along with research on environmentally oriented raw materials and technologies to develop materials with enhanced performance characteristics.
4. **Applied Scientific and Methodological Contributions:** The application of modern analytical methods in evaluating materials of practical importance has been proven. Interdisciplinary methodologies with high analytical reliability were developed and implemented for the comprehensive study of natural and archaeological materials. Non-destructive and environmentally friendly approaches were proposed for characterizing geological objects and cultural heritage, with potential applications in scientific practice, engineering geology, and critical raw material exploration. The obtained results have practical applicability in identifying raw material sources, reconstructing technologies, and developing new materials.
5. **Scientific Museum Activity and Outreach:** Contributions were made toward developing modern approaches to document, digitize, and popularize geological and mineralogical heritage. Digital models, virtual exhibits, and interactive educational resources were created, expanding access to scientific information and museum collections.

3. Teaching activity

Dr. Kameliya Marinova's pedagogical activity is well-detailed in Annex 4 and encompasses a total of 1,942 hours of lab/practical sessions and lectures over the past 5 academic years for Bachelor's and Master's degree students across the following courses: *Mineralogy and Petrography, Petrography, Crystal Optics, Igneous Petrology, Metamorphic Petrology, Geoarchaeology, and Materials Science*.

4. Research visibility and impact

Dr. Marinova provides a list of 17 citations, 16 of which are in publications indexed in Scopus and Web of Science. The indicators for scientific visibility and citation metrics confirm the recognition of the candidate's scientific achievements within the specialized research community.

5. Critical remarks and recommendations

I have no significant critical remarks regarding the presented materials. I would recommend increasing publication activity in the English language and in journals within the first and second quartiles (Q1–Q2), as well as taking a more active role in international research projects. These recommendations serve as guidelines for future development and in no way diminish the high overall evaluation of the candidate's scientific, applied, and teaching activities.

6. Conclusion

The submitted materials convincingly prove fulfillment of the minimum national requirements under the Act on Development of the Academic Staff in the Republic of Bulgaria, as well as the criteria of the University of Mining and Geology "St. Ivan Rilski" for holding the academic position of "Associate Professor".

The analysis of Assistant Professor Kameliya Marinova's scientific output demonstrates her consistent and purposeful development as a researcher in petrology, geoarchaeology, and materials science. Her scientific work stands out for its interdisciplinary approach, high methodological level, and application of modern analytical techniques. The complex methodologies developed for examining natural and archaeological materials leave a positive impression, carrying both fundamental scientific value and real practical potential. Alongside her research activities, Dr. Marinova demonstrates active teaching work by training students in fundamental subjects within petrology, mineralogy, geoarchaeology, and materials science. This demonstrates not only thorough professional background but also the ability to convey knowledge and shape future specialists.

Based on the overall assessment of the submitted scientific works, established scientific and applied contributions, teaching activity, and fulfillment of all regulatory requirements, I give a **positive evaluation** to the candidature of Assistant Professor Kameliya Yankova Marinova, PhD, for the academic position of "Associate Professor" in Professional Field 4.4 Earth Sciences, scientific specialty "Petrology", for the needs of UMG "St. Ivan Rilski".

I confidently **recommend** that Assistant Professor Kameliya Yankova Marinova, PhD, **be appointed to the academic position of "Associate Professor"**, as she is an established scholar with proven scientific achievements, substantial contributions to the development of

petrology and geoarchaeology, an active teaching record, and excellent prospects for future development in scientific and educational endeavors.

City of Sofia

Prepared by:

28 July 2026

(Prof. Marlena Yaneva, PhD)