

STATEMENT

for a contest for the academic position of "Associate Professor",
in the field of higher education 5. "Technical sciences",
in the professional direction: 5.2. "Electrical engineering, electronics and automation",
announced in State Gazette (SG) No. 69/16.8.2024,
with candidate: Dobromir Petkov Dobrev, PhD, Eng., Assistant Professor.

Member of the Scientific Jury: Lubomir Valeriev Bogdanov, PhD, Eng., Associate Professor

1. Overall characteristic of the applicant’s research and scientific applied activity

Dobromir Petkov Dobrev, assistant professor, Ph.D., has submitted for participation in the contest scientific works, other than the dissertation work for the degree "Doctor", as follows:

Group of indicators	Minimum number of points	Applicant’s number of points	Number of points by main indicators per group	
A	50	50	Diploma No. and date of issue: 27142 / 23.04.2001 Scientific Specialty: "Automated Information Processing and Control"	
B	-	-		
V	100	340	V3	
			V4	340
G	200	292	G5	
			G6	
			G7	100
			G8	192
			G9	
			G10	
			G11	
D	50	100	D12	100
			D13	
			D14	
			D15	
E	-	-	E25	
			E26	
J	-	-		
Z	-	-		

A total of 36 scientific publications were submitted to the competition, four of which were independent. The distribution by category is as follows:

* 15 are referenced and indexed in Scopus – 10 in the list by indicator V4 and 5 in the list by indicator G7. In all articles from indicators V4 and G7, the candidate is in first place.

* 21 in non-refereed journals with scientific review in the list by indicator G8. In 18 of the attached publications, the candidate is the first author.

The number of citations exceeds the minimum requirements by 2 times, which is evidence of the relevance of the research. Out of a total of 196 citing sources, 183 are from articles with foreign authors. A total of 13 articles are in journals with an impact factor (IF=30.514), and 2 are in

publications with an SJR rank. The candidate has 16 years of experience as an "Integrated Circuit Designer" at the company "FACET" Ltd. He participates in 2 Bulgarian patents and 2 international ones, and additionally has 1 patent application.

The presented scientific papers (782 points) significantly exceed ($\approx 95.5\%$) the minimum requirements (400 points) for an associate professor according to the ASDOAP - BAS.

2. Main scientific and applied contributions

The contributions of the candidate's work can be divided into the following research areas:

- * recording and amplification of biosignals;
- * filtering of network interference from biosignals;
- * automatic balancing of electrode-amplifier impedances.

These include an asymmetric (non-differential) and differential amplifier without a reference electrode, increasing the input impedance of a biosignal amplifier through bootstrap feedback, a photoconverter for measuring peripheral pulse, a method for improving correlated double sampling (CDS) in signal processing from biosensors, a new method for reducing in-phase signals in two-electrode amplifiers, new methods for automatic balancing of the electrode-amplifier impedance bridge using software PLL, etc.

3. Significance of the contributions to the science and practice

The indicated scientific and applied scientific contributions show stable research activity over the years. The proposed scientific methods for registering and filtering signals, as well as their practical implementation in electronic circuits, are widely used in medical electronics. They can also be used in other areas requiring analog signal processing, such as audio/video equipment, measuring electronics, household appliances, etc. From a scientific point of view, the candidate's publications describe the theory very well and can be used as a basis for future research in medicine.

4. Critical remarks and recommendations

I have no critical remarks towards the candidate. I would recommend that he continue his research in the chosen fields and maintain the practical focus of his publications.

CONCLUSION

According to the submitted documents and the above analysis of the candidate's works, I believe that Senior Assistant Professor Dr. Eng. Dobromir Petkov Dobrev has scientific, scientific-applied and applied contributions to a sufficient extent, as well as significant industrial-academic activity. I believe that the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria, as well as the Regulations on the Conditions and Procedures for Acquiring Scientific Degrees and Holding Academic Positions in the Bulgarian Academy of Sciences (ASDOAP - BAS) have been met.

Based on the presented scientific works, their significance and citations, the scientific, scientific-applied and applied contributions contained in them, and participation in patents, I find it reasonable to propose that **Senior Assistant Professor Dr. Eng. Dobromir Petkov Dobrev** take up the academic position of "**Associate Professor**" in the professional field 5.2. "Electrical Engineering, Electronics and Automation".

Date: Oct 16, 2025
Sofia

Member of the Scientific Jury:

/Assoc. Prof. Lubomir Bogdanov, PhD/