

**STATEMENT**  
**on competition for an academic position**  
**"Associate Professor"**  
**in professional field 4.6 Informatics and Computer Science (Programming)**  
**for the needs of Sofia University "St. Kliment Ohridski" (SU),**  
**Faculty of Mathematics and Informatics (FMI),**  
**announced in the State Gazette, Vol. 61 from 02.08.2022 and on the FMI and SU websites**

This statement is written and submitted by Associate Professor Peter Mladenov Vassilev, Ph.D., Institute of Biophysics and Biomedical Engineering – Bulgarian Academy of Sciences, in my capacity as a member of the scientific jury by professional field 4.6. Informatics and computer sciences (Programming) in the competition according to Order No. RD 38-561/28.09.2022 of the Rector of Sofia University.

The sole applicant to submit documents for participation in the announced competition is Senior Assistant Professor Dafina Yordanova Petkova, Ph. D, Faculty of Mathematics and Informatics, Sofia University "St. Kliment Ohridski".

**I. General Description of the Submitted Documents:**

**1. Application Details**

The documents submitted by the candidate are in full compliance with the requirements of the Act on Development of the Academic Staff in the Republic of Bulgaria (ADASRB), Regulations on the Implementation of the Development of Academic Staff in the Republic of Bulgaria Act (RIDASRBA), and the Regulations Act about the Terms and Conditions for Acquisition of Academic Degrees and Occupation of Academic Positions at Sofia University "St. Kliment Ohridski".

To participate in the competition, the applicant **Dafina Yordanova Petkova** submitted a list of a total of 9 titles of publications in international scientific journals and proceedings of scientific forums, of which 3 are given as equivalent to a habilitation thesis, and the other 6 are scientific publications in journals/issues referenced and indexed in world renowned databases with scientific information with scientific information (Web of Science and Scopus), outside of the habilitation thesis (of which 2 studies). 14 other documents (in the form of certificates from an employer) supporting the applicant's achievements are also presented.

The documents are well prepared and follow the requirements of the Regulations Act about the Terms and Conditions for Acquisition of Academic Degrees and Occupation of Academic Positions at Sofia University "St. Kliment Ohridski".

## **2. Short Biographical Data**

Dafina Yordanova Petkova was born as Dafina Yordanova Zoteva in 1982. In 2000, she completed secondary education at FMG "Acad. Sergey Korolyov", Blagoevgrad. In 2004 she obtained a B. Sc. in Informatics, and in 2010 - received a Master's degree in Bio- and Medical Informatics at the Faculty of Mathematics and Informatics of SU "St. Kliment Ohridski". Since 2016, she has been enrolled as a p doctoral student at the Institute of Biophysics and Biomedical Engineering - BAS and on 20.01.2021 she successfully defended her dissertation on the topic of *Research and program implementation in the theory of generalized nets* and became a Doctor of Informatics at the Bulgarian Academy of Sciences. From 2006 until now, Dafina Yordanova Petkova carries out exercise modules for various mandatory courses at the FMI of SU "St. Kliment Ohridski".

## **3. General Evaluation of Scientific Work and Professional Achievements**

The publications of the applicant submitted for participation in the competition are focused on three thematic areas, namely:

- Metaheuristic algorithms;
- Generalized nets;
- InterCriteria analysis

All of them are from the field of informatics and computer science and present new results on significant and topical problems.

The scientific works fully meet the minimum national requirements (according to Art. 2b, paras. 2 and 3 of ADASRB) and accordingly to the additional requirements of the Regulations Act about the Terms and Conditions for Acquisition of Academic Degrees and Occupation of Academic Positions at Sofia University "St. Kliment Ohridski" for occupying the academic position of "Associate Professor" in the scientific area and professional field of the competition. For indicator **B4** are given **123** with required **100** points, for indicator **Г7** **210** with required **200** points, and for indicator **Д11** **56** with required **50** points.

It is unequivocally seen that the scientific works submitted by the applicant do not repeat those from previous procedures for acquiring an academic degree and/or an academic position. There is no evidence for plagiarism in the submitted publications.

#### **4. Description and Evaluation of Teaching Activities**

From 2006 until now, Dafina Yordanova Petkova carries out exercise modules, and since November 2021, also lectures for various mandatory courses at the FMI of SU "St. Kliment Ohridski", including foundational ones such as Introduction to Programming, Data Structures and Programming, and Object-Oriented Programming

Dafina Yordanova Petkova has also contributed to the development of a textbook: A collection of problems on C++ programming. Part One. Introduction to Programming, 403 pages, ISBN: 978-954-07-5352-2, University Publishing House "St. Kliment Ohridski" 2021, Sofia.

#### **5. Analysis of the Content of the Theoretical and Applied Contributions Described in the Submitted Publications**

Of the 9 publications submitted for participation in the competition, two are studies:  $\Gamma$  7.1 and  $\Gamma$  7.3 (in the applicants list of publications for the competition), 2 are with IF in quartile Q2 (B 4.1. and  $\Gamma$  7.1), 1 is with IF in quartile Q3 (B 4.2), five are with Scientific Journal Rankings (SJR) ( $\Gamma$  7.2. –  $\Gamma$  7.6.) and one is in the database IEEE Xplore (B 4.3). The main contributions presented by the applicant are mostly of a scientific applied nature and can be broadly considered as:

- *Enrichment of existing knowledge;*
- *Improving known and creating new methods/algorithms;*
- *Application of scientific achievements in practice.*

I accept the claims for contributions of Senior Assist. Prof. Petkova, Ph. D., in the form in which they are formulated in her documents (Reference for original scientific contributions).

#### **6. Critical Remarks and Recommendations**

I have no critical remarks regarding the peer-reviewed works presented by Dafina Yordanova Petkova for participation in the competition for "associate professor" in professional field 4.6. Informatics and Computer Science (Programming).

#### **7. Personal Impressions**

I have known Senior Assist. Prof. Dafina Yordanova Petkova for nearly 6 years. We have collaborated in joint research and we have participated together in a couple of research projects and I have very high impressions of her overall scientific work. She is a modest, hardworking and extremely responsible scientist with high integrity and a desire to achieve scientific discoveries on a high level.

## 8. Conclusion

Based on the review of the documents and scientific publications submitted for this competition, as well as on the analysis of their significance and the theoretical and applied contributions, I hereby **confirm** that the scientific achievements of the applicant meet and exceed the requirements of ADASRB, (RIDASRBA), and the Regulations Act about the Terms and Conditions for Acquisition of Academic Degrees and Occupation of Academic Positions at Sofia University "St. Kliment Ohridski" for acquiring the academic position "Associate Professor" in the scientific and professional field of this competition.

More specifically, the applicant satisfies the minimal national requirements of the professional field and no plagiarism has been detected in the submitted scientific publications submitted.

I hereby state my **positive** assessment of the application of **Dafina Yordanova Petkova**.

## II. GENERAL CONCLUSION

Based on the above, I hereby **recommend** to the scientific jury to propose to the competent authority of the Faculty of Mathematics and Informatics at Sofia University "St. Kliment Ohridski" to elect **Dafina Yordanova Petkova** to the academic position "Associate Professor" in professional field **4.6 Informatics and Computer Science (Programming)**.

23.11. 2022

Statement written by: .....

(Assoc. Prof. Peter Vassilev, Ph. D. )