

# OPINION

on a competition for the academic position "Associate Professor"  
in professional field 5.3 Communication and computer technology,  
announced in SG No. 31 of 19.04.2022,  
with candidate Stella Savova Kostadinova, Ph.D., chief Assistant Professor  
Member of the scientific panel: Ivaylo Ivanov Atanasov, DSc., Professor

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

The applied scientific works for participation in the competition of Dr. Stella Kostadinova are mainly related to the use of artificial intelligence methods for the study of technical parameters of telecommunication systems. According to Act on Development of the Academic Staff in the Republic of Bulgaria, as to indicator related to the publications equivalent to monograph, 10 scientific publications are presented and are referenced and indexed in the referenced databases with scientific information. The publications are co-authored and correspond to 135 points out of a minimum required number of 100 points. As to indicator related to the publications apart from works equivalent to a monograph, 12 scientific publications are presented, that are referenced and indexed in databases with scientific information, which correspond to 136 points. As to indicator related to non-refereed publications with scientific review, 12 scientific publications are presented, which correspond to 80 points. As to indicator related to the published applied scientific works, the candidate collects 216 points out of the minimum required 200 points. The candidate has attached a list of 6 research projects, funded by an external to TU-Varna institution, in which she had participated. The projects are in the field of analysis and synthesis of models for the study of communication networks and systems. The scientific research and scientific applied activities of the candidate are in the thematic area of the competition.

## **2. Evaluation of the pedagogical preparation and activity of the candidate**

It becomes clear from the attached report on taught courses and the candidate's teaching hours for the last three years that she has conducted lectures on 4 courses and laboratory exercises on 7 courses from the master's and bachelor's curricula of TU-Varna. Under her guidance, 13 master's theses and 27 bachelor's theses were successfully defended. Considering the above facts and the professional experience of Dr. Stella Kostadinova in BTC divisions, it can be concluded that there is a very good pedagogical training. In this group, the candidate has 165 points.

## **3. Basic scientific and scientific-applied contributions**

The major part of contributions related to monograph-equivalent publications and those beyond include: synthesized models for the statistical analysis of the estimation of interference effects on information flows in communications, for the identification of voice commands in voice control systems, for the categorization of traffic flows and teletraffic devices and models for estimating delays in an optical transmission network. These contributions have a scientific and applied nature and are related to provisioning with new means essential aspects of modern communication systems. Virtual tools have been

created to study technical parameters of communication systems, which can be considered as applied contributions.

#### **4. Significance of contributions for science and practice**

The results of the published studies, presented in 14 of the publications, currently have a total of 27 citations in the referenced databases with scientific information. From the attached reference for the citations of author's works, it is clear that the contributions have their recognition in the scientific community at home and abroad. The results of the research are significant for specific applications in practice, for example in the management of communication systems. They may also be useful in teaching undergraduate and graduate students.

The preview of the documents shows that the quantitative indicators have been respected and the minimum requirements specified in the Act on Development of the Academic Staff in the Republic of Bulgaria and the rules for its application, as well as in the rules of TU-Varna, have been exceeded. From the group of indicators related to acquired PhD degree, the candidate presents the required 50 points, from the indicators from group related to the monography equivalent publications, 135 points are available, from the indicators from group related to publications outside those monography equivalent, 216 points are listed, from indicators from group related to citations, 270 points are collected, and from indicators from group related to teaching activity - 165 points.

#### **5. Critical notes and recommendations**

The attached documents for participation in the competition have been carefully prepared and cover the required information. I have no significant critical remarks about them. As a formal remark, I can mention the selection of publications that have the equivalent of a monograph. The selection of these 10 publications is appropriate to be linked to a common theme with a specific focus, besides covering the use of different methods for evaluating different parameters of communication systems.

#### **CONCLUSION**

In conclusion, I am convinced that the presented scientific works have a scientific and applied value in the field of communication systems and networks. Based on their significance, the contributions contained in them, as well as the pedagogical activity required by the current procedure, I find it reasonable to give a **positive** assessment and to propose the candidate Ch. Assistant Professor Dr. Stella Kostadinova to hold the academic position "Associate Professor" at Technical University Varna in professional field 5.3 Communication and computer technology.

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Panel member: .....

/Prof. Ivaylo Atanasov, DSc, PhD/

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