

OPINION

in a competition for an academic position

"Associate Professor"

in professional field 4.1 Physical sciences (General physics),

for the needs of Sofia University "St. Kliment Ohridski" (SU),

Faculty of Physics (FP),

announced in SG no. 21 of 15.03.2022 and on the websites of the FP and SU

The opinion was prepared by Prof. Miroslav Vergilov Abrashev, PhD, Faculty of Physics, Sofia University, in his capacity as a member of the scientific jury on the competition according to Order № 38-248 / 20.05.2022 of the Rector of Sofia University.

The only candidate has submitted documents for participation in the announced competition: Head Assistant Professor Dr. Gergana Emilova Aleksieva, Faculty of Physics, Sofia University.

I. General description of the presented materials

1. Candidate data

The documents submitted by the competition by the candidate comply with the requirements of ZRASRB, PPZRASRB and the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions at Sofia University "St. Kliment Ohridski" (PURPNSZADSU).

For participation in the competition the candidate Head Assistant Professor Dr. Gergana Aleksieva presented a list of a total of 19 titles, incl. 19 publications in Bulgarian and foreign scientific publications and scientific forums. 4 other documents are presented (reference for study load, certificate for internship from the employer, official note for scientific guidance of graduates and a copy of a contract for participation in a scientific project), supporting the achievements of the candidate.

Notes and comment on the documents: no.

2. Candidate details

Gergana Aleksieva was born in 1973. In 1997 she graduated in Physics (5 years of training, equivalent to the current Master's degree) with a specialization in Solid State Physics at the Faculty of Physics at Sofia University. In the period 1998-2002 she was a post-graduate / doctoral student at the same faculty and was expelled with the right to defense (unfortunately during her doctoral studies her research supervisor Assoc. Prof. Dr. Yosif Kotsev died and she failed to defend on the initial topic of the doctoral studies). She defended her dissertation "Acoustic properties and applications of polymeric materials" in 2013 with a scientific consultant Prof. Veselin Strashilov. Her work experience includes the following periods: 2003 - 2013 assistant in cat. "Solid State Physics and Microelectronics", FzF, Sofia University, 2013 - 2019 Head Assistant in the same department, 2019 - so far Head Assistant in the Department of General Physics of FzF. She has twice specialized at the Technical University of Munich (in 1998 for 2 months at his Faculty of Physics and in 2000 for 12 months at his Faculty of Chemistry) in the fields of "Biosensors" and "Gas permeability of polymer layers".

3. General characteristics of the scientific works and achievements of the candidate

Gergana Aleksieva works mainly in the Laboratory of Acoustic Waves at dept. FTTME (currently to dept. OF) of FzF of SU. Her main research interests are in the field of research of the acoustic, acousto-optical and optical properties of bulk materials and thin layers - polymers, glasses and oxides. Some of these studies are related to the use of these materials for sensory and pharmaceutical applications.

Reasonably and definitely it can be said that:

- a) the scientific works meet the minimum national requirements (under Art. 2b, para. 2 and 3 of ZRASRB) and respectively the additional requirements of Sofia University "St. Kliment Ohridski" for holding the academic position of "Associate Professor" in the scientific field and professional direction of the competition;
- b) the scientific papers submitted by the candidate do not repeat those from previous procedures for acquiring a scientific title and academic position;
- c) there is no legally proven plagiarism in the scientific papers submitted at the competition.

4. Characteristics and evaluation of the teaching activity of the candidate

The candidate has extensive 19 years of teaching experience. In the period 2002 - until now, while working as an assistant and chief assistant at the Faculty of Physics at Sofia University, he led exercises and workshops to the following courses: "Basic Computer Knowledge", "Condensed Matter Physics", "Crystallography and Crystal Physics", "Polymers in Microelectronics", "Acoustic and optical waves in a solid body", "Electricity and magnetism", "Optics" , "Physics" , "Programming and computational physics", "Modern experimental methods" , "Introduction to programming" , "Physics of wave processes" , "Computer Methods for Data Processing" , "Geometric Optics" , "Medical Statistics" , "Data Processing" , "Introduction to Astronomical Optics" , "Computer Modeling in Optics". She has also lectured on "Physics" (for the specialty "Biology"), "Physics and Biophysics" (for the specialty "Pharmacy") and "Fundamentals of Acoustics". For the last 5 academic years, an academic report is presented, documenting 577 hours of total average academic employment per year, of which 510 hours of average classroom employment per year. This is above the average study load of a lecturer from FzF, Sofia University. There are two successfully defended graduates.

5. Analysis of the scientific and scientifically-applied achievements of the candidate contained in the materials for participation in the competition

The scientific and scientific-applied contributions of the candidate can be divided into two groups: a) Investigation of substances with acoustic resonator devices in connection with their application for sensory and pharmaceutical applications (mainly investigations of adsorption of various gases and liquids on the surface of test substances); b) Characterization of materials by acoustic, acousto-optical and optical methods. The first group includes studies of polymers and metal oxides (ZnO and Zr₂O). The second group includes studies on Sb₂O₃-K₂O-PbO and As₂Se₃-Ag₄SSe-PbTe glasses. The results of her research are published in: Bulgarian Chemical Communications - 3, Comptes rendus de l'Acad'emie bulgare des Sciences - 3, Talanta - 2, Optik - 2, J. Optoelect. Adv. Mater. - 2 and in 7 more magazines 1 article each. Head Assistant Professor Aleksieva presented a list of 52 citations (without auto-citations). According to SCOPUS, her h-index is 5. She has indicated in detail in which publication what her contribution is.

6. Critical remarks and recommendations

No.

7. Personal impressions of the candidate

I know Gergana Aleksieva relatively vaguely, especially from the period when we were conducting workshops on "Electricity and Magnetism" and "Optics" at the same time. My impressions of her as a colleague and assistant are excellent.

8. Conclusion on the application

After getting acquainted with the materials and scientific works presented in the competition and on the basis of the analysis of their significance and the scientific and scientific-applied contributions contained in them, I confirm that the scientific achievements meet the requirements of ZRASRB, the Regulations for its application and the respective Regulations of Sofia University "St. Kliment Ohridski" for holding the candidate for the academic position "Associate Professor" in the scientific field and professional direction of the competition. In particular, the candidate satisfies the minimum national requirements in the professional field and no plagiarism has been established in the scientific papers submitted at the competition.

I give my positive assessment of the candidacy.

II.OVERALL CONCLUSION

Based on the above, I recommend the scientific jury to propose to the competent authority for the selection of the Faculty of Physics at Sofia University "St. Kliment Ohridski" to elect Head Assistant Professor Dr. Gergana Emilova Aleksieva to take the academic position of "Associate Professor" in the professional field 4.1 Physical Sciences (General Physics).

28.06.2022

Prepared the opinion:

(Prof. DSc Miroslav Abrashev)