

OPINION

By Assoc. Prof. Orlin Lyubomirov Petrov, PhD, University of Ruse "Angel Kanchev"

of the materials submitted for participation in a competition for the academic position of "Associate Professor" in the field of higher education - 5. Technical Sciences, by professional field - 5.2. Electrical engineering, electronics and automation, specialty - Power supply and electrical equipment
In the competition for Associate Professor, announced in the State Gazette, issue 48/13.06.2025 and on the website of TU-Gabrovo for the needs of the Department of "ESEO" at the Faculty of "Electrical Engineering and Electronics", as a candidate participates - Chief Assist. Dr. Eng. Lyubomir Diyanov Dimitrov.

1. Overview of the content and results in the presented papers

Submitted data of the candidate to fulfill the minimum national requirements for holding the position of Associate Professor:

<i>Group of indicators</i>	<i>Minimum number of points</i>	<i>Number of points of the candidate</i>	<i>Number of points on key indicators by group and additional data</i>
A	50	50	Diploma No. 0045 / 14.12.2015 from Technical University of Gabrovo in the scientific specialty "Power Supply and Electrical Equipment"
B	100	142	B4 – 10 scientific publications – 142 p.
G	200	246,37	G7 – 2 scientific publications – 21,33 p.
			G8 – 25 scientific publications – 225,04 p.
D	50	240	D12 – 24 citations in publications that are referenced and indexed in world-renowned databases of scientific information – 240 p.
Total	400	678,37	

The scientific publications submitted are 37 in total. Of these, 25 are in English, and the remaining 12 are in Bulgarian. Four of the publications are independent, and the rest are co-authored, with the candidate being the first author in 4 of them, and the rest being the second, third or fourth author. Of all the publications, 12 are indexed and referenced in world-renowned databases of scientific information (Scopus platform).

By indicator B, 10 publications with the equivalence of a monographic work, referenced and indexed in world-renowned databases of scientific information, from the above-mentioned ones, are submitted.

The scientific publications submitted in the competition for the position of Associate Professor do not repeat those announced in the abstract for the acquisition of the Scientific degree "Doctor" (8 publications - 90 points, with a minimum of 30 points). I accept all submitted materials for review.

It has been established that publications B4.1, B4.2, B4.3, B4.6, G7.1, G8.25 have incorrect scoring. This will lead to a change in the points, respectively: in indicator B from 142 to 175 points; in indicator G from 246.37 to 252.37 points.

It has also been established that 7 of the submitted citations are auto-citations and should not be taken into account in determining the points in indicator D. This will lead to a decrease in the points in indicator D from 240 to 170.

The total number of points should change from 678.37 to 647.37 points.

Taking into account the above, the submitted points for all indicators are more than sufficient - 647.37, with a minimum number of points - 400 (more than 1.5 times the minimum required number).

The candidate has submitted a Certificate of Compliance with the Minimum Requirements of TU-Gabrovo, which shows that he also meets the requirements of TU-Gabrovo for holding the title of Associate Professor (minimum number of publications, citations and published textbooks).

2. General characteristics of the candidate's activities

2.1. Educational and pedagogical activity (work with students and doctoral students)

The candidate has led full courses (lectures and exercises) in three academic disciplines and exercises in four academic disciplines. He has participated in the development of educational documentation in six academic disciplines, included in the curricula of the Bachelor's and Master's degree programs, specialty "Electrical power supply and electrical equipment".

He is the author and co-author of a textbook and teaching aid:

1. Rachev S. L. Dimitrov, Electric Drive and Electrical Equipment, University "V. Aprilov", Gabrovo, 2011;
2. Rachev S., D. Koeva, L. Dimitrov, Electrical Equipment, University "V. Aprilov", Gabrovo, 2018.

2.2. Scientific and applied scientific activities

Chief Asst. Dr. Eng. Lyubomir Diyanov Dimitrov began his scientific activity as an Assistant in the Department of Power Supply and Electrical Equipment of TU-Gabrovo, dealing with research in the field of electrical equipment, electric propulsion and renewable energy sources.

In 2015, the candidate defended his doctoral dissertation in the scientific specialty "Power Supply and Electrical Equipment" on the topic "Research of Transient Processes in the Electric Propulsion of Electric Vehicles".

The candidate's scientific activity developed after the defense of his dissertation work, as he continues to work in the same scientific field. This is also evident from the topics of the scientific publications submitted in connection with the competition.

He participated in scientific projects financed with funds from the state budget, as well as in projects financed by external contractors.

No information about a utility model or patent was provided with the competition documents.

2.3. Implementation activity

The candidate has participated in 13 university and 2 national projects, financed with funds from the state budget for scientific research.

He has participated in the construction of two training laboratories.

No information about a utility model or patent, as well as about implementation activities in companies, was provided in the competition documents.

3. Contributions (scientific, applied science, applied). Significance of contributions for science and practice

I fully agree with the formulated contributions of the candidate, presented in the document "Author's reference for contributions in scientific works". They can be grouped as follows:

3.1. Scientific contributions

- Development and application of a computer mathematical model for assessing the electrical losses occurring in the drive electric motors, as well as the individual components and energy losses under different operating conditions of the electric drive.;
- Studies of the operational behavior of asynchronous motors with a squirrel-cage rotor. Synthesis of an electromechanical model and presentation of operating modes of an electric drive with an asynchronous motor with a squirrel-cage rotor for high voltage. Conducting experimental studies of a new energy-efficient three-phase asynchronous motor.

3.2. Scientific and applied contributions

- Characteristics of electric vehicles and their associated components were obtained based on studies of their operational functionality;
- Obtaining an energy-efficient solution for improving the operation of machines and mechanisms of electrical equipment;

3.3. Applied contributions

- Studies of the behavior of a new type of traction DC motor for driving electric vehicles.;
- Conducting practical measurements for analyzing the quality of electrical energy when operating various types of electrical loads and performing a subsequent summary analysis of the results obtained.

The significance of the contributions to science is confirmed by the number of find citations - 24 pcs. in publications that are referenced and indexed in world-renowned databases of scientific information (Scopus and Web of Science).

4. Assessment of the candidate's personal contribution

From the materials presented, I am convinced of the personal contribution of Chief Assistant Professor Dimitrov in the publication and research activities. The candidate clearly demonstrates the skills to integrate into scientific teams, developing mathematical and computer models, conducting scientific research and analyzing the results obtained.

5. Critical notes and recommendations

I have no significant critical remarks on the candidate's materials. They are well-formed and present all the necessary information in detail. Some technical errors were made in determining the summary indicators - Tables 1, 2 and 3, but they do not significantly affect the final result.

An indisputable fact is the overfulfillment of the minimum required points for taking the position of Associate Professor at the Technical University of Gabrovo.

I recommend that some of the materials, of course after appropriate processing and formatting, be published in more prestigious international journals with an impact factor (IF).

6. Personal impressions

I have no personal contacts with the candidate. We have met at various scientific forums. My impressions of the presented scientific papers and materials are positive. The teaching aids are written with a clear desire for the material to be clearly understood. The scientific papers are on several different topics and are sufficiently in-depth.

My personal impressions are that Chief Assist. Prof. Dr. Eng. Lyubomir Diyanov Dimitrov has the necessary competencies to develop his academic career, which will increase the scientific capacity of the department and the university.

7. Conclusion

Considering the above, I propose that **Chief Assistant Professor Dr. Eng. Lyubomir Diyanov Dimitrov be elected as an "Associate Professor"** in the field of higher education - 5. Technical Sciences, in the professional field - 5.2. Electrical Engineering, Electronics and Automation, specialty - "Power Supply and Electrical Equipment".

21.10.2025

Member of jury:

/Assoc. Prof. O. Petrov/