

## OPINION

on the materials submitted for participation in a procedure for obtaining an academic position  
“associate professor” in professional field 5.3 „Communication and Computer Engineering”,  
field of higher education 5 „Technical sciences”  
for the needs of section „Distributed Information and Control Systems”, IICT-BAS  
announced in SG №77/27.09.2022

Applicant: **Assist. Prof. Dr. Eng. Elisaveta Dimitrova Trichkova–Kashymova**

Scientific jury member: **Prof. Dr. Milena Kirilova Lazarova–Mitseva**  
Technical University of Sofia

This opinion is prepared in my capacity as a member of the Scientific Jury appointed by Order of the Director of the IICT–BAS (№338/25.11.2022) based on a decision of the Scientific Council of the IICT–BAS (Protocol №12/17.11.2022) as well as decisions taken on the first meeting of the Scientific Jury on 09.12.2022.

### 1. Overall characteristic of the applicant's research and scientific activities

The applicant Assist. Prof. Dr. Eng. Elisaveta Dimitrova Trichkova–Kashymova has submitted for participation in the procedure 25 scientific works which include 10 publications submitted as equivalent to a monograph and another 15 publications. The 10 publications submitted as equivalent to a monograph can be classified as follows: 1 article in peer-reviewed international journal (SJR=0.186) and 9 publications presented at international scientific conferences held in Bulgaria. All of the 10 publications are written in English and are published in scientific editions refereed in Scopus. Four of the publications are self-authored, the other 6 are co-authored, of which in 2 papers the applicant is first author, in 3 is second author and in 1 is third author. The 15 publication submitted for participation in the procedure apart from the publications presented as equivalent to a monograph can be classified as follows: 2 articles published in a national peer-reviewed scientific journal and 13 papers published in the proceedings of scientific conferences, of which 1 paper is presented at international scientific conference held abroad and 12 papers are presented at national conferences with international participation. Two of the publications are indexed in Scopus in scientific editions with SJR. Three of the publications are written in Bulgarian, the other 12 are written in English. Eight of the papers are self-authored, the other 7 are co-authored, of which in 4 publications the applicant is first author and in 3 is second author. The publications submitted for participation in the procedure are not included in the list of publications on the applicant's PhD thesis.

In regard to the fulfilment of the minimum required points by groups of indicators for obtaining an academic position „associate professor” in the professional field 5.3 „Communication and Computer Engineering” the submitted materials of the applicant can be summarized as follows:

- For the group of indicators A: indicator 1 – submitted abstract of a PhD thesis entitled “Optimization of processes in information systems” and a list of 7 publications on the PhD thesis. The total number of points for the group of indicators A is 50 (the minimum requirement for obtaining an academic position „associate professor” is 50).
- For the group of indicators B: indicator B4 – submitted 10 publications as equivalent to a monograph: [1]÷[4], [6]÷[12]. The total number of points for the group of indicators B is 370 (the minimum requirement for obtaining an academic position „associate professor” is 100).
- For the group of indicators Г: The total number of points for the group of indicators Г is 263 (the minimum requirement for obtaining an academic position „associate professor” is 220):



- Indicator 7 – submitted 2 publications in scientific editions that are referenced and indexed in Scopus: [5] (SJR=0.11), [11] (SJR=0.198). The total number of points for indicator Г7 is 60.
- Indicator 8 – submitted 13 publications in non-refereed peer-reviewed journals or in edited collective volumes: [13÷25]. The total number of points for indicator Г8 is 203.
- For the group of indicators Д: the applicant submitted a reference for the citations of her papers according to which the total number of points for the group of indicators Д is 180 (the minimum requirement for obtaining an academic position „associate professor” is 60):
  - Indicator 12 – 9 of applicant’s publications have 16 citations in publications in referenced and indexed scientific editions. The total number of points for indicator Д12 is 160.
  - Indicator 14 – 9 of applicant’s publications have 10 citations in non-refereed peer-reviewed scientific editions. The total number of points for indicator Д14 is 20.
- For the group of indicators E: the total number of points for the group of indicators E is 110 (the minimum requirement for obtaining an academic position „associate professor” is 20):
  - Indicator 18 – the applicant participated in 5 national projects including 1 national scientific program of the Ministry of Education and Science, 2 project financed by the Bulgarian National Science Fund, 1 project financed by the Ministry of Transport and Communications and 1 project financed by the Ministry of Economy under the OP “Development of the competitiveness of the Bulgarian economy” . The total number of points for indicator E18 is 50.
  - Indicator 19 – the applicant participated in 3 international projects financed by the European Commission under the programs FP6, COST and Erasmus+. The total number of points for indicator E19 is 60.

All the materials submitted for participation in the procedure by Assist. Prof. Dr. Eng. Elisaveta Trichkova–Kashymova correspond to the professional field of the competition in terms of volume, structure and content. All the criteria defined as minimum required points for the groups of indicators for obtaining an academic position „associate professor” are fulfilled.

## **2. Main scientific and applied contributions**

The research works of Assist. Prof. Dr. Eng. Elisaveta Trichkova–Kashymova is focused in the following scientific areas: topology optimization of communication networks; intelligent management solutions in the field of animal husbandry; methods, approaches and tools for modeling, implementation, monitoring and analysis of business processes. I accept and evaluate positively the scientific and applied contributions of the research works submitted for the competition by the applicant:

- a topological synthesis and an optimal solution are proposed for technological and structural improvement of communication networks by means of modeling and control of information flows [2], [9], [15], [22];
- the use of various intelligent systems and technologies for decision support in animal husbandry is proposed [1], [3], [4], [7], [8];
- a technological solution for automation of information activities and services using workflow technologies is proposed [12], [18], [19], [20], [21], [23], [24], [25];
- an approach for quantitative assessment of the quality and efficiency of information systems in various subject areas is proposed [5], [6], [10], [11], [13], [14], [16], [17].

The main scientific and applied contributions of the applicant are in the field of the competition.



### 3. Importance of the research contributions to the science and the practice

The research activities of Assist. Prof. Dr. Eng. Elisaveta Trichkova–Kashymova fall in recent and important scientific fields. The contributions in her publications submitted for participation in the competition can be referred to the categories of improvement of existing scientific knowledge and research contributions applicable in practice. Part of the contributions are related to proposal of new or modification of existing methodologies, approaches and models, while other contributions can be referred as new means to proof essential and new aspects of existing scientific and applied problems and theories.

According to the submitted applicant's reference 14 of her publications have a total of 26 citations of which 16 citations are in papers published in scientific editions referenced and indexed in Scopus. Fourteen of the citations are made by foreign authors. Two of the publications have 4 citations each and other two publications have 3 citations each. The applicant's research work is well cited which is an evidence of the wide dissemination and recognition of her research contributions by foreign specialists working in the relevant scientific areas.

### 4. Critical remarks and recommendations

The provided documents by Assist. Prof. Dr. Eng. Elisaveta Trichkova–Kashymova for participation in the competition are well prepared and are accompanied by the necessary references and certificates that are sufficient to evaluate her research activities, except for missing documents on her participation and the activities carried out as part of her participation in research projects.

My recommendations to the applicant are to aim her efforts at publishing the results of her future research work in international journals referenced and indexed in Scopus and WoS and to present them at international conferences abroad.

### CONCLUSION

Based on the above said and considering the research activities and the significance of the achieved scientific and applied contributions of the applicant and the fulfillment of all the requirements of the Act on the Academic Staff Development in Republic of Bulgaria and the Regulations governing the application of the Act as well as the Regulations of the Bulgarian Academy of Sciences for the implementation of the Act, I give a positive assessment and recommend the Honorable Scientific Jury to propose to the Scientific Council of IICT–BAS to award Assist. Prof. Dr. Eng. Elisaveta Dimitrova Trichkova–Kashymova the academic position “associate professor” in the professional field 5.3. “Communication and Computer Engineering” in section „Distributed Information and Control Systems” of the Institute of Information and Communication Technologies in the Bulgarian Academy of Sciences.

Date: 16.01.2023 г.

SCIENTIFIC JURY MEMBE  
/ Prof. Dr. Milena

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