OPINION
in a competition for the academic position "Associate Professor" in the professional field 5. Technical science, 5.2. Electrical engineering, electronics and automatics,
Scientific speciality Electric Power Supply and Equipment,
promulgated in State Gazette, issue 48/13.06.2025
for TU-Gabrovo, Department of "Electric Power Supply and Equipment"
Candidate: Lubomir Dimitrov, PhD, Assistant Professor

Member of Scientific Jury: Assoc. Prof, PhD, Eng. Dimitar Arnaudov,
TU-Sofia, Department of Power electronics

1. Summary of the scientific activity and achievements of the candidate

The research and scientific applied activity of Assistant Prof. Lubomir Dimitrov is in the field of in the field of modeling losses in electric motors and researching the characteristics of different types of electric motors.

Another area of focus is the analysis of electrical energy quality under different loads. The topics are relevant and cover areas such as electric drives, electric vehicles, the influence of mechanical systems on electric motors, and research on the operation of asynchronous electric motors..

In the competition for Associate Professor the candidate participates with publications equivalent to a monographic work. The performance of the indicators by groups according to the national minimum requirements of the LDASRB are as follows:

Group А – Indicator 1: The candidate has submitted a PhD diploma in the professional field 5.2. and a thesis defended at the Technical University of Gabrovo and a PhD diploma.

Group Б – Indicator 4: There are 10 publications, equivalent to a monographic work, on the topic "Characteristics and modeling of asynchronous electric motors " with a total of 142 points (minimum 100 points are required). The publications are in the Scopus world database. Two paper has an SJR

Group Г – Indicator 7: There are 2 publications with a total of 21,33 points. Indicator 8: 25 publications with a total of 225,04 points (total for group Г – 246,37 points (minimum of 200 points required).) Four of the publications are stand-alone. A total of four stand-alone publications by groups В and Г.

Group Д – Indicator 12: The contestant has submitted 240 points on this indicator (50 points are required).

Group Ж – Indicator 30: - lectures on the last years – Asistant Prof. Dimitrov has held lectures on two disciplines in the field of electronic converters. Six disciplines in the field of competition. The disciplines are from the curriculum of the specialty "Electricity and Electrical Equipment".

5. General characteristics of the candidate's activity

5.1. Evaluation of the pedagogical preparation and activities of the candidate.

The teaching activity of Ch. Assistant Professor Dimitrov started as an assistant in 2010 in the Department of Power Supply and Electrical Equipment, and currently holds position "Ch. assistant ” in the same department. In 2015 he also received an PhD degree. Ch. Assistant Professor Dimitrov is the co-author of a student book and a manual for lecture. He has participated in the development of 6 curricula. I believe that he has fulfilled the indicators in terms of methodological support of the learning process. The guided graduates are not mentioned in a separate document. He has created and modernized the laboratory base of two laboratories at the Technical University - Gabrovo.

5.2. Scientific and scientific-applied activity

The candidate's scientific activity is reflected in the publications presented. He is a participant in nine scientific research projects funded by TU-Gabrovo. He is the leader of one scientific research project funded by an external contractor. Information is also provided on participation in projects under operational programs - Competence Center "Intelligent Mechatronic, Eco- and Energy-Saving Systems and Technologies."

5.3. Implementation activity

No documents have been submitted regarding implementation activities, but publications show that publications have been prepared based on tasks set by industry with specific applications. Analysis of the quality of electrical energy.

6. Basic scientific and applied contribution. Significance of contributions to science and practice

Scientific contributions − These contributions are related to modeling the characteristics of electric motors based on mathematical equations. Characteristics for losses in different types of electric motors have been obtained.

Scientific and applied contributions − These are related to the assessment of the quality of electrical energy when operating different types of loads in power supply systems from the power grid and photovoltaic systems. Research on the behavior of an asynchronous motor with a short-circuited rotor for high voltage. Conducting experimental research on new energy-efficient three-phase motors.

7. Evaluation of the personal contribution of the candidate

The existence of stand-alone publications, as well as the opportunity to talk to the candidate as a participant in scientific forums. From my conversation with him, I am convinced of his personal contribution to publication and research activities. No separation protocols for the publications have been presented.

8. Critical remarks and recommendations

I have no significant comments on the presented materials. I recommend that the author's research results be presented in an appropriate manner in scientific journals with impact factor and impact rank. I also recommend that he increase the number of scientific forums at which he presents his results. I recommend that in his future work he also apply simulation models from specialized software environments. He should conduct a more in-depth analysis of the results published in recent years in open access databases and IEEE Xplore.

9. Personal impressions

My personal impressions are that Ch. Assistant Professor Dr. Eng. Lubomir Dimitrov is a promising young university lecturer and scientist. He has the necessary competencies. I am convinced that his development in his academic career will increase the scientific capacity of the department and the university.

10. CONCLUSION

Having in mind the above, I propose Ch. Assistant Professor Dr. Lubomir Dimitrov should be awarded with the academic rank of “Associate Professor” in professional field 5.2. Electrical engineering, electronics and automatics, scientific speciality "Industrial Electronics“
field of higher education - 5. Technical sciences,
professional direction - 5.2. Electrical Engineering, Electronics and Automation,
specialty - Electric Power Supply and Equipment

07.11.2025

Scientific Jury member:
/ Assoc. prof PhD Dimitar Arnaudov /