



OPINION

in a competition for the academic position of "Professor"

in professional field 5.3 "Communication and Computer Engineering", specialty "Theoretical Foundations of Communication Engineering",

Announced in: SG No. 89/26.10.2021

Candidate(s): Assoc. Prof. Dr. Eng. Valentina Ilieva Markova, Department of Communication Engineering and Technologies, Faculty of Computer Sciences and Automation, Technical University of Varna

Member of the scientific jury: Prof. DSc. Eng. Ivaylo Ivanov Atanasov

1. General characteristics of the research and applied research activities of the candidate

Assoc. Prof. Dr. Eng. Valentina Ilieva Markova is the sole candidate in the competition for the academic position "Professor". As a proof of her research and applied activities, she has presented 36 scientific papers and participations in 15 research projects. Thematically, the works are grouped in two specialized areas, namely "New methods for detecting emotional states, cognitive load, and stress" and "New methods for collecting and processing physiological signals." All works are in the field of the competition, which was announced in the discipline "Information systems for data collection".

According to indicator 1 of group A, the candidate covers the required 50 points by presenting an PhD dissertation on "Research and implementation of linear digital recursive circuits without multipliers."

According to indicator 4 of group B, the candidate presents 10 publications indexed in SCOPUS, which are equivalent to a monography. The number of points is 180 where the required minimum is of 100 points.

According to indicators from group D, 26 publications are presented, referred to in SCOPUS and in Web of Science. The number of points is 313.20 in comparison to the minimum required of 200.

A total of 31 citations in scientific journals, referred to by SCOPUS and Web of Science, have been applied to indicator 12 of group E. The number of points is 310 with a minimum required of 100.

The candidate has participated in a total of 15 international and national research projects, and some of which she has lead or coordinated. According to indicators from group E for management of research projects, attracted funds from projects and published patent application the candidate collects 551 points with a minimum required 150.

According to indicators from group F the candidate has lectured in 5 disciplines of the curriculum for Bachelor's degree and 2 disciplines for the

"Master" degree at TU-Varna for the last 3 years. All the submitted for the competition scientific publications are 36, 31 of which are referenced in SCOPUS and Web of Science, 10 are articles in scientific journals, and 6 of them are indexed in SCOPUS, thus having an impact rank.

All of the above facts form indisputable grounds for a claim that the candidate fulfills the minimum national requirements, as defined in the Act on the Development of the Academic Staff in the Republic of Bulgaria, its Implementation Regulations, and in the Regulations for implementation of TU-Varna for holding the academic position "Professor", and even many fold exceeded.

2. Assessment of the pedagogical preparation and activity of the candidate

Assoc. Prof. Valentina Markova has been working as a lecturer for 16 years, respectively as an Assistant, Chief Assistant and Associate Professor. She has been leading for the last three years lecture courses in 7 disciplines, included in the curriculum of the BSc degree and lecture courses in 2 disciplines, included in the curriculum of the MSc degree. Under the guidance of the candidate, three PhD students conduct research, and one of them has obtained the right to defend. The successful teaching activity of Assoc. Prof. Markova is related to the leadership and defense of more than 30 graduates, including two, awarded the prize of the Municipality of Varna "Best Diploma Thesis", respectively first and second place.

All this gives me the reason to appreciate very highly as the pedagogical preparation as the pedagogical activities of the candidate.

3. Main scientific and applied contributions

Architectures and services for personalized real-time health monitoring have been developed, algorithms for detecting acute stress from physiological signals, high/low emotional arousal or positive / negative valence of emotion have been developed, and their impact on students' academic performance has been assessed with respect to their gender and individuality. Adaptive methods have been developed for the selection of characteristic descriptors, which can be used in classifiers to recognize negative emotional states with high arousal. Methods of artificial intelligence in applications for smart homes have been studied. The propagation of radio waves in coastal areas has been studied and methods have been developed to increase the technical characteristics of communication channels.

The research has a scientific and applied character

4. Significance of contributions to the science and practice

The importance of the contributions to science and practice is evidenced by the renowned international publications in which research results are published, and the high citation rate of the candidate's publications. A total of 31 citations of the candidate's works by foreign authors have been noted, which are referred to in SCOPUS and/or Web of Science. A patent application has been filed.

5. Critical remarks and recommendations

I have no critical remarks on the documents submitted for participation in the competition. Given the in-depth knowledge and erudition of the candidate, and the successful work with the students, I recommend Assoc. Prof. Markova to invest even more effort and time in developing teaching materials that will further support the educational process.

CONCLUSION

The presented scientific papers have significant in nature and sufficient in volume scientific and applied contributions. Based on all these facts, as well as on my high assessment of the pedagogical training and activities of the candidate, and her organizational skills, I find that the national requirements, as defined in the Act on Development of the Academic Staff in Republic of Bulgaria, and its Implementation Regulations, are entirely fulfilled and this is the reason to propose Assoc. Prof. Dr. Eng. Valentina Ilieva Markova to hold the academic position "Professor" in professional field 5.3 "Communication and computer technology".

28.01.2022

Member of the scientific jury:

Заличена информация
по Регламент (ЕС)
2016/679

/Prof. Iwaylo Atanasov/