

## ATTITUDE OF REVIEWER

**Assoc. Prof. Dr. Angelina Stoyanova-Ivanova**

Institute of Solid State Physics - Bulgarian Academy of Sciences

Member of the Scientific Jury

in competition for the academic position of "**Professor**"  
in professional field 4.2. "Chemical Sciences" (Inorganic Chemistry),  
in laboratory "High Temperature Oxide Systems"  
announced by the Institute of General and Inorganic Chemistry-BAS,  
(State Gazette, N36 / 03.05.2019)

*with the sole candidate Assoc. Prof. Dr. Reni Stoilova Iordanova*

Reni Stoilova Iordanova, Associate Professor at the Institute of General and Inorganic Chemistry (IGIC) at the Bulgarian Academy of Sciences (BAS) is the sole candidate in the competition for occupying the academic position of "**Professor**". The examination of the submitted documents shows that all materials are regular and meet the minimum national requirements of the Law for the Development of the Academic Staff in the Republic of Bulgaria as well as the additional requirements specified in the IGIC Rules for occupying academic positions "Professor".

According to the given information, the candidate exceeds the minimum required points for all groups of indicators: these of the BAS (A-E) as well as the additional requirements (G) accepted by IGIC. The group of indicators B, indicator 4 - *habilitation work comprises scientific papers which are referenced and indexed in scientific databases*. In that group Assoc. Prof. Iordanova has 332 points at the required minimum of 100 points. The other group of indicators D, indicator 7 includes *scientific papers referenced and indexed in scientific databases which are outside of the habilitation work*. For this group Iordanova has 449 points at the required minimum of 220 points

The publications which Assoc. Prof. Iordanova has submitted on the habilitation are 15, 10 of which are in journals with the highest quartile - **Q1**. Additionally, 22 other original research papers which are outside the habilitation work has been presented. Among them 12 are in journals with Q1. Therefore, Associate Professor Iordanova participates in the competition with 37 scientific publications, which do not repeat those for acquiring her PhD degree and the academic position "Associate Professor". The total number of citations accumulated by Iordanova is 331 which is equal to 662 points. According to the accepted Rules these points exceed the required minimum of 120 points (group of indicators D, indicator 11).

Furthermore, Assoc. Prof. Iordanova meets the additional requirements of the IGIC-BAS for the scientific activity of the applicants for the academic position "Professor", which are mainly related to the value of the Hirsch Index (H) according to Scopus, (group of indicators G). In that group of indicators Iordanova again exceeds the required minimum (H = 10) and her index of Hirsch is **16** according to Scopus.

The total number of her scientific publications is 110, after habilitation - 91, in journals with impact factor - 82, in referenced scientific journals without impact factor - 9.

The applicant shows active participation in various scientific forums - congresses and conferences. After achieving the academic position "Assoc. Prof." she has participated in 46 scientific events, 42 participations in international forums and 4 in national ones. As an Associate Professor in IGIC – BAS she has participated in the development of 9 scientific research projects financed by the Bulgarian National Science Fund. She has been head of the scientific team in 3 of these projects. The total amount of funds attracted to IGIC by these projects is 260 000 leva.

Assoc. Prof. Iordanova has been supervisor of 2 PhD students and one of them has defended. According to the requirements of the IGIC as well as of the national criteria, only the defended PhD student has been taken in consideration in the final points calculations. Iordanova has also been a scientific advisor of 3 PhD students and co-supervisor of 3 foreign students from Egypt.

She has led laboratory exercises in "Advanced glass materials" and "Materials science" for students from the Master's degree in the specialty "Material Science" at the UCTM-Sofia.

She was a mentor of students from UCTM-Sofia in conducting student internships at IGIC-BAS under the project "Student Practices", financed under the Operational Program "Human Resources Development".

A dividing protocol concerning the contribution of Assoc. Prof. Iordanova and Assoc. Prof. K. L. Kostov on their joint research in several papers in the competition has been presented and this expresses the ethic attitude between the colleagues.

The research activity of the candidate is related to the application of various synthesis methods such as: melt quenching technique, sol gel technology and mechano-chemical activation for synthesis of glasses, glass-crystalline and polycrystalline materials. A major part of her research is related to the synthesis and structural characterization of non-traditional molybdate and tungstate oxide glasses as potential candidates for different optical applications. For this reason, the habilitation work is devoted to these kinds of materials. New knowledge about the structure of amorphous networks (short- and middle-range order), data on thermal stability, information about their optical properties was acquired. Structural models have been developed describing the relationship between compositions, structure and glass formation tendency. Other scientific contributions related to the successful application of the mechanochemical activation for direct synthesis of oxide phases possessing catalytic activity and photocatalytic properties are included as well. In recent years, Iordanova and her team have also started to work in the field of sol-gel technology as a suitable method for synthesis of amorphous phases at much lower temperatures than those required for the traditional melt quenching method.

It is worth noting that Iordanova is Head of the "High Temperature Oxidation Systems" laboratory which has been formed in IGIC – BAS in 2005. It is impressive that the most of the members of that laboratory are scientists, to whom Prof. Iordanova has been supervisor or a scientific consultant of their PhD Thesis.

## **CONCLUSION**

The documents and materials submitted by Assoc. Prof. Reni Iordanova meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the additional requirements of IGIC-BAS for the

academic position of "Professor". The topic and the level of the research, the novelty of the results, as well as the high number of citations, cover all the criteria for the required academic position. **On this basis, I give my positive evaluation of the overall scientific research activity and I strongly recommend to the Scientific Jury, Assoc. Prof. Reni Stoilova Iordanova to be elected for "Professor" in 4.2 "Chemical Sciences" at the Institute of General and Inorganic Chemistry – BAS.**

25.07.2019

Sofia

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/Assoc. Prof. Dr. A. Stoyanova-Ivanova/