

POSITION

*Member of Scientific Jury: Assoc. Prof, PhD, Eng. Dimitar Arnaudov,
TU-Sofia, Department of Power electronics*

in relation to awarding the academic rank of Associate Professor
professional field 5.2. Electrical engineering, electronics and automatics,
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,
Candidate: Daniela Antonova Shehova, PhD, Assistant Professor*

1. General presentation of the procedure and the candidate

By order № P33-3128 / 12.07.2021 of the Rector of the Plovdiv University "Paisii Hilendarski" (PU), I was appointed as a member of the scientific jury of a competition for the academic position "Associated Professor" in PU in the field 5.2. Electrical engineering, electronics and automatics, Scientific specialty Electronic circuit and electronic engineering theory, announced for the needs of the Department of Power Engineering and Communications at the Phisico-technological faculty.

Only a candidate has submitted a document for participation in the announced competition: Ch. Assistant Professor PhD Eng. Daniela Antonova Shehova.

Presented by Daniela Antonova Shehova set of paper documents is in accordance with the Regulations for the development of the academic staff of PU, and includes all necessary documents.

2. Brief biographical data of the candidate

Daniela Shehova was born in 1965. In 1989 she graduated with a Master's degree in Radio and Television Engineering from VMEI - Varna. She was a PhD student at the Technical University - Sofia and in 2016 she defended a PhD thesis for the educational and scientific degree "PhD" on "Research and development of electronic teaching aids for analog and mixed circuits." Since 1989 is a lecturer at vocational high school "Hr. Botev" - Smolyan, since 2006 is an assistant at the Plovdiv University "Paisii Hilendarski" (Technical College), and since 2010 is a chief assistant in the Department of Power Engineering and Communications at the Phisico-technological faculty of the University of Plovdiv.

3. General characteristics of the candidate's activity

3.1. Educational and pedagogical activity

Ch. Assistant Professor Daniela Shehova has a significant volume and diverse educational and pedagogical activities. She is a co-author of a textbook, three manuals and a book for students of the University of Plovdiv, in disciplines of the university curriculum. They were published in 2014, 2017, 2018 and 2019. She was the supervisor of 7 graduates, a reviewer of 15 graduates. She has led students to participate in scientific conferences. The candidate has participated in the development of numerous curricula (12) for bachelor's and master's degrees and

preparation of curricula and documentation for program accreditation in Professional field (PF) 5.2 Electronics, Electrical Engineering and Automation and PF 5.3 Communication and Computer Engineering. For the last three years, she has conducted over 800 classes annually. Since starting work at the university she has taught 14 subjects in the curriculum. As a member of an expert group for program accreditation in 2009, I personally had the opportunity to get acquainted with the work of the candidate in preparing the documents for program accreditation for PF 5.3.

The above activities and acquaintance with the attached textbook and manuals show excellent teaching and methodological expertise in the educational process of the university, and the documents for accreditation and participation in various commissions (for attestation of teachers, etc.) and expertise in administrative activities.

3.2. General characteristics of the candidate's research and applied research activity

The research and applied activity of Ch. Assistant Professor PhD. Daniela Shehova is in the field of electronic circuitry and education in the field of electronic circuits. It is related to the modeling of electronic circuits and systems. Topics are relevant in the field of analog circuits, microprocessor systems, application of software environments for design in education, application of virtual tools and more.

In the competition for "Associate Professor" participates with publications equivalent to monographic work. The performance of the indicators by groups according to the national minimum requirements of the LDASRB is as follows:

Group A – Indicator 1: The candidate has submitted a PhD diploma in the professional field 5.2. and an abstract of a thesis defended at the Technical University of Sofia.

Group B – Indicator 4: There are 10 publications, equivalent to monographic work, on the topic in the field of developing models and methodological approaches for research of electronic circuits and systems with a total of 172 points (minimum 100 points are required). The publications are in the Scopus and WoS world databases, one of them are in the journal with Impact Factor and six in the journal with SJR.

Group G – Indicator 6: Presented a book based on a defended dissertation, with a total of 30 points. **Indicator 7:** There are 3 publications with a total of 31,3 points. **Indicator 8:** 26 publications with a total of 184,7 points (total for group G - 246 points (minimum of 200 points required).) Two of the publications are stand-alone.

Group D – Indicator 12: The contestant has submitted 139 points on this indicator (50 points are required).

3.3. Basic scientific and applied scientific contributions

I accept the contributions submitted by the applicant and they can be summarized as:

Scientific contributions - These contributions are in the field of creating an approach to the study of electronic circuit classes using integrated design and simulation systems, and subsequent verification of the results using open source platforms and experimental modules [B4.1], [B4.7] and [B4.8].

Development and application of methodological guidelines for experimental confirmation of simulation results of the principles of operation and main characteristics of electronic circuits [B4.1], [B4.7], [B4.8].

Simulation schemes and models for research of electronic devices, models for e-learning are being developed [B4.1], [B4.2], [B4.5], [B4.7], [B4.8], [D8.2], [Γ8.5], [Γ7.3], [Γ8.3], [Γ8.13], [Γ8.14], [Γ8.15], [Γ8.20], [Γ8.18] [Γ8.26].

Computer-based methods have been proposed in MATLAB Simulink to study and describe the basics of digital communication systems [D7.2], [D8.6], [D8.10] and [D7.11].

Another group of applied contributions is related to researched hardware and software for physical experiments, modernization of the learning process and accessibility for a large number of remote users [B4.4], [B4.3], [B4.6] and [B4.9 - B4.10]. LabView based virtual tool [D8.25] and laboratory modules using open source platforms [D8.18], [D8.21] have been developed.

4. Assessment of the candidate's personal contribution

I had the opportunity to talk to the candidate, as a participant or as part of an organizing committee of scientific forums. From the interview with her I am convinced of his personal contribution to the publishing and research activities. No separation protocols have been submitted for the publications.

5. Comments and recommendations

I have no significant remarks on the presented document. I recommend that the results of the author's research be presented in an appropriate way in scientific journals with impact factor and impact rank. Also to increase its participation in research projects and thus increase the number of scientific forums in which it presents its results.

CONCLUSION

The materials submitted fulfil the requirements of LDASRB, of the Statute for its application and internal Statute of the requirements and the procedure for attaining academic rank at the Plovdiv University "Paisii Hilendarski". On the basis of the submitted scientific works, their significance and their contribution I find it reasonable to propose that Assistant Professor PhD Daniela Shehova should be awarded the academic rank of "Associate Professor" in professional field 5.2. Electrical engineering, electronics and automatics, scientific speciality "Electronic circuit and electronic engineering theory",

Date: 09.09.2021

Scientific Jury member:

(Assoc. prof PhD Dimitar Arnaudov)