OPINION

In the competition for the academic position "Associate Professor" in the professional field 5.4. “Energy”, with a scientific specialty in "Electrotechnical materials and cable technology",

announced in SG no. 4/13.01.2023 for the needs of TU-Varna, Department of Power Engineering
with candidate: Milena Dimitrova Ivanova, PhD, Chief Assistant, TU-Varna
The opinion was prepared by: Angel Belchev Tsolov, PhD, Professor, TU-Sofia

The candidate in the competition for "associate professor", Ch. Milena Dimitrova Ivanova, Assistant Professor, PhD, has been working as a teacher in the "Electroenergetics" department at TU-Varna since 2007. She holds a doctorate in the scientific specialty "Electrical supply and electrical equipment by branch (of the ship)" since 2016.

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

The candidate's main research and scientific-applied activities focus on the following areas: research on high-voltage discharges in a liquid medium, research on electromagnetic fields, including the use of modern conductor materials such as flexible screens, research on control schemes for semiconductor components (led) in the field of electric power, and related studies on monitoring, verification and management of indicators for the quality of electric power. Notably, there is an increased interest in the field of cable technology, studies of soil as a material with a complex structure and electrical parameters, significantly influencing the design of grounding and lightning protection installations. Research encompasses both classic ETMs and the features of modern new means. A clear main direction in the candidate's research is evident, which creates the impression of targeted coordination of various interests of Ch. Assistant Professor Milena Dimitrova Ivanova, PhD. The candidate's serious applied activity is proven by the fact that she led projects for scientific and applied research, participated in two national scientific projects at the National Institute of Scientific Research funded by the state budget. She was also a member of the scientific teams for nine other similar projects.

The presented list of scientific works includes 46 titles, of which 31 are designated as works subject to assessment for the specific competition. These works have been evaluated. Ten of the publications are presented as the equivalent of a monographic work. Two publications are independent, and among the remaining 29, the candidate is the first author in 7 of them. All papers have been published in editions or conference proceedings with corresponding ISBN or ISSN. Nineteen of them are indexed in the SCOPUS publications database. The evaluation of the presented references for contributions in the candidate’s publications and participation in scientific projects proves that Ch. Assistant Professor Milena Ivanova, PhD, is a very good specialist with excellent potential for development.

The verification of all the attached documents, as per Art. 2b of the ZRASRB), shows that the applicant has exceeded all the indicators of the minimum national requirements in the professional field 5.4. The corresponding points are as follows: for group В - 232, for group Г - 226.44, for group Д - 60, and for group Ж - it is repeated more than 20 times.

2. Evaluation of the candidate's pedagogical preparation and activity:

The evaluation of the submitted references regarding the modernization of the department's material and technical base, the developed study materials, and the candidate's study load demonstrate that her lecture load exceeds the minimum national requirements for holding the position of Associate Professor multiple times. The candidate has participated in the renovation of the material and technical base of the laboratories for "Electrotechnical materials", "Diagnostics of cable power lines", "Special materials and technologies in the power industry", and "Management of working conditions and production risk". The candidate has authored five teaching aids - lecture notes in four disciplines and a manual for laboratory exercises. She participated in the development of study programs in 5 disciplines for the "Bachelor" OCS, majoring in "Electricity". In terms of teaching experience, the candidate has led classes (both lectures and exercises) in disciplines such as "Electrotechnical materials", "Technical safety", "Coordination and diagnostics of electrical insulation systems", "Electrical insulation and high-voltage technology", "Special materials and" technologies in the power industry", "Safety organization and crisis management", and "Technique of high voltages". She has supervised 12 Master's and Bachelor's graduates from OCS.

Based on the candidate's accomplishments and contributions in the field of teaching, I believe that Ch. Assistant Professor Milena Ivanova is a capable, respected and highly qualified teacher.

3. Basic scientific and applied scientific contributions:

The candidate's contributions can be divided into three groups: scientific (Г7-5, В4-7, Г7-8), scientific and applied. Most of the scientific and scientific-applied contributions, and at the same time, the most essential among them, are found within the 10 selected publications presented as a habilitation thesis. The first group of contributions consists of 18 publications (В4-2, В49, В4-10, В4-3, Г8-10, В4-5, В4-8, Г8-11, Г8-1, Г7-7, Г7-9, Г8-4, Г8-8, Г8-3, Г7-6, Г7-1, Г7-2, Г7-4). They can be further categorized into two groups - 'development of new methods and obtaining confirmatory facts' and 'formulation of a hypothesis, development of new methods and obtaining confirmatory facts'. The others are correctly categorized under them. These contributions mainly revolve around the areas of developing new methods and obtaining confirmatory facts, and exploring novel aspects of existing scientific fields, problems, theories, and hypotheses. The majority of these contributions in this category can be defined as 'creating new methods and obtaining confirmatory facts'. The third group of contributions - adverbs is contained in (Г8-5, Г8-9, Г8-12, В4-4, Г7-3, В4-1, Г8-6, Г8-7, В4-6, Г8-2).

I accept the claims in full. There are methodological contributions related to student learning in all three groups,

4. Significance of contributions for science and practice:

Based on the information provided, it can be concluded that the candidate's scientific contributions are significant. The candidate is known both in Bulgaria and internationally through her publications. The areas of scientific research in which she works are current and relevant to the field of EEC. The analysis of the number of co-authors and their arrangement shows the candidate's authorial role in the essential part of the contributions. There are also those achieved as a result of research by a team that has already established itself as a scientific school. The submitted data for six citations by foreign authors (SCOPUS) show that the candidate work, research and contributions are known to a sufficiently wide scientific

community. Some of the contributions have been implemented in the teaching activities of the Department of Electric Power Engineering at TU-Varna, while others have been applied to practical tasks related to generators' operating modes in large power plants.

It can be stated that the requirements for this indicator have been exceeded. All the minimum quantitative indicators for the academic position of Associate specified in the appendix to Art. 1a, paragraph 1 of the Regulations for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria have been fulfilled.

5. Critical notes and recommendations:

I have no critical remarks about the candidate. The application documents are well-organized and accompanied by the necessary evidentiary supporting material. As a recommendation, it is suggested that future publications aim for journals with an impact factor. In addition, although the imposed ways of evaluating the scientometric indicators of the academic staff in the Republic of Bulgaria almost unequivocally determine the language in which the scientific publications should be written, it would be beneficial to find a way to publish in specialized journals in the Bulgarian language. This would increase visibility and engagement within the national engineering community and feedback from local professionals who may prefer not to rely on IEEE databases for article access.

CONCLUSION

The presentation of the candidate in the competition for the academic position of "Associate Professor" meets the requirements of ЗРАСРБ, ППЗРАСРБ and the internal Regulations on the terms and conditions for occupying academic positions in TU-Varna.
Having familiarized myself with the content of the works presented, the resulting scientific, scientific and applied contributions, taking into account the candidate's overall scientific, research and teaching work, I confidently recommend Ch. Assistant Professor Milena Dimitrova Ivanova, PhD, for the academic position of "Associate Professor" in the professional direction of 5.4 "Energy" in the scientific specialty "Electrotechnical materials and cable technology " at TU-Varna.

Date: 30.05.2023 Jury member: ...