

STATEMENT

on competition for academic position **Professor**
Professional field 5.2. **Electrical Engineering, Electronics and Automation**,
Specialty **Automated systems for information processing and control**,
for the needs of department "Distributed Information and Control Systems" of
IICT-BAS

published in the State Gazette No 103/12.12.2023

with candidate: **Nikolay Ivanov Stoimenov**, Ph.D., Assoc. Prof.

Member of the Scientific Jury: **Ivan Stoyanov Yatchev**, D.Sc., Professor

1. General characteristics of the provided materials.

The only candidate in the competition - Assoc. Prof. **Nikolay Ivanov Stoimenov**, Ph.D. works at IICT - BAS.

In the competition for Professor, Assoc. Prof. Stoimenov has presented a total of 57 scientific publications. Information is also provided for citations, for participation in research projects, for patents, as well as on all other legally required documents.

The analysis of the presented materials shows that all requirements of the Law for the Development of the Academic Staff of the Republic of Bulgaria, the Regulations for application of the Law on the Development of the Academic Staff, and the additional requirements of BAS and of IICT-BAS for the academic position "Professor" are fulfilled. .

2. Evaluation of the scientific-research and scientific-applied activities of the candidate.

Scientific-research and scientific-applied activities of the candidate are aimed entirely at the announced competition.

The presented total 57 scientific publications are organized in two groups:

- A. Publications, corresponding to group of indicators B – 12 papers published in editions referred and indexed in the world databases of scientific information – Scopus and Web of Science, and 7 of them are with Impact factor and impact rank (2 with Impact Factor and 5 with SJR). From that group of publications, in one the candidate is the only author, in the rest the candidate is first author in 6 of them;
- B. Publications, corresponding to group of indicators G – 45 papers, from them one is chapter of collective monograph. From the rest, 24 are in editions referred and indexed in the world databases of scientific information (Indicator G7) and 20 are in non indexed journals with scientific review or in edited collective proceedings (Indicator G8). 15 publications in this group are with Impact factor or Impact rank. From the publications in this group, in 7 the candidate is first author.

Most of the publications are in English.

A reference of the candidate's papers citations is presented, from which it is evident that the candidate has 37 citations in publications, referenced and indexed in world-renowned scientific information databases and 22 citations in other publications. Most of the citations are from foreign authors.

The activity of the applicant for participation in projects should also be noted. The candidate has submitted information for participation in a total of 6 national projects, being project leader in three of them.

Information about participation of the candidate in a patent and two useful models is also presented.

The candidate has worked in a wide range of research with different teams, including from abroad, which should be evaluated positively.

4. General scientific and scientific-applied contributions.

The main scientific and scientific-applied contributions in the presented works can be summarized as follows:

- different parameters and materials in grinding processes have been studied and different types of grinding media have been developed in order to optimize and control the processes and reduce the consumed electricity;
- tribological properties of various 3D printed materials – polymer and composite polymer materials – have been investigated and materials with the best anti-wear properties under different regimes were identified;
- by using 3D simulation modeling, scanning and printing, results are obtained for determining various parameters and modes of a laboratory ball mill;
- research has been done and results have been obtained for the presentation of textual and graphic information in a form suitable for perception by people with impaired vision;
- by using non-contact thermographic methods, power and energy losses leading to heating of various parts in electrical machines and apparatus have been studied.

4. Significance of the contributions for the science and practice.

The importance of the candidate's contributions to science and practice is undoubtable. Overall, the results in the field of automated information processing and control systems are of considerable scientific value and practical applicability.

Comparison of the indicators in the presented materials with the requirements of the Rules for the specific conditions for acquiring scientific degrees and occupying academic positions at the Institute of Information and Communication Technologies at

the BAS shows that for all groups of indicators the minimum requirements are met, most of them with a significant excess:

- group A (minimum 50 pts): 50 pts;
- group B (minimum 100 pts): 290 pts;
- group G (minimum 220 pts): 365 pts;
- group D (minimum 120 pts): 414 pts;
- group E (minimum 150 pts): 243 pts.

5. Critical notes and recommendations

It may be advised to present a summary topic of publications in group B (equivalent to monograph work).

There is a certain inconsistency in the numbering of publications according to the G8 indicator - publications from G8-4 onwards differ by one from the list and abstracts. Some overlap between publications G7-12 and G8-10 is also noted.

It may be recommended that in the future the candidate should also direct his efforts towards supervising PhD students.

CONCLUSION

On the basis of acquaintance with the submitted scientific works, their importance, the content of the scientific and scientific-applied contributions, as well as the fact that by all indicators the applicant meets the minimum requirements in accordance with the Law for the Development of the Academic Staff of the Republic of Bulgaria, the Rules for Application of the Law on the Development of the Academic Staff, the Rules for the conditions and the procedure for acquiring scientific degrees and for the occupation of academic positions in the Bulgarian Academy of Sciences and the Rules for the specific conditions for the acquisition of academic degrees and for the occupation of academic positions in the Institute of Information and Communication Technologies, I find it justified to propose Assoc. Prof. Dr. Nikolay Ivanov Stoimenov, to take the academic position of "Professor" in the professional field 5.2. Electrical engineering, electronics and automation in the specialty of "Automated systems for information processing and control".

Date: 29 Mar 2024

MEMBER

НА ОСНОВАНИЕ

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