EVALUATION STATEMENT

On the competition for acquirement of the academic position of "Professor"

In the PROFESSIONAL FIELD 5.3. Communication and computer science

Educational discipline „Computer networks"

Announced in State gazette issue 110 / 24.12.2022г.

With applicants: Asoc. Prof. Dr. Eng. Veneta Panayotova Aleksieva

Member of the scientific jury: Prof. Dr. Eng. Stanislav Denchev Simeonov

The present evaluation statement was made according to Order № 93/11.02.2022 of the Rector of the Technical University - Varna.

1. General characteristics of the scientific research and applied research works of the applicant

Only one candidate takes part in the competition for the acquirement of the academic position of "Professor" – Assoc. Prof. Veneta Panayotova Aleksieva. The candidate submitted a total of 53 scientific works. They are classified as follows:

- 16 pcs publications according to criterion B.4. (academic rank attainment thesis – scientific publications (at least 10) in journals referred and indexed in world data bases of scientific literature);
- 13 pcs, publications according to criterion G.7. (Publications aside from the monographic work, in journals referred and indexed in world data bases of scientific literature);
- 24 pcs publications according to criterion G.8 (Publications in non-referred journals with scientific reviewing).

Further, the materials presented for the competition include:

- 13 pcs educational handbooks with the participation of the candidate;
- Information about the participation in 20 scientific projects – one international, two national and 17 internal. The candidate has been the head of 5 projects.

Based on the authors information, I can classify the scientific works submitted as follows:

- Research in the field of methods and means for improving the service quality in wireless networks – 22 pcs.;
- Research of cloud structures – 10 pcs.;
- Research of the safety in modern computer networks – 5 pc.;
- Application of block-chain technology in business – 9 pcs.;
- Research of general character in the field of computer systems and technologies.

The applicant for the academic position of "Professor" – Assoc. Prof. Dr. Aleksieva has taken part in 20 scientific projects, one of which is international and 3 – national. She has been the head of 5 projects.

The fulfillment of the national requirements are summarized in the following table:

№	Groups of indicators		Number of points
	Indicators	Requirements	Fulfillment
1.	Indicators group A.	*At least 50points*	50
2.	Indicators group B.	*At least 100 points*	300
3.	Indicators group G.	*At least 200 points*	408.8
4.	Indicators group D.	*At least 100 points*	424
5.	Indicators group E.	*At least 150 points*	500.84

At this point I would like to note that the minimal requirements according to the Law for the development of the academic staff in the republic of Bulgaria and the Rules of its application, as well as the Regulations for the terms and conditions for holding academic positions at the Technical University – Varna are fully met.

2. Assessment of the pedagogical preparation and activities of the applicant

In 1993, Assoc. Prof. Veneta Aleksieva graduates with the educational and qualification degree "Master" in the specialty "Computer technology" at the Technical University – Varna. Then she specialized consequtively "Industrial design", "Accounting and control", and „Electrical engineering and electrical equipment in industry". She defended successfully PhD thesis under code 02.21.07 „Automated systems for data processing and management" in 2012. Since 2016, the applicant is associate professor at the Department of "Computer science and technology" at TU – Varna, in professional field 5.3 „Communication and computer technics", scientific specialty „Computer systems, complexes and networks". She is co-author of 13 educational handbooks in the field of computer communication.

For the last 5 years, the applicant has participated in the development and developed herself scientific curricula for the educational and qualification degree of "Bachelor in 7 disciplines, among them "Computer networks", „Administration of local area and Internet networks", „Basics of computer communication", „Computer and network safety", etc., for "Bachelor" degree in English language – 5 curricula: „Basics of computer communication", „Course project on basics of computer communication", „Computer networks", „Course project on computer networks" and „Electronic trade". For the "Master" degree, she participated in the development of 18 curricula. She worked out the scientific curriculum „Integrated computer systems and networks" for the acquirement of the educational and scientific degree of "Doctor". After 2012, she has had nine times lectures in Magdeburg – Germany, Wroclaw – Poland, Dublin – Ireland. In the materials submitted for assessment there is no estimation of the lecturing activity of the applicant by the attestation commission at the TU - Varna.

3. Main scientific and applied research contributions

Assuming equal participation of the co-authors, I can summarize the contributions found in the scientific publications submitted as follows:

A. Applied science research
- Algorithms for distribution of resources in wireless networks are suggested, they are realized on the basis of different technologies;
- Algorithms for realization of optimal routing are suggested, as well as algorithms for balancing the energy in some types of networks;
- An approach is suggested for checking the vulnerabilities in wireless networks;
- Insurance methods are suggested – life insurance and property insurance, based on smart contact on private block-chain, public block-chain and combined solution;
- A method for improvement of the quality of service in PON networks on the basis of prioritized resource distribution.

B. Applied
- Simulation media for LTE, 6loWPAN, ZigBee, BLE and other embedding elements of visualization are suggested. This approach would provide an opportunity for integration of technologies within a common simulator;
- Virtual education infrastructure was designed and realized on disciplines related to computer networks;
- A toolkit for monitoring and control of virtual infrastructures was developed.;
- A generator of DoS attacks was developed which is a tool for verification of network structures;
- A hardware system for collection of data from wireless networks was realized;
- Prototypes of specific smartwatch were developed.;
- The development of system for education in coding and modulation is also interesting.

According to the checks I made in Scopus, there were 48 citations. Taking into account that the author's publications have been published since 2019, I think it is a good criterion for the quality of the published material.

4. Significance of the contributions for the science and practice

There is no doubt about the relevance and reliability of the scientific works submitted for participation in the competition for the academic position of "Professor". The research work is in accordance with the modern requirement towards the research in the field of computer networks and, in particular, wireless networks. Especially good impression gave the development of simulation environments for different kinds of wireless networks. Such an approach provides an opportunity to build a simulator realizing simulation independence from the hardware realization.

5. Critical remarks and recommendations

I have no specific remarks. I will try to constructively commend to Assoc. Prof. Aleksieva to reduce the wide scope of her research. It will give her the opportunity to go deeper into certain field and allow realization of publications in journals in Q1 and Q2. The elements of "scientometric image" indicate for successful and effective research activity. They should be the subject of mandatory self-analysis for the formation of in-depth research guidelines and further publication activity, which I have no doubt.

CONCLUSION

All the conditions according to the law for the development of the academic staff in Bulgaria and the Additional requirements for the academic position of "Professor" of the Regulation for the terms and conditions for occupation of academic positions at the Technical University – Varna are met and I give may categorically positive conclusion for the election of Assoc. Prof. Dr. Veneta Panayotova Aleksieva in the competition for the academic position "Professor" in professional field 5.3. Communication and computer science, educational discipline „Computer networks"

Date: 29.03.2022   **MEMBER OF THE JURY:**
Burgas   **/Prof. Stanislav Simeonov/**