



## REVIEW

about **competition for academic position PROFESSOR**  
in professional field 5.2. Electrical Engineering, Electronics and Automatics  
(Elements and devices of automation and computing technology),  
announced by the Institute of Robotics, Bulgarian Academy of Sciences and  
published in State Gazette № 61/ 29.07.2025

Reviewer: **Prof. DSc Eng. Galina Petkova Cherneva**  
/ "Todor Kableshkov" University of Transport, Sofia, Bulgaria /

Candidate: **Assoc. prof. DSc Eng. Iliyan Hristov Iliev**

### I. Bibliographical data for the candidate

In the current competition for the academic position "Professor" in the professional field 5.2 Electrical Engineering, Electronics and Automatics (Elements and devices of automation and computing technology) participates as single candidate Assoc. Prof. DSc Eng. Iliyan Hristov Iliev. He graduated in 2001 as a Master of Science in Electrical Engineering and Power Engineering at the Technical University (TU) Gabrovo.

His professional and academic background is as follows:

During the period 2001 - 2007 he worked at "Electricity Distribution Pleven" - Vidin branch, where he held various management positions. From 2008 to 2011 he worked at "CEZ Distribution Bulgaria" AD, Vidin as head of a separate regional unit. During the period 2011-2012 he was "Electricity Transmission Engineer" in the "Operation and Maintenance of Transmission Network Assets" Department at "National Electric Company" EAD, Sofia. From 2012 to 2015 he was successively "Chief Expert in the "Licenses and Control" Department, Directorate "Regulation and Control - Electricity and Heat" and "Member of the State Energy Regulatory Commission" at the "Energy and Water Regulatory Commission", Sofia.

From 2014 to 2016 Eng Iliev was a free PhD student at the Department of Theoretical Electrical Engineering of TU-Gabrovo. In 2016, after a successful defense of his PhD thesis "Research, analysis and quantitative assessment of the real contribution to the deterioration of the quality of electrical energy by industrial consumers and the municipal sector", he received the PhD degree in "Electricity supply and electrical equipment"

From 2017 to 2019, Dr. Eng. Iliev was successively an assistant and chief assistant in the Department of "Power Supply and Electrical Equipment" of the University of Mining and Geology (MGU) "St. Ivan Rilski". Since 02.09.2019, he has held the academic position of "Associate Professor" in the scientific specialty "Power Supply and Electrical Equipment" in the same department, and in the period 2024-2025. he is its head.

Since 2025, Assoc. Prof. Iliev has been working in the "Robotics in Energy" section of the Institute of Robotics, Bulgarian Academy of Sciences, where he was initially the head of the "Robotic Systems in Energy" laboratory, and subsequently the head of the section.

In 2025 defended his dissertation on the topic: "Optimization of power efficiency in reduced load mode and improvement of the quality and reliability of power supply systems" and obtained the scientific degree of Doctor of Sciences.

It can be seen that the work biography of Assoc. Prof. Dr. Iliev is related to the field of power supply and power engineering. His total work experience as a lecturer at Moscow State University-Sofia is over 8 years.

Assoc. Prof. DSc Iliev is fluent in English and Russian. He has excellent computer skills and works with specialized software products. He is a member of the Chamber of Engineers in Investment Design.

## **II. Characteristics of the scientific and scientific-applied activity of the candidate**

Assoc. Prof. DSc Eng. Iliev is submitted the following base materials according to the competition for academic position "professor":

- ✓ Curriculum Vitae;
- ✓ Reference for satisfying the minimum requirements according to the Regulation for holding the position "PROFESSOR";
- ✓ Copy of the diploma and list of publications for PhD degree;
- ✓ Copy of the diploma for „Associate Professor" and respective list of publications;
- ✓ Copy of the diploma and list of publications for DSc degree;
- ✓ List of the submitted publications for the competition;
- ✓ Author reference for contributions to publications;
- ✓ Abstracts of all publications;
- ✓ Reference for citations of the candidate's works;
- ✓ Other references and declarations

The submitted papers, 24 in total, can be classified as follows:

- monography titled: Optimal technical highly efficient solutions in electricity supply", publishing house "Print Factor Ltd", Sofia, 2025, ISSN: 978-619-7427-38-7., 142 p. It is reviewed, satisfied all requirements of the Law for publishing the monography and it does not repeat results from other works submitted to the competition;

- 2 scientific publications, published in journals and proceedings, referenced and indexed in world-renowned database of scientific information (Scopus, Web of Science) - indicator Г7;

- 19 publications printed in non-referenced peer-reviewed journals and proceedings included in the national reference list - indicator Г8;

- 2 textbooks, one of which is co-authored and the other is an independent author - indicator E23.

According to the number of authors, the reviewed papers are distributed as follows: in 4 of them she is a single author, but in the others - he is a co-author. In 9 of the papers the name of the candidate is on the first place.

6 of the publications are in English.

By the place of publication: the Proceedings of International Conference of Electrical Machines, Drives and Power systems – ELMA, included in Scopus; Energy Forum magazine, Proceedings of the Technical University of Sofia, Proceedings of the International Scientific Conference "Unitech Gabrovo", etc.

I accept for peer review all the papers submitted by the candidate.

The research activity of Assoc. Prof. DSc Eng. Iliev is represented in the competition by participation in over of 10 scientific-research projects.

Table 1

Indicator	Minimum number of points	Candidate's points	Points on main indicators in groups
<b>A</b>	50	<b>50</b>	Certificate № 49/01.02.2016r. - <b>50</b>
<b>B</b>	100	<b>100</b>	<b>B3</b> monography - <b>100</b>
<b>Г</b>	200	<b>202,35</b>	<b>Г7</b> Scientific publications in conferences referenced and indexed in world-renowned database of scientific information - <b>23,33</b>
			<b>Г8</b> Scientific publications in non-referenced peer-reviewed journals and proceedings of conferences included in national reference list - <b>179,02</b>
<b>Д</b>	100	<b>114</b>	<b>Д12</b> Citations and reviews in scientific journals, referenced and indexed in world-renowned database of scientific information or in monographs and proceedings - <b>10</b>
			<b>Д13</b> Citations in monographs and peer-reviewed proceedings – <b>18</b>
			<b>Д14</b> Citations in unreferenced peer-reviewed journals – <b>86</b>
<b>E</b>	150	<b>200</b>	<b>E16</b> Obtained scientific degree "Doctor of Science" - <b>40</b>
			<b>E17</b> Supervising of the defended PhD students - <b>100</b>
			<b>E23</b> Published university books - <b>60</b>
<b>Totally</b>	600	<b>666,35</b>	

A reference for a total of 50 citations of scientific papers is submitted. Of these, 1 citation is in scientific journal, referenced and indexed in world-renowned database of scientific information or in monographs and proceedings (Scopus). 6 citations are in monographs and peer-reviewed proceedings and 43 in unreferenced peer-reviewed journals.

Assoc. Prof. DSc Eng. Iliev skillfully creates his own line for the development of young researchers. The proof of this are successfully defended PhD students, whose supervisor he is. Under her supervision, 24 bachelors and masters from MGU-Sofia have been graduated.

The final result of processing the data of the submitted candidate's publications for academic position "professor", regarding the fulfilment of the minimum national requirements stated in the Regulations to applying the Law of Development of the Academic Staff in Republic of Bulgaria (LDASRB) and the

Regulations of the BAS for holding the academic position "Professor" is presented at Table 1.

It is evident that the points of the candidate (666.35) significantly increase the minimum number of 600 points required for this academic position in BAS.

The complete research and applied activity of the candidate for professor Assoc. prof. DSc Eng. Iliev is in the field of Electrical Engineering and Power supply. It is significant in quantity and content and is at a very high professional level. The candidate is a well-qualified and well-educated researcher who can research, study and solve a variety of engineering problems using modern methods and techniques.

### **III. Major contributions of the candidate in scientific and scientific-applied activity**

I agree with the candidate's formulated contributions. They are in the field of power supply and electrical equipment of industrial enterprises and are related to research and analysis of power efficiency, minimizing energy losses and achieving higher reliability in the operation of various energy facilities.

The assessment of the submitted publications I will make, based on the following generalized criteria for contributions:

- 1) creating new classifications and methods and technologies;
- 2) obtaining and proving new facts;
- 3) obtaining the confirming facts;
- 4) contributions for implementations.

#### **Scientific contributions**

The major contributions, related to "creating new classifications and methods and technologies", are found in:

- proposed probabilistic-statistical methodology for assessing the impact of electrical energy quality on the reliability of energy equipment and systems [G8-7];
- developed approaches for quantitative and qualitative assessment of electrical energy - [G8-4], [G8-12];
- proposed methodology for determining the capacity of compensating capacitor banks in the presence of higher current harmonics and the occurrence of resonance [G8-16].

#### **Scientific-applied contributions**

The scientific and applied contributions in the publications are related to proving new and confirmatory facts in the study, assessment and analysis of electrical parameters, electromagnetic compatibility and operating modes of various objects:

- power transformers in multi-transformer substations - [G8-14];
- LED artificial light sources and lighting systems - [G7-2];
- cable lines for photovoltaic power plants [G8 - 19];
- load schedules and active power losses - [G8-11], [G8-12].

Many facts in investigated real electro-magnetic systems and devices have been confirmed and analysed.

### **Applied contributions**

The wide spectrum of research on specific power plants - industrial enterprises, mines, ship systems, etc., determines the rich applied nature of the contributions of Assoc. Prof. Dr. Eng. Iliev.

A significant applied contribution is made by research related to&

- electromagnetic compatibility [G8-1], [G8-5], [G8-7];
- generation of higher harmonics in the power supply network [G8 - 4];
- renewable sources of electricity [G8-10];
- energy efficiency of the power distribution system - [G8-15].

As a result of the research, a number of technical solutions have been proposed to improve power efficiency and compensation of reactive loads [G8-15], [G8-8, etc.

### **IV. Significance of the candidate's contributions for the science and the practice**

The importance of the contributions of Assoc. prof. DSc Eng. Iliyan Iliev to science and practice is unquestionable. The candidate is a famous scientist at Bulgaria and abroad. A large percentage of his scientific research has proven its effectiveness and quality in the study of real objects. I believe that the contributions presented are the personal work of the candidate for professor.

### **V. Assessment of the teaching and pedagogical activity of the candidate**

The attached documents show that Assoc. Prof. Dr. Eng. Iliev has taught lectures and exercises in the disciplines: "High Voltage Engineering", "Renewable Energy Sources", "Electrical Networks and Systems", "Power Supply of Industrial Enterprises", etc. He participated in the preparation of curricula and programs and in the construction of the laboratory base of the department at MGU.

The teaching experience, the publishing activity of teaching aids, as well as the successful supervision of 24 graduate students and 5 PhD students, speak of the active educational and pedagogical activity of Assoc. Prof. Dr. Iliyan Iliev, entirely oriented in the field of the competition.

### **VI. Personal impression from the candidate**

I know Assoc. Prof. DSc Iliyan Iliev as a well-prepared professional and specialist in the field of energy. Due to his personal qualities and active research and implementation activities, he enjoys well-deserved authority among our collegiate community.

### **VII. Critical remarks and recommendations**

I have no critical comments to make on the materials submitted for the competition. The candidate Assoc. prof. DSc Eng. Iliyan Iliev is a well-known scientist at Bulgaria and abroad, with a high level of research activity.

My recommendations to the candidate are to continue his active scientific and research work in the field of energy, expanding the research team of young specialists.

### **VIII. Conclusion**

Based on the analysis of the presented submitted scientific works, the contributions contained there, teaching and pedagogical activities of Assoc. prof. DSc Eng. Iliyan Hristov Iliev, I consider that the requirements of the Law of Development of the Academic Staff in Republic of Bulgaria (LDASRB), the Regulations to it and the Regulations of the BAS for holding the academic position "Professor" have been satisfied and overfulfilled.

I strongly suggest the Honorable Scientific Jury to give to **Assoc. prof. DSc Eng. Iliyan Hristov Iliev** the academic position of "**Professor**" in the professional field 5.2 Electrical Engineering, Electronics and Automatics (Elements and devices of automation and computing technology).

Date: 05.11.2025

Reviewer:

/Prof. DSc. Eng. G. Cherneva/