

REPORT

on the competition for the academic position **Associate Professor**

scientific direction 4.2. Chemical Sciences (Solid state chemistry, nanoscale materials and minerals) for the needs of the direction "Structural Crystallography and Materials Science"

at the Institute of Mineralogy and Crystallography "Acad. Ivan Kostov",

Bulgarian Academy of Sciences (IGIC-BAS)

Announcement in ДБ-106 / 15.12.2020

Applicant: Assistant Prof. Dr. Katerina Lubomirova Zaharieva (IC-BAS)

Member of the Scientific Jury: Assoc. prof. Dr. Albena Bachvarova-Nedelcheva (IGIC-BAS)

I. Submitted documents

On the announcement of the Institute of Mineralogy and Crystallography "Acad. Ivan Kostov" – BAS competition for "associate professor" in specialty 4.2 "Chemical Sciences" (SG issue 106 of 15.12.2020) one candidate only has submitted documents – Chief assistant Dr. Katerina Lubomirova Zaharieva. On January 18, 2021, the commission appointed by the Director of IMC-BAS has declared with a protocol (issue No. 110 HO-05-06) that the applicant's documents meet the eligibility requirements for admissibility by the Act on Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its Implementation.

II. Education and career development of the candidate

Katerina Zaharieva has received a Master degree in Chemistry at the Faculty of Chemistry in Sofia University "St. Kliment Ohridski" in 2002. In 2010 the candidate defended her PhD degree Thesis at Institute of Catalysis, BAS on "Physicochemical characterization of plasma chemically synthesized nanodisperse inorganic powders". In 2011 she was elected to the position of Chief Assistant at the same Institute.

During the period 2014-2017, under the Erasmus program, Zaharieva made short-term visits to study at the University of Salamanca, Spain, which undoubtedly had a positive effect on improving her skills.

III. Scientometric indicators of the candidate

According to the documents submitted by the applicant at the required minimum of 430 points by groups of indicators A-E, Dr. Zaharieva has 684 points. Obviously, as the fulfillment of the required criteria, the candidate is responsible for holding the specified academic position.

The publications with which Dr. Zaharieva participates in the competition were published in the period 2012 - 2020 and are not included in her dissertation for the educational and scientific degree "Doctor". The scientific publications are distributed as follows:

(i) publications included in the indicator group "C" of the minimum requirements of BAS for acquiring scientific degrees and for holding academic positions, total 11 publications, 1 of which in a journal of quartile Q1 (Cer. Intern., 1-st author), 2 in journals with quartile Q2

(Amer. Mineralogist and Mater. Chem. Phys., 1-st author), **1** in journal with Q3 (Croatica Chem. Acta, 3-rd author), **6** in journal with Q4 (Bulg. Chem. Commun., 1-st author in all) and **1** in journal with SJR without IF (J. Chem. Techn. Metall., 2-nd author).

(ii) publications included in the indicator group "D" of the minimum requirements of BAS for acquiring scientific degrees and for holding academic positions, total **21** publications, **2** of which in journals with quartile Q1, **3** in journals with quartile Q2, **2** in journals with quartile Q3, **12** in journals with quartile Q4 and **2** in journals with SJR without IF.

It is worth noting that in the majority of publications the candidate is the first author.

Dr. Zaharieva's research has received a relatively good response in the scientific community and in the materials for the competition she has presented a list of 84 citations (without auto-citations of all authors in a publication), noticed at the date of preparation of the documents.

Her personal Hirsch (H) index, according to Scopus, is 4. She has been very active in various scientific forums - congresses, conferences and workshops, and the total number of these participations is over 100.

Katerina Zaharieva has also participated in 7 research projects, the last of which in the period 2018-2020 she was the leader. This speaks to her organizational abilities and skills to combine research on various topics.

IV. Habilitation work and scientific contributions in the works of the candidate

To participate in the competition, in a group of indicators C, the candidate has presented 11 scientific publications. Her contributions, as she herself described in the additional materials provided to the Scientific Jury, are: the identification, combination and application of different approaches to the synthesis of oxide nanoscale materials. Most of the publications are made in cooperation not only with colleagues from IC - BAS, but also with teams from IGIC-BAS, IP-BAS and Faculty of Chemistry of Sofia University "KI. Ohridski ". I believe that the nature of the work in these publications has necessitated the participation of a different number of authors, dictated by the need to apply a large number of modern methods and the participation of specialists from different fields to solve the scientific tasks.

The candidate did not submit a separation protocol regarding her personal contributions to these works, but after an additional request by the Scientific Jury the necessary documents were provided and in the works with which she participated in the competition it can be said that her contribution is decisive.

From the documentation presented in this way, I would like to emphasize my conviction that the candidate has a significant personal contribution to the development and design of scientific publications.

It is noteworthy that Dr. Zaharieva has developed guidelines for her future development, which clearly reveals her ambition for development, as well as her desire to work on various scientific topics.

V. Personal impressions and recommendations

I have no personal impressions of the candidate, but I would recommend Dr. Katerina Zaharieva after receiving the academic position of "Associate Professor" to develop her own scientific topic that would be useful for the direction in which she will continue the scientific career. From all presented documents, I believe that she has the necessary qualifications and skills to perform this. My other recommendation to her is to direct the publication of her future results in more prestigious international journals, which I am sure that will have a positive effect on her scientometric indicators in further scientific growth.

VI. Conclusion

Taking into account the scientific achievements of the candidate, I think that Chief Assistant Professor Dr. Katerina Zaharieva meets the requirements for the acquired academic position and I recommend to be elected in the competition for "Associate Professor" in 4.2 "Chemical Sciences" at the Institute of Mineralogy and Crystallography "Acad. Ivan Kostov" at the Bulgarian Academy of Sciences.

12.04.2021

Signature:

/Assoc. prof. Dr. Albena Bachvarova-Nedelcheva/