

OPINION

UNDER COMPETITION FOR OCCUPATIONAL ACADEMIC POSITION "ASSOCIATE PROFESSOR"

FIELD OF HIGHER EDUCATION 5. TECHNICAL SCIENCES

SCIENTIFIC SPECIALTY 5.2 "ELECTRICAL ENGINEERING, ELECTRONICS AND AUTOMATION"
(ELECTRONIZATION)

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UNIVERSITY

One candidate has submitted documents for participation in the competition: Chief Assistant. Dr.
Eng. Daniela Zhekova Mareva

Prepared the opinion: Assoc. Prof. Dr. Eng. Silvia A. Letskovska, program coordinator of OP Technical
Sciences, Center for Informatics and Computer Science, BSU - Burgas

I. Education and professional qualification

Daniela Zhekova Mareva was born on February 9, 1970. She graduated from ESPU "GS Rakovski",
UPK "Technical School of Mechanical Engineering" in Burgas in 1989, specialty "Electrical Machines
and Apparatus" with the qualification: Installer of electrical machines, apparatus, appliances and
devices ". In 1991, she graduated from "Hristo Smirnenski" school, Burgas, specialty "Electronic
Engineering and Microelectronics" with a qualification: ETM specialist. In 1999, she obtained a
Master's degree in VMEI - Varna / TU-Varna / in the specialty "Electronic Engineering and
Microelectronics", with a qualification "Electrical Engineer". She defends successfully a dissertation in
a professional field 5.2. "Electrical Engineering, Electronics and Automation" (doctoral program:
"Electronization") in 2012 at the Technical University of Varna, Faculty of Computer Science and
Automation, Department of ETM. Daniela Zhekova Mareva has been an assistant professor at Burgas
Free University since 2001.

II. General description of the submitted materials in the competition

According to the materials submitted by the candidate under the competition, the requirements of
Art. 24. (1) of ZRASPБ1 and Art. 49 (3) of the Regulations for the development of the academic staff
for holding the academic position "associate professor" are fulfilled:

1. has obtained an educational and scientific degree "Doctor" (2012);
2. has held the academic position of "assistant" for more than two years (2001-2021);
3. a published monographic work has been submitted, which does not repeat the presentations for
acquiring the educational and scientific degree "doctor".

The candidate has also provided the necessary according to Art. 50 (2) of the Regulations for
development of the academic staff for holding the academic position "associate professor":

1. reference for the scientific contributions in the respective scientific field;

2. reference and certificates for participation in projects;

3. training courses or complete methodological units, included or prepared for the inclusion of e-learning platforms.

According to Art. 50 (3) of the Regulations for the development of the academic staff, each center may set additional requirements to the candidate (Appendix № 2).

The compliance with the additional requirements of the Center for Informatics and Technical Sciences of BSU according to Appendix 2 is as follows:

- 6 university supplies in disciplines studied at BSU are presented, which is a reason to assume that the requirement for one textbook is met;
- Outside the dissertation for educational and scientific degree "Doctor" are presented 22 publications, of which 7 independent and 2 publications in scientific forums abroad. The requirement for a third publication abroad is offset by four publications indexed in Scopus;
- Guidance and consulting of graduates – 23 in case of a requirement for a minimum of ten successfully defended;
- Participation in 5 projects with final contracting authorities of international and national institutions, upon request for participation in three.

III. Evaluation of the candidate's scientific works for the overall academic development.

3.1. General characteristics of the scientific production and the publishing activity

The provided reference for the contributions is dominated by developments with mainly applied and scientifically applied character: induction heating of fluids - in particular, power converter of a device and the specific construction of the inductor; research and improvement of driver circuits of LED light sources; improvement of inverter circuits applied in welding units and improvement of their operating mode by changing specific characteristics of the welding arc; research of semiconductor converters in electric arc welding.

3.2. Scientific activity - dissemination and application of the scientific and practical achievements of the candidate among the scientific community

In addition to the monograph for this competition, Daniela Zhekova Mareva participated in the creation of 5 textbooks in the disciplines Optical Communications, Measurement in Electronics and Electrical Engineering, Electronic Elements, Power Supplies, Analog Circuits and 1 independent textbook in Electrical Engineering and Electronics.

The areas in which the publications are provided are: 1. Semiconductor converters in electric arc welding - 1 monograph (number 1); 8 articles (numbers 3-6, 10, 16-18); 2. Energy characteristics of electronic transformer - 2 articles (numbers 2, 15); 3. Energy efficiency of inverter sources for induction heating of fluids, 4 articles (number 3, 11-13); 4. Selection of transistors depending on their application in power circuits 3 articles (numbers 28, 9, 15); 5. research and improvement of driver circuits of LED light sources - 2 articles (numbers 7, 20); practical work with students - 1 article (number 18), etc.

These publications highlight scientific and applied contributions related to the conduct of simulation research and real experiments in the field of operating parameters of LLC inverter; the improvement

of the energy performance of converters for power supply of LED lighting fixtures; supply are new and improved units of some schemes in inverter welding sources, each development is related to improving the quality of welding.3.3. Participation in implementation and project management.

Daniela Mareva has participated in 5 projects with contracting authorities from international and national institutions: under contract ERASMUS + Program KA2, Project for publishing a peer-reviewed Bulgarian scientific publication under the Research Fund; 3 pieces, financed by BSU.

IV. Participation in teaching and learning activities, incl. scientific guidance and consulting of graduates.

Daniela Mareva leads lecture courses in the following disciplines: Electronic Circuitry, Power Supplies, Measurement in Electrical and Electronics, Electronic Elements, Lighting and Installation Equipment, Emergency Modes in Electrical Converters, Engineering Equipment for Hotels and Restaurants.

She has supervised or advised 23 graduates.

V. Evaluation of the monographic work submitted for participation in the competition for "Associate Professor" by the candidate.

The monograph "Semiconductor converters in electric arc welding", published in 2021, has a volume of 171 pages and consists of an introduction, 6 chapters and a conclusion. The monograph examines the sources of welding - conventional, inverter. A review of the methods for improvement of welding power sources is made, industrial samples of inverter welding power sources are analyzed.

VI. Reflection (citation) of the candidate's publications in the national and foreign literature (publication image).

6 citations were provided to 6 of the candidate's publications, 4 of which have the same title.


VII. Critical remarks and recommendations.

The main recommendation to the candidate is to publish textbooks, increase the value of the scientometric indicators of her publishing activity, as well as to deepen her research (including by projects).

VIII. Conclusion

The analysis of the documents of the Chief Assistant Dr. Eng. Daniela Zhekova Mareva from CITN of BSU shows that the requirements of ZRASPB and the Regulations for the development of the academic staff to hold the academic position "ASSOCIATE" of BSU in the professional field 5.2 "ELECTRICAL ENGINEERING, ELECTRONICS AND ELECTRONICS AND AVTICS) are completed, which is why I propose that the application be approved.

Date: 18.10.2021

Signature: 

(Assoc. Prof. Dr. Eng. S. Letskovska)