STATEMENT

for the procedure for the academic position of "**professor**"

the domain of High education: **5.** "**Technical Sciences**",

professional field of study: **5.2 „Electrical engineering, electronics and automation"**

scientific specialty: **„Control of technological processes"**

for the needs of the department **"Production automation", Technical University -Varna**

The competition is published in "State newspaper" N14/16 February 2024 for the needs of Technical University -Varna (TU-Varna)

with the candidate: **associated professor Eng. Ph.D. Nikola Nikolaev Nikolov from** Technical University -Varna

Member of the jury: prof. D.Sc.,Ph.D. Eng. **Todor Atanasov Stoilov** , Institute of Information and Communication Technologies – Bulgarian Academy of Sciences, Sofia, Acad.G.Bontchev str., BL.2

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

The candidate graduated from TU-Varna with a specialization in "Production Automation". Accordingly, he continued his work as a university teacher at TU-Varna. He defended the educational-scientific degree "doctor" (Ph.D.) in 2009, and since 2013 he has been an associate professor in the professional field of study like the current procedure 5.2. Electrical engineering, electronics and automation.

The works presented for the competition for "professor" are systematized according to the requirements of National legislation. To participate in the competition, the candidate submits a total list of 30 scientific publications. These publications have been commented on and evaluated, included and categorized in the document "REFERENCE" for the fulfillment of the minimum requirements for holding the academic position "professor", compiled by the candidate.

Indicator group A: A diploma for awarding the educational and scientific degree "doctor" is presented. The candidate satisfies the requirement of this indicator.

Indicator group B: the requirement for habilitation work or scientific publications (not less than 10), referenced and indexed in world-recognized databases. The candidate satisfies the requirement for this indicator by submitting 10 indexed publications.

Indicator group G requires the collection of 200 points. The candidate submits for this indicator copies of publications participating in the competition. It is presented 11 publications for indicator G7 (refereed and indexed publications) and 9 publications for indicator G8 (publications in non-refereed editions) are presented. The candidate has correctly calculated the point results that fulfill the requirements of indicators group G.

Indicator group D requires 100 points: citations in scientific publications, referenced and indexed in world-renowned databases and/or scientific review. The applicant submits a list of 14 citations that satisfy indicator group D.

Indicator group E: participation in projects, funds attracted from projects. The candidate fulfills the requirements for 100 points by supervising a doctoral student, leading and participating in national projects, and attracting funds from contracts.

Indicator group G: Schedule of lectures held at TU-Varna for the last three years. The presented data shows an overachievement of the set minimum requirement.

In conclusion, the author of the statement assesses that the candidate fulfills and, in some indicators, exceeds the required levels with his presented scientific production.

2. Assessment of the candidate's pedagogical background and activity

The candidate works as an associate professor at TU-Varna. The main activity in such an academic institution is teaching and learning activity. The candidate's pedagogical training and activity is presented in his CV and the submitted academic reference. As an associate professor, he conducts

lectures on the following subjects: Management of technological processes, Automated electric drive, Technical tools for automation, Design of automation systems, etc.

The author of the opinion assesses that the candidate has academic and professional training in the professional areas of his specialty and has gained experience in leading an educational process at a University.

3. General scientific and applied scientific contributions

The candidate submits a list of 30 scientific publications. The main set of publications concerns the design of automatic control systems. Parameters of the control systems have been defined, which ensure the necessary stability and quality of functioning. The feedback parameters for single-input and single-output systems are calculated. It has derived algorithms for the operation of control systems such as estimation of the initial and current state vector of the system; recursive parameter assessment; adaptive control, etc. The objects for which control laws have been applied are technological processes for cleaning drinking water, a roller mill and washing machines; determination of relationships between length-weight of fish.

The author of the statement positively evaluates the candidate's attempts to apply quantitative methods from the control theory not only for technological processes but also for objects that are not purely technical. He believes that the candidate's publications present good examples of solving problems related to the use of quantitative methods of management theory.

4. Significance of the contributions for the science and practice

The candidate's publications show the desire to implement developed formal and algorithmic solutions for practical use in technical and biological systems. The candidate’s CV presents data on participation and management of business projects related to the development of algorithms for controlling technical systems and identifying parameters in biological systems as well. This is also indirect proof of the usefulness and significance of the candidate's scientific and applied contributions in practice.

5. Critical notes and recommendations

The author of the statement will note his findings on the submitted documents. Part of the candidate's publications from the G7 category is not available at the presented virtual addresses. The main part of the presented publications was made at conferences in our country and data on SCOPUS rank, impact factor, and quantiles of publications are not presented. This determines that the research done is visible to a small number of researchers. Accordingly, the citations presented are mostly from the candidate's colleague. With these remarks, the author of the review draws the attention of the candidate to increase his results to academic criteria and parameters.

These notes do not detract from the authors' results. I believe that the candidate Nikola Nikolov has great research and practical experience in the research field for the development and implementation of program and system solutions related to the control of technological processes and the application of quantitative methods in the assessment of parameters of biological objects. This experience of the candidate Nikola Nikolov is also applied to the training of students in a Higher Education Institution.

Conclusion

Based on the presented scientific works, their importance, the scientific, scientific-applied and applied contributions contained in them, I find it reasonable to propose the candidate **Assoc. prof. Ph.D. Eng. Nikola Nikolaev Nikolov** to occupy the academic position of "Professor" at the Technical University - Varna by professional direction **5.2. Electrical engineering, electronics and automation**, in the study discipline "**Control of technological processes**".

16.05.2024

Author of the State
Prof. D.Sc

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