Бургаски държавен университет
„Проф. д-р Асен Златаров"
8010 Бургас, бул. „Проф. Якимов" №1
Рег.№ 5249/11.11.2026

OPINION

ON THE COMPETITION FOR THE ACADEMIC POSITION OF "ASSOCIATE PROFESSOR"
FIELD OF HIGHER EDUCATION 5. TECHNICAL SCIENCES
PROFESSIONAL FIELD 5.2 ELECTRICAL ENGINEERING, ELECTRONICS AND AUTOMATION
SCIENTIFIC SPECIALTY "ELECTRICAL SUPPLY AND ELECTRICAL EQUIPMENT"
(Non-Conventional and Renewable Energy Sources)
ANNOUNCED IN THE STATE GAZETTE, ISSUE 65 OF 17 JULY 2026, FOR THE NEEDS OF BURGAS STATE UNIVERSITY "PROF. DR. ASSEN ZLATAROV"

For participation in the competition, the following candidate has submitted an application: Chief Assistant Professor, Eng. Vasil Borisov Ivanov, PhD.

Prepared by: Assoc. Prof. Eng. Ginko Angelov Georgiev, PhD, Centre for Informatics and Computer Science, Burgas Free University (BFU), Burgas.

I. Education and Professional Qualifications

Vasil Borisov Ivanov graduated from the Technical University of Varna in 1998, having completed a degree in Radio and Television Engineering.

In 2017, he was awarded a PhD in Electrical Supply and Electrical Equipment by the University of Ruse "Angel Kanchev".

Vasil Borisov Ivanov has been employed at Burgas State University "Prof. Dr. Assen Zlatarov" since 2013, first as an Assistant Professor and subsequently as a Chief Assistant Professor.

In addition, Mr Ivanov has professional experience in the education and energy sectors, having worked as a chief power engineer and as an engineer responsible for the design and maintenance of automated dispatch control systems (ADCS), including electronic and optical equipment and systems.

II. General Description of the Materials Submitted for the Competition

The materials submitted by the candidate, Vasil Borisov Ivanov, comply with the requirements of Article 24(1) of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB) and Article 67 of the Regulations on the Conditions and Procedure for the Acquisition of Academic Degrees and the Occupation of Academic Positions at Burgas State University "Prof. Dr. Assen Zlatarov":

1. Vasil Ivanov holds a PhD (the Bulgarian educational and scientific degree of "Doctor"). The title of his doctoral dissertation is "Study of the Impact of Photovoltaic Systems on Electrical Networks"; it was defended on 14 June 2017.
2. He has held the academic position of Assistant Professor for more than two years (four years during the period 2013–2017 at Burgas State University "Prof. Dr. Assen Zlatarov") and has held the position of Chief Assistant Professor since 2017.
3. The published monograph submitted, entitled "Study of Solar Voltage Source Inverters through Modelling and Practical Implementation", does not reproduce the work submitted for the award of the educational and scientific degree of "Doctor" (PhD).

The candidate has also submitted the documents required under Article 67 of the Regulations on the Conditions and Procedure for the Acquisition of Academic Degrees and the Occupation of Academic Positions at Burgas State University "Prof. Dr. Assen Zlatarov":

1. A report on the scientific contributions in scientific field 5.2, "Electrical Engineering, Electronics and Automation" (Electrical Supply and Electrical Equipment);
2. A report and certificates confirming participation in seven projects;
3. A report on developed curricula and teaching materials, including textbooks;
4. A report demonstrating compliance with the minimum requirements set out in Appendix 1 to the Regulations on the Conditions and Procedure for the Acquisition of Academic Degrees and the Occupation of Academic Positions at Burgas State University "Prof. Dr. Assen Zlatarov", together with the author's report on the scientific contributions of the works;
5. A report on citations referring to the candidate's publications.

III. Assessment of the Candidate's Scientific Works in the Context of His Overall Academic Development

5.1. General characteristics of the scientific output and publication activity

The report on the original scientific contributions submitted by the candidate indicates that his principal developments and research have a distinct scientific and applied, as well as educational and methodological, focus.

The research works are primarily related to studies and optimisation in the following areas:

- Simulations and analyses of photovoltaic networks;
- Improving the efficiency of various types and categories of loads operating under power supply from renewable energy sources;
- Reliability of electric power systems (EPS);
- New technologies for converting renewable energy sources (RES) into electrical energy.

3.2. Scientific activity – dissemination and application of the candidate's scientific and practical achievements within the research community

Vasil Borisov Ivanov is the author of the monograph entitled "Study of Solar Voltage Source Inverters through Modelling and Practical Implementation". He has also authored the following teaching materials: "Circuit Diagrams, Tests and Questions in Electrical Measurements", "Practical Exercises in Electrical Measurements", laboratory exercises in "Electromechanical Devices", and an interactive module in "Electromechanical Devices".

The main scientific areas covered by the publications submitted by the candidate are:

1. Photovoltaic systems – one monograph and nine articles;
2. Modelling in MATLAB/Simulink – five articles;
3. Electrical machines and apparatus – one article;
4. Use of renewable energy and improvement of power quality – three articles.

The scientific and applied contributions presented in the candidate's works are the result of research and the use of mathematical models in the MATLAB/Simulink environment, based on analytical and statistical methods. On the basis of the results obtained, optimisation options have been proposed. Photovoltaic inverters for electrical energy generation have also been studied and analysed. The in-depth examination of details is noteworthy. Trends in the development of renewable energy sources and smart grids have also been outlined.

Table 1. SCIENTOMETRIC INDICATORS

Field 5. Technical Sciences | Professional field 5.2 Electrical Engineering, Electronics and Automation

Group	Indicator / description	Required (points)	Achieved (points)
A	Indicator 1. Dissertation for the award of the educational and scientific degree of "Doctor" (PhD)	50	50
B	Indicator 3 or 4. Habilitation work – monograph	100	100
G	Sum of indicators 5 to 11	220	280
D	Sum of indicators 12 to 15	60	90
E	Sum of indicators 16 to 28	100	110

Vasil Borisov Ivanov's works achieve the number of points required to meet the scientometric indicator requirements (Table 1).

3.3. Participation in the Implementation and Management of Projects

Vasil Ivanov manages two intra-university projects entitled "Design, Implementation and Study of an Autonomous Intelligent Low-Power Supply System" and "Study of the Operating Energy Modes of Autonomous Photovoltaic Systems Using Electronic and Electromechanical Converters". In addition, he participates in five other university projects and in various contracts in the field of electrical networks.

IV. Participation in Teaching Activities

Vasil Ivanov has developed curricula and delivers classes in the following programmes and subjects:

- At the Technical College, in the Electrical Engineering programme: Renewable Energy Sources; Practical Training;
- At the Technical College, in the Automotive Electronics programme: Practical Training; Electrical Measurements;
- At the Technical College, in the Computer Industrial Design and Computer Systems and Technologies programmes: Electrical Engineering and Electrical Measurements;
- At the Faculty of Technical Sciences, in the Electronics, Medical Electronics, and Electronic Systems in Industry and Medicine programmes, in the following subjects: Electromechanical and Pneumatic Devices; Non-Conventional and Renewable Energy Sources in the Electric Power Industry; Applied Electrical Engineering and Electronics; Diagnostics and Monitoring of Electromechanical and Pneumatic Devices.

V. Assessment of the Monograph Submitted by the Candidate for the Competition for the Academic Position of "Associate Professor"

The monograph "Study of Solar Voltage Source Inverters through Modelling and Practical Implementation" was published in 2025. It comprises three chapters, a conclusion and references, and is 118 pages in length.

The research work addresses a topical subject related to photovoltaic inverters. For this purpose, Vasil Ivanov uses modelling with the MATLAB/Simulink software and practical experiments. Different operating modes are simulated and investigated by varying the loads.

The monograph discusses the characteristics of voltage source inverters. The factors affecting the quality and efficiency of the studies are analysed. The consideration of passive filters is also noteworthy.

The research conducted and the results obtained in the monograph are useful for the design, construction and operation of photovoltaic systems as components of future smart electric power systems.

VI. Impact (Citations) of the Candidate's Publications in Bulgarian and International Literature (Publication Visibility)

Nine citations to the candidate's publications have been submitted, referring to four of his articles. The cited works are primarily publications presented at international conferences and published in journals.

VII. Critical Remarks and Recommendations

The main recommendation to the candidate is that he should continue his active work towards the modernisation of the laboratory facilities at Burgas State University "Prof. Dr. Assen Zlatarov".

VIII. Conclusion

An analysis of the documents submitted by Chief Assistant Professor Vasil Borisov Ivanov, Eng., PhD, shows that the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations on the Conditions and Procedure for the Acquisition of Academic Degrees and the Occupation of Academic Positions at Burgas State University "Prof. Dr. Assen Zlatarov" have been fulfilled in professional field 5.2, ELECTRICAL ENGINEERING, ELECTRONICS AND AUTOMATION, scientific specialty "ELECTRICAL SUPPLY AND ELECTRICAL EQUIPMENT". I therefore recommend that the candidate's application be approved.

Date: 10 November 2026

Signature: .....

(Assoc. Prof. Eng. G. Georgiev, PhD)