

OPINION

on the documents, submitted for participation in a competition for the academic position "Professor" in professional field 5.3. "Communication and computer equipment", Academic discipline "Programming Fundamentals", announced in State Gazette No. 4 / 13.01.2023

Candidate: Associate Professor Milena Nikolova Mileva-Karova, PhD

Member of the scientific jury: Associate Professor Yulka Petkova Petkova, Ph.D., Technical University of Varna

1. General characteristics of the candidate's research and scientific-applied activity.

Candidate in the competition for the academic position of "Professor" at TU - Varna, department of "Computer Science and Engineering" is Associate Professor Milena Karova, PhD.

A total of 42 scientific publications were submitted for participation in the competition, 12 of them are referenced and indexed in SCOPUS. The remaining 30 publications are in non-refereed forums and issues – 12 papers in international scientific conferences and 18 articles in journals. According to the languages of publication, 34 of them are in English and 8 in Bulgarian.

The candidate presents 10 publications as equivalent to a monograph titled "Intelligent methods and algorithms for recognition, prediction, classification and encryption of information". Associate Professor Milena Karova is the first author of two of these publications, and the second author of the other eight. According to this indicator, the candidate's asset is 230 points with a minimum requirement of 100 points.

Associate Professor Milena Karova presents 32 publications, 2 of which are referenced and indexed in SCOPUS. She is the first author of 14 of them, second author of 15, third author of 2 and fourth author of one. According to this indicator, the candidate's asset is 288.2 points with minimum requirements of 200 points. The publications on the indicators of group Γ are grouped in 5 different directions: Software applications in the field of encryption and data protection, Project management and information security, Software applications for robot control, Innovative solutions with Genetic Algorithms and machine learning, Software applications to support the learning process in the disciplines "Programming Fundamentals", "Language Processors" and "Compilers and Interpreters".

Associate Professor Milena Karova has led 7 scientific projects under the "Scientific Research" fund. After her first habilitation, she took part in 7 national scientific or educational projects, as well as in one international one. According to the indicators of group E, the candidate has an asset of 315 points, with a minimum required number of 150 points.

In total, according to the indicators from groups A - Γ for holding the academic position "Professor", the candidate - Associate Professor Milena Karova has an asset of 568.2 points, which significantly exceeds the required minimum.

2. Evaluation of the pedagogical and teaching activity of the candidate.

In her long-term practice as an Assistant Professor and Associate Professor in the Department of Computer Science and Engineering, the candidate has led many disciplines with a total number of lecture hours for the last three years of 915. This number exceeds many times the minimum requirements for this indicator.

The candidate works actively with outstanding students; she is the scientific leader of the student club "Creative code", which develops scientific and creative activities. For the last 4 years, the candidate has been the supervisor of 27 graduates - 13 bachelors and 14 masters. She also has two successfully defended PhD students and is the scientific supervisor of two more who are in the process of training.

After her first habilitation, the candidate co-authored one textbook and authored another, which is in the process of being prepared for publication.

For the past 6 years, Associate Professor Milena Karova has lectured at 4 foreign universities under ERASMUS program.

She took part in 4 scientific juries for the acquisition of PhD degree as a reviewer and in 3 scientific juries for habilitation with opinions prepared by her for the candidates.

The asset of the candidate Associate Professor Milena Karova according to this indicator is 622 points with minimum requirements of 120 points.

3. Main scientific and applied contributions.

In total, for the publications presented in the competition, the candidate has claims for 5 scientific, 15 scientific-applied and 6 applied contributions.

I accept all the stated contributions as valid, but I think that they could be combined in larger groups, which would contribute to a more visible presentation of the candidate's scientific potential.

Scientific contribution claims are about established approaches and algorithms for data encryption, for maze orientation, for conceptual design of predictive systems, for machine learning.

Scientific and applied contributions refer to the developed algorithms for solving tasks in the fields of maze orientation, image processing, machine learning, cryptography, classification.

Application contribution claims refer to software applications and tools created to automate various activities.

4. Significance of contributions for science and practice.

According to indicator Д, the candidate - Associate Professor Milena Karova presents evidence of citations of her publications, all of them in SCOPUS, and the asset they bring to her is 200 points with a minimum requirement of 100. The citations are from the last 4-5 years. It is noteworthy that all the citations are from foreign scientists. This is indicative of the evaluation of the candidate's publications among the international scientists.

The research results are current, significant and have both scientific and practical application.

5. Critical remarks and recommendations.

I have no fundamental objections to the presented materials.

I recommend more precisely formulating the title of the subject of the presented monograph-equivalent publications.

Given the applicant's stated scientific achievements and interests in multiple fields, I recommend that she focuses her efforts on publications in scientific journals in the Q1 and Q2 quartiles.

CONCLUSION

On the basis of acquaintance with the presented teaching activities, scientific publications, their significance and the contributions contained in them, as well as the fulfillment of all conditions according to the Law for Development of Academic Staff in the Republic of Bulgaria and the Regulations on its implementation as well as the Regulations for the conditions and order for acquiring academic degrees and academic positions at Technical University of Varna, **I have the reason to propose Associate Professor Milena Nikolova Mileva - Karova to take the academic position "Professor" in the professional field 5.3. "Communication and computer equipment", educational discipline "Programming Fundamentals".**

Заличена информация
по Регламент (ЕС)
2016/679

Date: 31.05.2023

MEMBER OF THE JURY

/Assoc. Prof. Yulka Petkova, PhD/