S T A N D P O I N T

Regarding: Competition for occupation the academic position Associate Professor, in the professional field 5.3 Communication and Computer Engineering, subject Optical cable lines and systems

Announced: in State gazette, issue 31 from 19.04.2022
Candidate: **Assistant Proffesor Eng. Stela Savova Kostadinova, PhD**
Member of the scientific jury: **Professor Eng. Teodor Bozhidarov Iliev, PhD,**

In this competition for occupation the academic position Associate Professor, appointed in the Bulgarian State Gazette issue 31/19.04.2022 and on the official website of Technical university - Varna, the only candidate for this position is Assist. Prof. Eng. Stela Savova Kostadinova, PhD.

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

Assist. Prof. Eng. Stela Savova Kostadinova, PhD was graduated from Moscow Technical University of Communication and Informatics with M.Sc "Telecommunication equipment and technologies" in 1988. In 2015 she defended successfully a dissertation for obtaining the educational and scientific degree PhD on the topic „ Study of the characteristics of the quality of service in new generation optical access networks on the basis of the PON technology". From 2011 she worked at the Technical University - Varna consecutively as an assistant and assistant professor (department of Communication technique and technologies).

Assist. Prof. Eng. Stela Kostadinova, PhD participated in the competition with 34 scientific papers according to the groups of indicators (В.4, Г.7 and Г.8).

The publications can be classified, as follows: 1) Referenced and indexed in world-renowned database (Scopus and/or Web of Science) – **22** papers [publication from group В.4 (10 papers) and from group Г.7 (12 papers); 2) manuscripts published in international journals, indexed in Scopus with SJR - **4** papers [В4.3, В4.4, В4.7, Г7.12 of the attached list of publications]; 3) manuscripts, published in Bulgarian journals - **2** papers [Г8.5, Г8.9 of the attached list of publications]; 4) papers in conference proceedings from conferences in Bulgaria - **8** paper [Г8.2, Г8.3, Г8.4, Г8.6, Г8.8, Г8.10, Г8.11, Г8.12 of the attached list of publications

The contents of the above scientific papers are fully relevant to the scientific field of the competition for academic position "Associate Professor".

Assist. Prof. Kostadinova, PhD took part in 6 projects financed by Technical University – Gabrovo as a researcher.

2. Evaluation of the applicant's teaching activity

Assist. Prof. Eng. Stela Kostadinova, PhD has considerable teaching experience. Over the last 3 academic years she has taught the following subjects:

- Cable communication lines – lectures and labs;
- Optical cable lines and systems – lectures;
- Digital transmission systems – lectures and labs;
- Communication chains – lectures;
- Telecommunication networks – labs;
- Switching, Multiplexing and Internet Technologies – labs;
- Introduction to the specialty – labs;
- Optoelectronics and laser technology – labs;
- Optoelectronics and optical communications - labs

She has been diploma work supervisor to 40 students who defended successfully (27 BSc and 13 MSc).

3. Main scientific and applied contributions

From the analysis of the presented materials I can classify the main contributions of the candidate as follows:

- A methodology is proposed for statistical analyzes of various types of information arrays, for the assessment of disturbing effects on electrical signals of incoming and outgoing traffic flows in communication systems.
- Artificial neural networks have been analyzed and synthesized to identify voice commands in voice control systems.
- An innovative approach is presented to apply discriminant analysis to identify electrical signals subjected to uniform and periodic noise levels without and with FFT pre-processing.
- An assessment has been 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.
- 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.
- A Virtual Instrument (VI) was developed using LABVIEW to test the performance of NFIS classification.
- Types of classifiers for quantitative identification of teletraffic devices have been proposed and investigated.
- Structures of adaptive neural-fuzzy interface systems for noise identification are investigated.
- A laboratory model of a real optical DWDM signal transmission network was created.
- The delays in an optical transmission network with a wave seal have been investigated and analyzed.

I accept the contributions announced by Assist. Prof. Eng. Stela Kostadinova, PhD. I define the contributions presented as: scientifically applicable and applied. I consider that the requirements for quantitative performance criteria for academic position "Associate Professor" are met.

Assist. Prof. Eng. Stela Kostadinova, PhD has submitted information for 28 citation in SCOPUS and/or Web of Science database. The reference to the citations shows that the scientific publications of Assist. Prof. Kostadinova are well known and accordingly evaluated by the scientific community in Bulgaria and abroad.

4. Significance of contributions to science and practice

The candidate's main scientific and applied contributions in the submitted publications under the competition can be classified according to the fulfillment of the scientometric criteria as follows:

Groups of indicators	Content	Minimum score points for academic position Associate Professor	Fulfillment
A	Indicator 1	50	**50 pts.**
B	Indicators 3 or 4	100	**135 pts.** (indicator 4)
Г	Sum of indicators from 5 to 9	200	**216,65 pts**. Indicator 7 – 136,65 pts. Indicator 8 – 80 pts.
Д	Sum of indicators from 12 to 14	50	**310 pts**. Indicator 12 – 280 pts.

5. Critical remarks and recommendations

I have no critical remarks on the documents, scientific production and academic activity presented by the candidate. I will point out some recommendations on the future work of Assist. Prof. Eng. Stela Kostadinova, PhD:

- My recommendation to Assist. Prof. Eng. Kostadinova is to concentrate her scientific work in one research area.
- I recommend to strive to publish independent scientific papers both in international scientific conferences and in journals indexed in SCOPUS and/or Web of Science, which would also help to increase the citation of the publications.

6. Conclusion:

The presented documents and materials fully satisfy the requirements of the Law for the 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 - Varna.

I hereby suggest with the utmost conviction of the Honorable Scientific Jury **to elect Assist. Prof. Eng. Stela Savova Kostadinova, PhD for the academic position „Associate Professor"** in the field of higher education 5. Technical Sciences, professional field 5.3. Communication and Computer Engineering, subject Optical cable lines and systems.

Заличена информация
по Регламент (ЕС)
2016/679

August 22, 2022   Member of the scientific jury:
                                   /Prof. Teodor Iliev, PhD/