

OPINION

by a member of the Scientific Jury, Prof. Marin Hristov Hristov, Ph.D.
Technical University of Sofia
of the materials submitted for the competition
for the occupation of the academic position "Associate Professor" in
higher education area - 5. Technical sciences,
by professional field - 5.2. Electrical Engineering, Electronics and Automation,
Scientific specialty - Elements and Devices of Automation and Computer Engineering
(disciplines "Pulse and Digital Devices" and "Digital Circuit Engineering").

In the competition for associate professor, announced in the State Gazette, issue. 58 of 23.07.2019 and on the website of TU-Gabrovo for the needs of the Department of Electronics to the Faculty of Electrical Engineering and Electronics (Protocol № 10/24.10.2019), as the only candidate Assist. Prof. Eng. Goran Danailov Goranov.

1. An overview of the content and results of the submitted works

The only candidate in the competition Assist. Prof. Eng. Goran Danailov Goranov participates in a total of 51 publications, of which 11 scientific publications are equivalent to monograph work, 40 publications are not equivalent to monographic work (of which 36 scientific publications - including 6 separate) and 4 textbooks and teaching aids.

The 11 publications, equivalent to a monograph work, cover scientific articles at international scientific conferences, of which 5 abroad - 3 in the USA, 1 in Romania, 1 in Russia and 6 in Bulgaria.

Publications which are not equivalent of monograph work are a total of 40 papers in non-refereed journals with scientific peer review, scientific conferences in Bulgaria and abroad, or in editorial volumes distributed as follows: 16 scientific publications in scientific journals in Bulgaria, 20 scientific publications in international conference proceedings and scientific forums (8 abroad (Macedonia -1, Serbia - 1, Greece - 2, Romania -1, Slovakia - 3, 12 in Bulgaria) and 4 textbooks and teaching aids).

The publications of the candidate, which are indexed in SCOPUS are 11.

The author reference for the noted citations of the works in the competition contains a total of 17 citations of 17 works.

Assist. Prof. Eng. Goran Goranov presented a list of 10 research projects, 2 of which he was a coordinator. Seven of this projects are financed from the budget - TU-Gabrovo and the rest are national and international.

Eng. Goran Goranov has a certain contribution to the development of the material and technical base of the Technical University - Gabrovo - he participated in the construction of the new training laboratory "Design of microprocessor devices".

2. Main characteristics of the applicant's activities

2.1. Educational activity (work with students and PhD students)

Assist. Prof. Goran Danailov Goranov has been a lecturer at the Technical University of Gabrovo since 2003.

Since 2016 he is the lecturer of the following subjects for the specialty "Electronics" for Bachelor's Degree Programs: "Digital Circuit Technology" for full-time and part-time training, "Impulse and digital devices" for full-time and part-time training, "Programmable Logic Controllers" for full-time and part-time training, "Computer Systems and Applications" for full-time and part-time training; for Master's Degree: Design of Microprocessor Devices for full-time and part-time training.

His auditorium work in the period 2016 - 2019 is as follows: 2018/2019 - 509 hours; 2017/2018 - 517 hours; 2016/2017 - 405 hours.

He is the author of 2 textbooks in the field of competition and co-author of 2 manuals for laboratory exercises in Digital Circuitry.

I appreciate Goran Goranov PhD as an erudite lecturer and organizer of educational and research activity, enjoying deserved authority among the academic community.

2.2. Research and research and applied activity

The applicant's publications are divided into three thematic groups: Digital Systems for Industrial Converters and Information Processing, Computer Systems and Applications, and Intelligent Microprocessor Measuring Systems.

Eng. Goran Goranov fulfils the necessary requirements, including the quantitative indicators for occupying the academic position "Associate Professor", given in the Rules for the terms and conditions for occupying academic positions in the Technical University - Gabrovo.

Part of the objective evidence of the importance of contributions to science and practice are the citations of the competition works.

2.3. Implementation activities

Assist. Prof. Goran Goranov has presented official notes from the following companies STD GROUP OOD, Leder Trading OOD, Dryanovo Municipality and Medical Centre Sevlievo Medica OOD for the design, producing and implementation of various electronic devices, the achievements being reported in three publications.

3. Contributions (research, research & applied, applied). The importance of contributions to science and practice

I generally accept the contributions formulated by the applicant, summarizing them briefly as follows:

- A digital method has been developed based on the digital synthesis of combinational, register and counting circuits for the control of transistor resonant converters. A methodology is proposed to calculate the parameters of the digital circuit for controlling resonant inverters and obtain the maximum frequency scanning range.

- A cyclic method for controlling a thermostat is proposed. A PWM control of a three-phase electric motor based on CPLD has been developed.

- A digital module for dual-line matrix display control and a digital driver for I2C communication have been developed.

- A new approach is presented for the implementation of a microcontroller system for managing the charge of rechargeable batteries for the solar system through artificial intelligence.

- The Fuzzy Controller-based data processing and management system is explored. The system is designed and developed to create new software models applicable to high power converters and energy transfer systems.

- An architecture of a module for tasks management is proposed, based on Grid environment g-Lite.

- An approach is proposed to programmatically configure a microcomputer to measure and operate as a web server using Apache, MySQL.

- The method of infrared thermography is applied to investigate the wear of cutting discs through theoretical and experimental models.

- Developed specialized microprocessor measuring system for testing the parameters of galvanic magnetic sensors. A galvanic magnetic field measuring device has been developed for use in direct current measurement.

4. Assessment of the applicant's personal contribution

I believe that the contributions are personal to the applicant. The proof is 6 independent publications and 23 publications in which the candidate is the first author.

5. Critical notes and recommendations

I have no serious comments or recommendations on the submissions. I note only the following:

- Textbooks and teaching aids are not included in the general list of competition publications.

- The formulated contributions are not summarized as research, research & applied or applied.

- The contributions formulated by the applicant are extremely detailed. This does not make it possible to highlight the particularly important and significant achievements.

- No documents have been attached about the implementation of the learning outcomes.

- I would recommend the applicant to spend more time publishing and summarizing his research results in major international journals and publishers.

6. Personal impressions

I know Assistant Professor Goran Danailov Goranov since 2006 as a reviewer of his PhD thesis and subsequently of his participation in scientific forums. He is distinguished by independence, hard work, initiative.

7. Conclusion:

In view of the foregoing, I propose Assistant Professor Eng. Goran Danailov Goranov to be elected as Associate Professor in the Department of Electronics at the Faculty of Electrical Engineering and Electronics at the Technical University of Gabrovo, Higher Education Area 5. Technical Sciences, Professional field 5.2. Electrical Engineering, Electronics and Automation, Specialty “Elements and Devices of Automation and Computer Engineering”.

27.11.2019

Member of the jury: /signature/

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