

EVALUATION

of the application package submitted for participation in the competition for a **tenured track position "Associate Professor"**, in the professional area **"5.3 Communication and computer technology"**, the academic course on **"Synthesis and analysis of algorithms"**, with the applicant: Senior Assistant Professor Neli Ananieva Arabadzhieva - Kalcheva, Ph.D., Announced in the Bulgarian State Gazette №31/19.04.2022.

Member of the scientific panel: **Prof. Todor Dimitrov Ganchev, PhD**

1. General characteristics of the research activity of the candidate

Eng. Neli Ananieva Arabadzhieva-Kalcheva, Ph.D., participates in the competition for the tenure track position "Associate Professor" with a total of 26 scientific publications, including 11 to cover the minimum national requirements under the group of indicators "B" and 15 under the group of indicators "G".

To satisfy the requirements under indicator "B.4", Dr. Arabadzhieva-Kalcheva has submitted a list of 11 papers presented at scientific conferences in Bulgaria and abroad. Of these, 10 are visible in Scopus (publications B.4.1-B.4.10), and the report status of B.4.11 remains unclear. Some of the previous editions of the MIRDEC conference are indexed in WoS, but the last 5 editions are not visible, so I do not include it in the following analyses. Of the 10 indexed publications from category "B.4", 9 were prepared in co-authorship with colleagues from TU-Varna, and 1 was independent. Assuming that the candidate's contribution to individual publications corresponds to the order of the authors, it should be noted that Dr. Arabadzhieva-Kalcheva is the first author in 7 of these publications, second in 1, and third in 2, which is an indication of her significant contribution to their preparation.

In order to satisfy the requirements under the group of indicators "G", Dr. Arabadzhieva-Kalcheva has presented two lists with a total of 15 publications. Among these, 3 are listed under indicator "G.7" and are currently visible in IEEE Xplore, and 12 by indicator "G.8". Specifically, the "G.8" group includes 7 papers presented at conferences in Bulgaria or abroad and 5 articles published in a journal which is not indexed in Scopus. Of the indicators included in group "G", 6 are authored only by her, and 9 are co-authored. In 8 papers, the candidate is the first or only author; in 6, she is the second author; in 1, she is the fifth author. All said indicates her significant contribution to the implementation of research activity.

Following the national requirements, Dr. Arabadzhieva-Kalcheva has presented a list of 4 publications used for acquiring her Ph.D. degree and a list of 2 publications for the acquisition of the Senior Assistant Professor position. No duplication with the lists of the current competition was found.

To fulfill the minimum national requirements under the group of indicators "D", Dr. Arabadzhieva-Kalcheva presented two lists with a total of 20 citations, incl. 10 in category "D.12" citations in publications indexed in the well-known databases with scientific papers. Another 10 are listed

under the category "D.14" non-indexed publications. Currently, Dr. Arabadzhieva-Kalcheva has a Scopus h-index = 2.

In order to fulfill the minimum requirements, according to the Regulations for the development of the academic staff at TU-Varna under indicator "Zh", Dr. Arabadzhieva-Kalcheva has listed 234 hours of lectures held over the last 3 years.

Table 1. A summary on the implementation of the minimum national requirements for acquiring the tenure track position "Associate Professor" by groups of indicators for the scientific field "5. Technical Sciences."

Group of indicators	Contents by indicators	Minimum requirements for "Associate Professor"	Scores N. Kalcheva, Ph.D.
A	Indicator 1	50	50
B	Indicator 3 or 4	100	265 (w/o B.4.11)
G	Sum of indicators from 5 to 11	200	222.3
D	Sum of indicators from 12 to 15	50	120
Zh	Indicator 29	30	234

The overall analysis of the submitted application package and the comparison with the minimum national and institutional requirements for the tenure track position "Associate Professor" (cf. Table 1) show that the candidate, Dr. Arabadzhieva-Kalcheva, fulfills the minimum requirements in all groups of indicators.

Admirations deserve the work of Dr. Arabadzhieva-Kalcheva with the students, especially the efforts for preparing the student software-programming teams of TU-Varna, which have taken several prizes at national competitions in recent years. I have excellent impressions of the candidate's organizational skills in preparing and implementing the software development competitions at TU-Varna.

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

The pedagogical activity of Arabadzhieva-Kalcheva covers 25 years - from the appointment as a computer science teacher at the Technical School of Shipbuilding and Navigation - Varna in 1998. In subsequent years, N. Kalcheva accumulated significant pedagogical experience as a teacher, deputy headmaster, and principal in Varna's most prestigious vocational high schools. In the meantime, she has gained considerable teaching experience teaching students at TU-Varna -- over 13 years as a part-time assistant and 6 as an assistant or senior assistant professor. According to the application package, in the last 3 academic years, she has conducted 234 lecture hours, which is an excellent attestation of her teaching work.

3. Main scientific and applied scientific contributions

Based on the resumes of Dr. Arabadzhieva-Kalcheva's publications, I concluded that most of the contributions were applied research and RTD activities. The publications submitted to the competition correspond to the research and applied activities on the subject of the competition. In summary, the contributions of Dr. Arabadzhieva-Kalcheva in the publications submitted for the competition can be characterized as:

- Application of methods and algorithms for a valuable increase of knowledge in solving various engineering problems and new models in teaching engineering sciences.
- Study methods used in computer science, synthesis, and analysis of algorithms for optimization and classification, aimed at obtaining new or confirmatory facts in various applied fields.

Analyzing the list of authors for the co-authored publications and considering that Dr. Arabadzhieva-Kalcheva is the sole author of about a quarter of the publications presented in the competition, I concluded that the candidate has a significant contribution to the reported results.

4. Significance of contributions to science and practice

Regarding the significance of the contributions in Dr. Arabadzhieva-Kalcheva's publications, I judge indirectly by the presented citations by independent authors. The contributions in the candidate's scientific works are related to the solution of significant scientific problems for society, as well as to the training of young engineering personnel. However, the number of references (20) indicated in category "D" is less than the total number of publications.

Lists of submitted or granted patents or utility models were not provided.

5. Critical remarks and recommendations

I have no critical remarks. The application package is comprehensive and well structured, and the provided evidence is easy to verify.

CONCLUSION

The application package submitted by Eng. Neli Arabadzhieva-Kalcheva, Ph.D., in the competition for the tenured track position "Associate Professor", provides an opportunity for an objective and multifaceted assessment of her qualifications. A formal comparison of the presented assets with the minimum national requirements for occupying the tenured position "Associate Professor" and the relevant bylaws of TU-Varna shows that the minimum requirements are met. The above said motivates me to support the candidate, Eng. Neli Arabadzhieva-Kalcheva, Ph.D., for being awarded the "Associate Professor" position in the professional field 5.3 "Communication and computer technology", academic course "Synthesis and analysis of algorithms".

Date: 31.08.2022

MEMBER OF THE SCIENTIFIC PANEL: _____

/ Prof. Todor Ganchev, PhD /