

## OPINION

by Prof. Evdokia Nikolaeva Sotirova, PhD

University "Prof. D-r Asen Zlatarov" - Burgas

on the documents submitted by

chief assist. Deyan Georgiev Mavrov, PhD

for participation in the competition

for acquiring the academic position "associate professor",

of University "Prof. D-r Asen Zlatarov" - Burgas,

Faculty of Natural Sciences, field of higher education: 4. Natural Sciences, Mathematics and Informatics; professional direction 4.6. Informatics and Computer Science (Programming and Using Computers), announced in State Gazette No.45 of June 17, 2022

The reason for writing the present opinion is Order No RD-294/19.09.2022 of the Rector of University "Prof. D-r Asen Zlatarov" - Burgas for selecting the members of the Scientific jury. The present opinion is prepared according to the Law on the Development of the Academic Staff in the Republic of Bulgaria, the regulations for its implementation and the Rules on the Terms and Conditions for Acquisition of Academic Degrees and Regulations for the terms and conditions for acquiring scientific degrees and holding academic positions at the University "Prof. Dr. Asen Zlatarov" - Burgas.

One applicant has submitted documents for participation in the announced competition: Deyan Georgiev Mavrov, PhD chief assist. in the Department of Computer and Information Technologies, Faculty of Natural Sciences.

### **1. General information about the candidate**

Chief assist. Deyan Georgiev Mavrov, PhD was born on 19.09.1987. He completed his secondary education in 2006 at the "Goethe" High School with German language teaching, Burgas. In 2010, he graduated with a bachelor's degree in "Informatics and Computer Science" from Burgas Free University, and in 2012 - with a master's degree in "Business Information Technologies" at the same university. After successfully defending a thesis in 2016 Ph.D. thesis on the topic "Program implementation and application of indexed matrices" has acquired the educational and scientific degree Doctor of Philosophy (PhD) in the scientific specialty "Computer systems and technologies" from the University "Prof. Dr. Asen Zlatarov" Burgas.

From the submitted documents it is clear that the candidate started his work experience as an Information Assurance at the Regional Inspectorate of Education (October 2010 - July 2011). In the period November 2012 - October 2016, he was an assistant, and from October 2016 until now - the main assistant at the Department of "Computer and Information Technologies" University "Prof. Dr. Asen Zlatarov" Burgas.

## **2. Description of the submitted materials**

The submitted materials and documents for participation in the competition are in accordance to the Regulations for the terms and conditions for acquiring scientific degrees and holding academic positions at the University "Prof. Dr. Asen Zlatarov" - Burgas. The materials are precisely described and carefully arranged.

Chief assist. Deyan Georgiev Mavrov, PhD participates in the competition with 12 scientific works, unused for the acquisition of the educational and scientific degree Doctor of Philosophy and holding the academic position of "Chief assistant". All publications are entirely on the subject of the competition, no plagiarism has been detected and they are subject to review.

Also presented: lists of scientific works (complete and for participation in the competition); reference of noticed citations; certificate of compliance with the minimum national requirements; Author reference for the scientific contributions (in Bulgarian and in English); habilitation reference; summaries of the materials for participation in the competition (in Bulgarian and English); reference for educational and teaching activities; reference for research activity; documents to prove work experience; distribution protocols; copies of diplomas; copies of scientific works and educational publications.

The submitted documents and references, required for the occupation of the academic position "associate professor", fully satisfy the requirements of the Regulations for the terms and conditions for acquiring scientific degrees and holding academic positions at the University "Prof. Dr. Asen Zlatarov" – Burgas.

## **3. General description of the scientific and applied research and assessment of the personal contribution of the applicant**

A scientific interests of the chief assist. Deyan Georgiev Mavrov, PhD are related to the field of computer science.

Instead of a habilitation thesis, the candidate submits two publications ([1.1], [1.2]) in journals referenced and indexed in world-renowned databases of scientific information (one in quartile Q1, one with SJR index). The two publications were developed as part of the project DN16/6/2017 "Integrated approach for modeling the spread of forest fires". For modeling, the game method of modeling defined by Acad. Kr. Atanasov. According to *Indicator B4*, the candidate has 105 points at the minimum requirement of the University "Prof. Dr. Asen Zlatarov" - Burgas from 100 points.

The remaining 10 research papers are devoted to research on the Method of Intercriteria Analysis and its application ([2.1], [2.2], [2.4], [2.5], [2.6]), Intuitionistic fuzzy evaluations and Indexed matrices ([2.7], [2.8], [2.10]), Generalized net modelling ([2.3], [2.9]). Apart from the software implementation of the Intercriteria Analysis Method, introduced in 2014 by Acad. Kr. Atanasov, associate professor V. Atanasova and the candidate for the current competition, chief assist. D. Mavrov participates in the first applications of this method in medicine (to determine the proximity of two criteria in the evaluation of parameters of colorectal tumors and in the analysis of the calorimetric and biochemical parameters of the serum proteome of patients with multiple myeloma). Of the 10 scientific publications presented here, 2 are in quartile Q1, 1 is in quartile Q2, 1 is in quartile Q4, 2 are in IEEE conferences.

All presented results are original and undoubtedly of high level of usefulness. I believe that this is proof of the scientific potential of the chief assist. Dr. Deyan Mavrov gives me reason to define him as a successful and competent researcher with research and critical analysis capabilities. For *Group of indicators G*, chief assist. Deyan Mavrov, PhD has 384 points at the minimum requirement in "Prof. Dr. Asen Zlatarov" - Burgas from 300 points.

The candidate's publications have been seriously reflected in scientific works of other authors, which shows that the obtained results are of high scientific value. Chief assist. Dr. Deyan Mavrov, PhD participates in the competition with 95 citations of his publications in articles by other authors, published in publications, referenced and indexed in Web of Science or Scopus, excluding self-citations by the co-authors of the articles. For *Group of indicators D*, the candidate has 760 points at the minimum requirement at the University "Prof. Dr. Asen Zlatarov" - Burgas from 100 points.

Chief assist. Dr. Deyan Mavrov, PhD has 102.5 points in *Group of indicators E* with a minimum requirement in the University "Prof. Dr. Asen Zlatarov" - Burgas from 100 points. To participate in the competition, the candidate reports activity on 5 national scientific and

1 international scientific project. In addition, 1 study aid (co-authored) and 2 manuals for laboratory exercises (1 co-authored and 1 independent) are presented.

The total number of points achieved by chief assist. Dr. Deyan Mavrov, PhD is 1401.5 points, with a requirement for 400 points according to the minimum national requirements 650 according to Regulations for the terms and conditions for acquiring scientific degrees and holding academic positions at the University "Prof. Dr. Asen Zlatarov" – Burgas for the academic position of "associate professor" in professional field 4.6. "Informatics and Computer Science".

All this proves the high level of expertise of the candidate and gives me a reason to rate chief assist. Dr. Deyan Mavrov, PhD as a scientist with recognized scientific achievements in the field of informatics and software technologies.

#### **4. Characteristics and assessment of the candidate's teaching activity.**

The submitted documents contain the necessary information for evaluating the candidate's teaching and research work.

Chief assist. Dr. Deyan Mavrov, PhD, has a serious teaching activity. From the presented report it is clear that he leads training in various disciplines, for students in the Bachelor's College and in the Master's College, mainly in the "Software Technologies" and "Computer Systems and Technologies" specialties. He participates in the development of the curricula for "Programming and use of computers", "Synthesis and analysis of algorithms", "Programming languages", "Object-oriented programming" - I and II part. He was involved as a reviewer and graduate supervisor. He is the author and co-author of 3 teaching aids: Manual for laboratory exercises in Synthesis and analysis of algorithms (independently), Object-oriented programming, Part 1-C++ (co-authored), Manual for laboratory exercises in informatics (co-authored).

The presented evidentiary material from chief assist. Dr. Deyan Mavrov, PhD is in sufficient volume and gives me reason to give a high evaluation of his educational and teaching work.

#### **5. Conclusion on the application**

I know chief assist. Dr. Deyan Mavrov, PhD for more than 10 years and I can appreciate him as a loyal and responsible colleague, and as a researcher with serious scientific and scientific-applied achievements in the field of software technologies. He meets and exceeds

all criteria for participation in the contest. No plagiarism was found in the scientific publications submitted for the competition. I confirm that the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and Regulations for the terms and conditions for acquiring scientific degrees and holding academic positions at the University “Prof. Dr. Asen Zlatarov” – Burgas for the academic position of “Associate Professor” in the professional field “Informatics and Computer Sciences” are completely satisfied.

I give a positive assessment to the candidacy of chief assist. Dr. Deyan Mavrov, PhD.

### **GENERAL CONCLUSION**

Based on the above, I **recommend** the scientific jury to propose to the Faculty Council of the Faculty of Natural Sciences at the University “Prof. Dr. Asen Zlatarov” - Burgas **to elect chief assist. Dr. Deyan Mavrov, PhD, in the academic position “associate professor” in the field of higher education: 4. Natural sciences, mathematics and informatics; professional direction 4.6. Informatics and Computer Science (Programming and Using Computers).**

16.11.2022

Burgas

Signature:.

(prof. E.Sotirova)