

POSITION

on the competitive selection procedure for awarding the academic rank of
"Associate Professor "

in professional field 5.2. Electrical engineering, electronics and automation,
scientific specialty Electronic circuit and electronic engineering theory,,
promulgated in State Gazette, issue 40/14.05.2021 for Plovdiv University Paisii
Hilendarski, Department of Power Engineering and Communications, Faculty of
Physics and Technology

Candidate: Chief Assistant Professor Dr. Daniela Antonova Shehova

Member of the scientific jury: Prof. Dr. Marin Berov Marinov

1. Overall characterization of the research and applied scientific research of the candidate

By order № P33-3128 of 12.07.2021 of the Rector of Plovdiv University "Paisii Hilendarski" (PU) I was appointed as a member of the scientific jury of the competition for the academic position of 'associate professor' in PU in the field of higher education 5.2 Electrical engineering, electronics and automation, scientific specialty "Theory of electronic circuits and electronic circuitry".

Documents for participation in the competition have been submitted by the only candidate: Ch. Assistant Professor Dr. Eng. Daniela Antonova Shehova.

The set of materials presented by Dr. Shehova is following the Regulations for the development of the academic staff of the University of Plovdiv and includes the following documents: application to the Rector; autobiography; copies of diplomas for master's degree and "doctor" degree; document for work experience; list and copies of scientific papers in refereed and non-refereed editions; reference for scientific contributions and participation in research projects; reference for the fulfillment of the minimum requirements and copies of declarations of conformity with the low requirements.

Dr. Eng. D. Shehova has submitted a total of 46 scientific papers, 1 book on the Ph.D. dissertation, 5 textbooks and teaching aids, and a list of 8 research papers. Accepted for review are 39 papers (4 published abroad, 33 in the country, and 2 online), 5 textbooks, and participation in 8 research projects. The list of noticed citations includes 24 titles.

2. Brief biographical data of the candidate

Daniela Shehova was born in 1965. In 1989 completed a master's program in "Radio and Television Equipment" at the Technical University - Varna. She was a Ph.D. student at the Technical University of Sofia, FETT, Department of Electronic Engineering. In 2016 she defended her Ph.D. thesis on "Research and development of electronic teaching aids for analog and mixed circuits" at TU Sofia.

Dr. Eng. D. Shehova started working as a teacher at the Vocational High School of Engineering and Technology "Hristo Botev" in Smolyan. Since 2006 she has been an assistant in the Department of Power Engineering and Communications at the Technical College of the University of Plovdiv - "Paisii Hilendarski", and since 2010 she has been a senior assistant in the Department of Power Engineering and Communications at the Faculty of Physics and Technology - "Paisii Hilendarski" University.

3. General characteristics of the candidate's activity

In the last 5 years, Dr. Shehova has given lectures and exercises in 14 disciplines. She has participated in the preparation and adoption of curricula for the bachelor's course in 8 disciplines and the master's course in 4 disciplines. The presented materials eloquently prove the active educational activity of Dr. D. Shehova.

The classification of the presented materials is as follows: All publications are made at conferences in Bulgaria and abroad. In 2 papers she is the only author and the rest are co-authored. 13 publications are referenced and indexed in world-renowned databases with scientific information (Scopus, Web of Science), and the rest are in peer-reviewed editions. The analysis of the publications shows that they are renowned publications, characterized by a good knowledge of the current state of the studied problems.

I accept the publishing activity as completely sufficient in volume, at a high level, and sufficiently popularized nationally and internationally.

The main contributions to scientific publications equivalent to a monograph (indicator C) can be specified as the following:

1. Development of simulation schemes of electronic devices for studying their behavior: B4.-1, -2, -5, -8.
2. Development of an approach for studying and systematization of classes of electronic circuits through specialized systems for design and simulation: B4. -1, -7, -8.
3. Development of hardware and software for experiments with analog-to-digital converters with application in engineering education: B4.-3, -4.
4. For the purposes of the learning process, the Next Cloud technology has been developed: B4.-6, -9, -10.

Contributions in scientific publications, other than those that are the equivalent of a monograph (indicator D)

1. The main factors supporting the application of the Industry 4.0 paradigm are analyzed: D7.-1.
2. Computer-based methods are proposed in MATLAB Simulink for research and description of the basics of digital communication systems: D7.-2, -11; G8.-6, -10.
3. Simulation models for e-learning have been created in the environments Multisim, FilterProTM and TINA-TI for research of electronic circuits: D8.-2, -3, -5, -13, -14, -15, -18, -20, -26.
4. The tendencies in the development of the types of colorimetric systems are analyzed: D8.-7, -8, -9.
5. Developed virtual tools in the LabView environment for statistical data processing: D8.-18, -21, -25.

The contributions are mainly applied-scientific and are directly related to the competition for "associate professor" in the professional field 5.2. Electrical engineering, electronics, and automation.

4. Assessment of the personal contribution of the candidate

I had the opportunity to talk to the candidate during her Ph.D. studies and at many scientific forums. I am convinced of the personal contribution of the candidate in the publishing and research activities.

I have no common publications with her and I am not a related person, within the meaning of the law.

5. Remarks and recommendations

I have no serious criticism of the candidate.

Some of the contributions can be better structured and summarized.

As for the future development of his candidate, I recommend publishing in journals with a high impact factor and open access.

CONCLUSION

The materials submitted for the competitive selection procedure meet the requirements of the Law on its application and the Rules of Procedure for the holding of academic positions at the **Paisii Hilendarski University of Plovdiv**. They allow for an objective and multifaceted assessment of the candidate's qualities.

All this gives me a reason to vote positively and to propose Ch. Assistant Dr. Eng. Daniela Antonova Shehova to be elected by the Faculty Council of the Faculty of Physics and Technology of Plovdiv University "Paisii Hilendarski", to take the academic position of "Associate Professor" in the professional field 5.2. "Electrical engineering, electronics, and automation", scientific specialty "Theory of electronic circuits and electronic circuitry".

08.09.2021

Scientific jury member:

/Prof. Marin B. Marinov/