STATEMENT

Concerning scientific works submitted for participation in competition for awarding the academic position „Associate professor“ in the area of high education 5. “Technical sciences” in the proffesional field 5.3. “Communication and computer technology”, course „Synthesis and analysis of algorithms “,
announced in State Gazette. 31/19.04.2022
candidate Ch. Assist. Prof. Stela Savova Kostadinova, PhD

Member of scientific jury: Assoc. Prof. Rosen Stefanov Radkov,
Dept. „Software and Internet Technologies” of TU Varna

1. Overall characteristic of the candidate’s research and applied activity.

Ch. Asst. Prof. Stela Savova Kostadinova graduated in "Communication engineering and technologies" at MEIS - Moscow in 1988 and obtained the Master's degree. The candidate received the Education-Scientific Degree "Doctor" in the scientific specialty "Communication networks and systems" in the month of September, 2015.

In her professional career, Dr. Eng. Stela Kostadinova worked for 10 years in the "Digital Network" department at BTC Varna, where she also held the position of head of department. Since 2011, she has been an assistant in the department "Communication Engineering and Technologies" at Varna University of Technology, since May 2019 she is the Ch. assistant professor in the same department.

The candidate Dr. Eng. Stela Kostadinova has submitted scientific papers for participation in the competition as follows:

Scientific papers:	Quantity/Points
Dissertation work for the award of the ESD "Doctor", developed and defended in the professional field of the competition - 5.3	**50 points**
10 scientific works published in peer-reviewed publications and indexed in world-renowned scientific information databases, equivalent to a monographic (habilitation) work, which meet the requirements of group B indicators (minimum 100 points), in particular indicator B.4	Total **135 points**
Publications other than the above (group of indicators D, minimum 200 points):	Total **216.65 points**
- publications published in peer-reviewed and indexed publications in world-renowned scientific information databases Scopus and Web of Science (indicator G.7)	12psc 136.65 points
- publications in edited collective volumes in Bulgaria and abroad as well as scientific publications in non-refereed journals with scientific review in Bulgaria (indicator G.8)	12psc 80 points
Group of indicators D (minimum 50 points):	Total **280 points**
- Citations or reviews in specialized scientific publications indexed in world-renowned databases with scientific information or in monographs and collective volumes	14pcs cited respectively: 2 times, 1 time, 1 time, 2 times, 2 times, 1 time, 1 time, 1 time, 5 times, 3 times, 1 time, 4 times, 2 times and 2 times 280 points

(indicator D.12)	
Group of indicators J (minimum 30 points) - the schedule of lectures for the last three years:	Total **165 points**

Of the 34 scientific papers presented, none is independent, one has two authors (it is the first author), fourteen have three authors (four of them have a second author, and the remaining ten papers she is a third author), fourteen have four authors (six of them are second author, four are third author and the remaining four are fourth author) and five are by five authors (one is first author, two are second author, one is fourth author and in one is fifth author). It can be seen that in only 2 of the works the candidate is the first author and in another 12 of them she is the second author.

Dr. Eng. Stela Kostadinova participated in 6 research projects, with a scientific, applied and educational direction.

The attached documents are convincing evidence of the candidate's scientific and professional competence.

In conclusion: *the candidate covers the requirements of all groups of indicators for academic position „Associate professor" in the higher education "Technical Sciences".*

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

Dr. Eng. Stela Kostadinova has more than 10 years of experience as an assistant professor and Ch. assistant professor at the Department "Communication Engineering and Technologies"at TU-Varna. At the moment, she leads classes in 4 disciplines at the "Bachelor" OCS, majoring in CET.

I have no direct observations of the candidate's pedagogical activity, but the information received from my respected colleagues who know the candidate well gives me the confidence to say that she is doing an excellent job as a lecturer and teacher..

In conclusion: *the candidate has academic and pedagogical preparation for the administrative position of Associate Professor.*

3. Main scientific and scientific-applied contributions.

From the summaries of the scientific works presented, it can be concluded that the contributions are predominantly of a scientific and applied nature, mostly related to indicators B and G, and can be summarized as follows:

- A methodology for statistical analyzes of various types of information arrays is proposed for the evaluation of disturbing effects on electrical signals of incoming and outgoing traffic flows in communication systems [B.4.9];
- Artificial neural networks for identifying voice commands in voice control systems have been analyzed and synthesized [B.4.8];
- An innovative approach for applying discriminant analysis to identify electrical signals subjected to uniform and periodic noise levels without and with FFT pre-processing is presented [B.4.7];
- An assessment was made regarding the computational efficiency of artificial neural networks in the analysis of transmitted information flows to determine the type of defined traffic categories using artificial intelligence [B.4.6];
- The possibility of applying Artificial Intelligence in the analysis of M/M/c/k traffic data was investigated in order to define their category in relation to serviced circuits with different number of server stations [B.4.5];
- Developed a Virtual Instrument (VI) using LABVIEW to test NFIS classification performance [B.4.2];
- Types of classifiers for quantitative identification of teletraffic devices have been

proposed and investigated [B.4.1];

• Structures of adaptive neural-fuzzy interface systems for noise identification were investigated [B.4.4];

• A laboratory model of a real optical DWDM network for signal transmission was created [G.8.10].;

• The delays in an optical transmission network with a wave seal have been studied and analyzed [G.8.10].

Considering that in two of the papers the candidate is the first author and in the others mentioned above in this section, the second author, it can be assumed that the contributions mentioned above reflect the significant contribution of the candidate to the results achieved.

4. Significance of contributions for science and practice.

On the basis of the submitted materials for the competition, it is established that the candidate has fulfilled the quantitative indicators of the criteria for the administrative position "Associate Professor" in the higher education "Technical Sciences".

The proportional division of the contribution in the publications with more authors proves the candidate's contribution to the realization of the research and the obtained results. Contributions in scientific works are related to solving important scientific and applied tasks. The significance of the contributions can be judged indirectly by the presented citations of the candidate, which are relatively few - 14 in total, but all of them are in specialized scientific publications indexed in world-famous databases with scientific information or in monographs and collective volumes.

5. Critical remarks and recommendations.

The presence of duplicate documents, submitted with and without a signature, as well as the inappropriate designation of scientific works in the electronic form of the documentation (folder 19_Statii pdf) can be noted as remarks to the presented documentation.

My recommendation to the candidate is to strengthen his leadership role in his publication activity, as well as publishing in scientific journals indexed in Scopus and WoS, and falling within Q1, Q2, Q3 or Q4. I also recommend expanding my research activity with the training of doctoral students.

CONCLUSION

According the submitted documents by Dr. Eng. Stela Kostadinova for the competition for the academic position "Associate Professor" comply with the Law for Development of the Academic Staff ot the Republic of bulgaria, the Regulations for its application and the Regulations for the terms and conditions for the occupation of academic positions at the Technical University - Varna for the administrative position "Associate professor"'.

Given the above, I propose Ch. Asst. Prof. Stela Kostadinova to be elected as "Associate Professor" in professional field 5.3 "Communication and computer technology", academic course " Optical cable lines and systems ", at the department "Communication Engineering and Technologies" at the "Faculty in Computer Science and Automation" of the Technical University - Varna.

Date 20.08.2022 г.
TU-Varna

Member of scientific jury:
/ Assoc. Prof. Rosen Stefanov Radkov, PhD /