

O P I N I O N

of assoc. prof. Goran Danailov Goranov – Technical University of Gabrovo, Department of Electronics

regarding the submitted materials so as to participate in a competition for holding the academic position of **associated professor**

in the area of higher education: **5. Technical Sciences,**

professional trend: **5.2. Electrical Engineering, Electronics and Automation,**

scientific subject: **Electric Power Supply and Equipment (Electronic devices in power generation)**

Senior assist. prof. Hristo Todorov Ibrishimov is participating in the competition for associated professor, published in the Official Gazette, issue 68/31.07.2020 and on the website of TU-Gabrovo, for the needs of the Department of Electric Power Supply and Equipment at the Faculty of Electrical Engineering and Electronics, Technical University of Gabrovo.

1. OVERVIEW OF THE CONTENT AND RESULTS OF THE WORKS SUBMITTED

Senior assist. prof. PhD Hristo Todorov Ibrishimov is the only Candidate in the competition for holding the academic position of an Associate Professor announced by TU-Gabrovo. He participates with 31 scientific works, of which 13 are equivalent to a monography and indexed in world-renowned databases Scopus and Web of Science.

The publications can be categorized in the following format:

- articles in refereed and indexed scientific journals - 1 (B4.1)
- articles in proceedings of international conferences in Bulgaria - 29.
- Articles in proceedings of international conferences abroad – 1 (Γ 8.4)

The materials submitted for the current competition show that PhD Ibrishimov is an independent author of 5 publications (Γ7.2, Γ8.15, Γ8.16, Γ8.17, Γ8.18). Two of his publications have 2 co-authors (Γ7.1, Γ8.9) and the rest 24 publications have more than two co-authors. He is the first co-authors of 2 publications (B4.9 and Γ8.11).

Mr. Ibrishimov has submitted a reference of 8 citations in indexed journals. I can conclude the Candidate fully meets the minimum national requirements for holding the academic position of an associated professor in the area of Technical Sciences in higher education, stipulated in art. 26 of the Act on Development of the Academic Staff in the Republic of Bulgaria and the minimum requirements accord of the Technical University of Gabrovo.

PhD Hristo Ibrishimov has defended a PhD thesis titled *Investigating and Modelling Inductors for Volumetric Heating with Differentiated Zones of the Electromagnetic and Thermal Field*. (indicator A - 50 points). He has submitted 10 publications equivalent to a monography (indicator B - 175 points), 21 publications referring to indicator Γ – 219.66 points, and 8 citations referring to indicator Д - 80 points.

2. General characteristic of the Candidate's performance

2.1. *Teaching practice* (work with undergraduate and postgraduate students)

PhD H. Ibrishimov has 7-year teaching experience at TU-Gabrovo. According to the submitted reference regarding his workload at TU-Gabrovo, over the last 4 years he has delivered an average of 450 academic hours covering 5 courses. Senior assist. prof. Hristo Ibrishimov was a supervisor of students who successfully defended their graduation theses and a reviewer of graduation theses. He is

an author of 2 teaching materials, which are a result of his teaching practice rather than an end in itself. I highly evaluate this aspect of his performance.

2.2. Scientific and scientific-applied activities

The workload of lectures and exercises over the last 3 years is more than 400 academic hours. Senior assist. prof. H. Ibrishimov has participated in 2 scientific projects at NIS, TU-Gabrovo and 3 national ones. The submitted documents do not show whether the Candidate has been a leader of those projects or a participant. According to the submitted documents, the Candidate has assisted the set-up of a lab in Electronics – 2608 at TU-Gabrovo.

2.3. Implementation activities

No materials related to the implementation of the Candidate's developments in industry have been submitted.

3. Contributions. Significance of contributions for science and practice

I accept the contributions and results formulated in the works submitted. In general, they are of scientific-applied nature and could be systemized and summarized in the following thematic areas:

- Developing a device for generating, forming, emitting and receiving an ultrasonic signal with parameters set in advance.
- Developing a specialized applied software in LabVIEW environment for processing signals from ultrasonic sensors so as to develop automated classifiers for recognizing alcohol percentage, for stages of milk coagulation, for recognizing the amount of dry matter in carbonated beverages for recognizing plastics and for applying an artificial neural network as a classifier of hardness of steel pieces
- Developing a mathematical model of the process of volumetric induction heating of cylindrical pieces.
- Synthesizing and developing models of a high-frequency transformer, a system for inductive energy transfer of low capacity and a model for investigating the operating temperature of industrial lighting.
- Developing a methodology for calculating the equivalent parameters of an inductor-piece system when the inductors are connected in series.
- Developing parts of a methodology for interactive designing of secondary optic lenses for LED lighting and building a 3D model of an optic system of indoor LED lighting, making a photometric analysis of the system with secondary lenses and optimization photometric calculations regarding streets with brightness standardization according to the criterion of maximum spacing between light poles.

4. Evaluation of the personal contribution of the Candidate

The reflection of the scientific-applied results in the works of other researchers is essential for their impact. According to the submitted list of citations, the Candidate has 8 citations in indexed publications. It is a fully satisfactory result considering the scope of the complex nature of a university lecturer. It is very important for me that the Candidate successfully leads and works in teams.

In addition, the quantitative indicators for holding the academic position of an associate professor at TU-Gabrovo are met.

5. Critical comments and recommendations

My general impression of the materials submitted for the competition is very good. On the other hand, in view of the Candidate's future development, I would like to make the following remarks and recommendations:

- the contributions stated in the Candidate's reference reflect to a great extent the achieved results, but they are generalized. In my opinion they should be specified and edited so as to better highlight the Candidate's claims.

- I would also like to recommend the Candidate to participate in international scientific conferences in Europe and to publish in IF journals.

6. Personal impressions

I know the Candidate since he was a student. His willingness to gain new knowledge can't be overlooked. He has his individual style when solving engineering problems. His lectures and papers have sparked interest resulting in in-depth discussions. The submitted materials for the competition allow me to claim that senior assist. prof. H. Ibrishimov is a highly qualified and well-known professional in the area of electronic devices in power generation and their application.

7. Conclusion:

Taking into account the above mentioned, I propose senior assist. prof. Hristo Todorov Ibrishimov to be selected as an associate professor in the area of higher education: 5. Technical Sciences, professional trend: 5.2. Electrical Engineering, Electronics and Automation, scientific subject: Electric Power Supply and Equipment (Electronic devices in power generation)

15.12.2020

Member of the jury: /signature/

/assoc. prof. G. Goranov/