OPINION

by Assoc. Prof. Dr. Elitsa Stoyanova Stefanova

Department of Mineralogy and Mineral Resources, Geological Institute of the Bulgarian Academy of Sciences

Member of the Scientific Jury

**Subject:** competition for the academic position of "Associate Professor" in 4.4 "Earth Sciences", scientific specialty "Mineralogy and Crystallography", for the needs of the scientific department "Experimental Mineralogy and Crystallography" at the Institute of Mineralogy and Crystallography-BAS, announced in the State Gazette No. 56 of 19.06.2026, with a single candidate Liliya Vladimirova Tsvetanova.

***Candidate Information.*** The candidate, Liliya Vladimirova Tsvetanova, holds a Master's degree in "Geology of Mineral Resources", with a professional qualification as a Geological Engineer specializing in mineral exploration, obtained from the "St. Ivan Rilski" University of Mining and Geology, Sofia, in 2002. In 2017, she defended her dissertation for the educational and scientific degree of "Doctor" (PhD) at the Institute of Mineralogy and Crystallography of the Bulgarian Academy of Sciences (BAS), on the topic "Structural Characterization of Ion-Exchanged ETS-4." Since 2015, she has held the positions of Assistant and subsequently Assistant Professor in the "Experimental Mineralogy and Crystallography" Department at the Institute of Mineralogy and Crystallography of the Bulgarian Academy of Sciences.

***Publication activity.*** The candidate has submitted 21 articles for the competition for the position of Associate Professor. A significant portion of these publications appear in Bulgarian and international scientific journals with an impact factor (6 in Q1, 5 in Q2, 1 in Q3, and 4 in Q4), including 8 articles in MDPI journals. The candidate is the first author of one of these papers and the second author of two others. There are 27 citations across 9 publications, and the candidate holds an H-index of 5 in the Scopus database. The candidate lists 22 participations—primarily in the form of posters—in Bulgarian and international scientific congresses, conferences, and other academic forums. Furthermore, the candidate has participated in 7 research projects, and she is a project leader of one of them, which was funded by the Bulgarian National Science Fund (under the Ministry of Education and Science).

From the Report on the Fulfillment of Minimum Criteria for Holding the Academic Position of "Associate Professor" it is obvious that the candidate meets the minimum requirements—in accordance with the Regulations for the Application of the Act on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB) and the Regulations of the Institute of Mineralogy and Crystallography at the Bulgarian Academy of Sciences (BAS)—for each of the individual indicators.

| **Group of Indicators** | **Indicators** | **Associate professor** | |
|---|---|---|---|
| | | **Minimum** | **Achieved** |
| А | Indicator 1 | 50 | **50** |
| Б | Indicator 2 | - | **-** |
| В | Indicators 3 and 4 | 100 | **100** |

| | | | |
|---|---|---|---|
| Г | Indicators from 5 to 10 | 220 | **261** |
| Д | Indicators from 11 to 13 | 60 | **135** |
| Е | Indicators from 14 to 22 | - | **-** |
| Total | | 430 | **546** |

***Scientific and applied scientific contributions.*** Dr. Tsvetanova has provided a detailed and reader-friendly overview of her contributions, categorized under groups "В" and "Г" and organized into four main thematic areas: 1. Synthesis, modification, characterization, and application of natural and synthetic mineral materials; 2. Research into the sorption, catalytic, and biological properties of natural and synthetic materials; 3. Characterization and utilization of natural and technogenic raw materials for the production of geopolymer, ceramic, and cement materials; 4. Mineralogical, crystallochemical and analytical studies.

Undoubtedly, the greatest scientific and applied scientific contributions of Dr. Tsvetanova are related to the synthesis, modification, physicochemical characterization and application of synthetic and natural mineral materials such as the titanosilicates ETS-4 and GTS-1, as well as natural and modified zeolites. It is worthy to note that in a large part of these studies, Dr. Tsvetanova is a leading researcher, involved in all stages of the research conducted - synthesis, modification and ion exchange processing, analytical work, interpretation and publication of the results. She applies a variety of mineralogical and geochemical research methods to establish patterns linking the composition and structure of materials with their sorption, catalytic, photocatalytic, biological and technological properties.

As a critical remark, it can be pointed out that the candidate is very rarely the lead author in the publications in which she participates. I would recommend more independent work and more publishing activity outside of MDPI journals.

**Conclusion**

The presented documents, publications, project participations and citations of Dr. Lilyana Tsvetanova fully meet the requirements (ZRASRB and the Regulations of the Institute of Mineralogy and Crystallography at the Bulgarian Academy of Sciences) for holding the academic position of "Associate professor". This gives me a reason for a positive opinion and I recommend that the Scientific Jury and the Scientific Council of the Institute of Mineralogy and Crystallography at the Bulgarian Academy of Sciences award Lilyana Tsvetanova the academic position of "Associate Professor" in 4.4 "Earth Sciences", scientific specialty "Mineralogy and Crystallography - Experimental Mineralogy"

06.11.2026 г. Signature: Заличено съгласно чл. 2 от ЗЗЛД

(Assoc. Prof. Dr. Elitsa Stefanova)