

STATEMENT

from Prof. Marin Hristov Hristov, Ph.D.

Technical University of Sofia, „Faculty of Electronic Engineering and Technologies “

of the materials, submitted for participation in competition
for obtaining the academic position "Associate Professor"

of Plovdiv University "Paisii Hilendarski"

in the field of higher education 5. Technical sciences,

professional field 5.2 Electrical Engineering, Electronics and Automation (scientific specialty Electronic Circuits and Electronic Circuit Engineering Theory)

In the competition for "Associate Professor", promulgated in the State Gazette, issue 40 of 14.05.2021 and on the website of Plovdiv University "Paisii Hilendarski" for the needs of the Department of Power Engineering and Communications at the Physical-technological faculty, as the only candidate is Assist. Prof. Daniela Antonova Shehova, PhD from Plovdiv University "Paisii Hilendarski".

1. General presentation of the procedure and the candidate

By order № P33- 3128 of 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 "Associate Professor" in PU in the field of higher education 5. Technical sciences, professional field 5.2 Electrical engineering, electronics and automation (scientific specialty Electronic Circuits and Electronic Circuit Engineering Theory), announced for the needs of the Department of Power Engineering and Communications at the Physico-technological faculty.

For participation in the announced competition only candidate Assist. Prof. Daniela Antonova Shehova, PhD from Plovdiv University "Paisii Hilendarski" has submitted documents.

Presented by Assist. Prof. Eng. Daniela Antonova Shehova, PhD set of materials is in accordance with the Regulations for the development of the academic staff of PU, and includes the following documents:

1. Application for admission to participation in a competition;
2. Curriculum vitae in European format;
3. Diploma of higher education for educational-qualification degree "Master" – original with appendices;
4. Diploma for educational and scientific degree "PhD" - original;
5. List of scientific publications;
6. Reference of fulfilment of the minimum national and additional faculty requirements;
7. Annotations of the materials under art.65 of Rules for the Development of the Academic Staff of Plovdiv University 'Paisii Hilendarski', including self-assessment of the contributions and habilitation extended reference;
8. Declaration of originality and authenticity of the attached documents;
9. Certificate of work experience;
10. Documents for educational work;
11. Documents for research work;
12. Other documents.

The candidate Assist. Prof. PhD Eng. Daniela Antonova Shehova has submitted a total of 60 research papers, of which PhD thesis for educational and scientific degree "PhD", published a book based on a dissertation for educational and scientific degree "PhD", 6 research publications to the dissertation, 10 research publications referenced and indexed in world databases with scientific information equivalent to a habilitation thesis, 3 publications published in referenced and indexed in world databases with scientific information outside the habilitation thesis, 26 publications in non-refereed journals with scientific review or in edited collective volumes (of which two independent), one textbook, 4 manuals and teaching aids and a list for participation in 8 scientific research works, of which 6 funded by the Plovdiv University and 2 - by the National Program "Young Scientists and Postdoctoral Candidates".

39 scientific papers that are outside the dissertation and are reported in the final evaluation, 5 textbooks and 8 research projects are accepted for review. 8 scientific papers are not

reviewed after the dissertation. The distribution of scientific papers according to the relevant sections, in the country and abroad is as follows: 13 are abroad and 26 in Bulgaria.

The 10 publications equivalent to a monograph cover 3 papers of the international scientific conference International Conference of Education, Research and Innovation), Seville, Valencia - (Spain), 1 paper of the international scientific conference International Technology, Education and Development Conference, Valencia, Spain, 4 reports of the national scientific conference ELECTRONICA - Sofia, Bulgaria and 2 papers of the international scientific conference Electronics - Sozopol, Bulgaria.

Apart from the publications equivalent to a monographic work, 29 publications are presented, one of which with an impact factor. They cover 10 papers at international conferences and online publications abroad and 19 papers at conferences in Bulgaria.

PhD Daniela Shehova participated in the competition as a participant in eight research projects.

Of the 39 scientific publications submitted for participation in the competition, 13 are included in the SCOPUS and Web of Science databases.

The author's reference for citations of the papers in the competition (as of August 2021) contains 11 citations in scientific journals, referenced and indexed in the global database of scientific information Scopus and Web of Science: 2019 IEEE XXVIII International Scientific Conference Electronics (ET), Sozopol, Bulgaria; 2019 X National Conference with International Participation (ELECTRONICA); INTED 2020 Conference, 2nd-4th March 2020, Valencia, Spain; 28th National Conference with International Participation, TELECOM 2020; 32nd Chinese Control and Decision Conference, CCDC 2020; 2020 XI National Conference with International Participation (ELECTRONICA), 5 citations in collective volumes with scientific review: International Journal of Education and Information Technologies, International Journal of Research in Engineering and Science, Mukht Shabd Journal, Journal of Robotics and Control (JRC), Jurnal Revolusi Indonesia and citations in unrefereed peer-reviewed journals: International Conference of Education, Research and Innovation (ICERI) Spain; Scientific works of the Union of Scientists in Bulgaria - Plovdiv; Conference of Students of Engenharia Elétrica CEEL, Brazil, Federal University of Uberlandia; International Conference on Education and New Learning Technologies, EDULEARN20; Scientific notes of Junior Academy of Sciences of Ukraine. I

think there are 8 self-citations. By self-citation I mean cases when one of the co-authors of the candidate's publication, which is announced as cited, is also a co-author in another publication with PhD Shtehova, present in the list of publications in the competition.

2. Brief biographical data of the candidate

Assist. Prof. PhD Eng. Daniela Shehova was born on July 17, 1965. In 1989 she graduated from VMEI-Varna, specialty "Radio-Television Equipment", Master degree. She defended her PhD thesis in 2016 at the Technical University - Sofia.

She has been working as an assistant since 2006 at Plovdiv University "Paisii Hilendarski", Technical College.

3. General characteristics of the candidate's activity

Research and development and Research and Applied activity

The scientific problems that Assistant Professor Daniela Shehova are in the profile of the announced competition. Her dissertation for the educational and scientific degree "PhD" on "Research and development of electronic teaching aids for analog and mixed circuits" is a scientific specialty, coinciding with that of the announced competition.

The publications equivalent to a monograph are in the field of research and practical implementation of electronic circuits with application of design and analysis, open source platforms and hardware experimental modules.

In the publications that are not of the equivalent of a monograph problems related to simulation, research, design and implementation of electronic circuits and systems in various fields of application, including engineering education are presented.

Pedagogical skills and activity of the candidate

Assist. Prof. PhD Daniela Shehova has a diverse educational activity. From the attached reference for the lectures and exercises conducted in PU - Plovdiv, signed by the Head of the Department and the Dean of the Faculty of Physics and Technology, it is evident that in the academic years 2016/2017 to 2020/20121 the candidate has conducted classes from 500 to 880 hours per year in 14 different disciplines.

Assist. Prof. Shehova has been a supervisor of 7 graduates, a reviewer of 15 graduates, has 3 publications with students, joint participation in conferences, an academic mentor to students on 3 student internship projects. The candidate has participated in the development

of various curricula and programs for bachelors and masters, the development of documentation for program documentation.

All this shows the successful educational activity of D. Shehova, PhD.

4. Main research-applied and applied contributions

I accept in principle the formulated research-applied and applied contributions from the candidate. I classify them as creating new classifications, methods, constructions, technologies; obtaining confirmatory facts. I will summarize them briefly as follows:

A. Contributions to publications equivalent to a monograph

- A method for studying the types of electronic circuits by using integrated systems for design and simulation is proposed [B4.1], [B4.7] and [B4.8].
- Approaches for experimental validation of a simulation demonstration of the principles of operation and the main characteristics of electronic circuits have been developed and applied [B4.1], [B4.7] and [B4.8].
- Simulation circuits and methods for research of electronic devices using integrated environments for design and analysis - Proteus, TINA TI, NI Multisim and OrCad have been developed [B4.1], [B4.2], [B4.5], [B4.7] and [B4.8].
- Hardware and software means have been developed, researched and applied, including cloud technologies for experiments of analog-to-digital converters and other schemes with application in engineering education. [B4.3], [B4.4, B4.6 - B4.10].

B. Contributions in publications outside the monograph

- The main factors supporting the application of the Industry 4.0 paradigm are studied [Г7.1].
- Computer-based methods in MATLAB Simulink for research and description of the basics of digital communication systems are proposed [Г7.2], [Г8.6], [Г8.10] and [Г7.11].
- Simulation models for e-learning have been developed and implemented in the environments MATLAB, Multisim, FilterProTM and TINA-TI for research of: radio communication devices [Г8.2], active filters [Г8.5] etc. [Г7.2 – Г7.3], [Г8.2 – Г8.20].

An official document for the use of the developed laboratory modules in the training of students from the specialties "Computer and Communication Systems" and "Electrical Engineering" at the University of Plovdiv "Paisii Hilendarski" is attached.

5. Assessment of the candidate's personal contribution

I consider that the contributions are the personal work of the candidate. Proof of this are 2 separate publications, 13 publications in which the candidate is in first place.

Assist. Prof. Shehova presented numerous documents (certificates, official notes, etc.) for successfully completed trainings, lecturer, etc.

I would like to pay special attention to the precise arrangement and commenting on the materials presented in the competition.

Shehova, PhD is a proved lecturer and scientist with a clear vision for his diverse activities and creative achievements.

6. Critical remarks and recommendations

I have no serious remarks and recommendations to the presented materials. I note only the following;

- I would recommend the candidate to spend more time publishing and summarizing her research results in major international journals and publishers.
- No official documents have been submitted for the candidate's participation in all research projects.
- The author's claims for contributions are not distinguished as research, research-applied and applied.
- Some publications lack motivation, purpose, tasks, contributions.

CONCLUSION

The documents and materials submitted by Assist. Prof. PhD Eng. Daniela Antonova Shehova meet all the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Regulations for implementation of ADASRB and the respective Regulations of PU "Paisii Hilendarski".

The candidate in the competition has presented a significant number of research papers published after the materials used in the defence of educational and scientific degree "PhD". In the works of the candidate there are original research-applied and applied contributions, which have received international recognition, as some of them are published in journals and scientific collections from international publishers. The theoretical developments have practical applicability, as some of them are directly oriented to the educational work. The re-

search and teaching qualification of Assist. Prof. Ph.D. Daniela Antonova Shehova is undoubted.

Achieved by Assist. Prof. Ph.D. Daniela Shehova results in teaching and research activity fully comply with the specific requirements of the Physical-technological faculty, adopted in connection with the Regulations of the Plovdiv University for the application of ADASRB.

After getting acquainted with the materials and research papers presented in the competition, analysis of their significance and the research-applied and applied contributions contained in them, I find it reasonable to give my positive assessment and strongly recommend the Scientific Jury to prepare a report-proposal to the Faculty Council of the Physico-technological faculty, to elect Assist. Prof. Ph.D. Eng. Daniela Antonova Shehova at the academic position of "Associate Professor" at the Plovdiv University "P. Hilendarski" in professional field 5.2 Electrical Engineering, Electronics and Automation (scientific specialty Electronic Circuits and Electronic Circuit Engineering Theory).

01.09.2021

Sofia

Prepared the statement:

(Prof. Marin Hristov Hristov, Ph.D.)