

OPINION

by Prof. D.Sc. Dimitar Andonov Dichev, Technical University of Gabrovo

on the materials submitted for participation in competition for the appointment of an academic position "Associate Professor" in the field of higher education – 5. Technical sciences, professional field – 5.1 Mechanical engineering, scientific subject – Textile Materials Technology

1. Information about the competition

The competition for the academic position of "Associate Professor" at the Technical University of Gabrovo has been announced in the "State Gazette", issue 50 from 27.06.2023, and on the website of the Technical University of Gabrovo, for the needs of the department of "Industrial Design and Textile Engineering" at the Faculty of "Mechanical Engineering and Instrumentation".

2. Information about the candidates in the competition

In the announced competition the only candidate is Chief Assistant Professor Eng. Borislav Stoyanov, PhD, a full-time lecturer in the Department of "Industrial Design and Textile Engineering (IDTE)".

Chief Assistant Professor Stoyanov holds a Master's degree in Technical Sciences with a specialization in "Textile Engineering and Technologies" and a Doctorate in the scientific field of "Theory of Mechanisms, Machines, and Automated Lines", based on a defended dissertation titled "Dynamics of the Traveling and Lifting Mechanism of a Chain Electric Hoist".

Stoyanov's, PhD professional career began in 2006 as a designer at "AMK Drives and Controls Gabrovo" Ltd. Two years earlier, he won a competition for a full-time PhD position at the Department of "Technical Mechanics" at the Technical University of Gabrovo. In 2007, Stoyanov, PhD was appointed as a Chief Assistant in the Department of "IDTE" at the Technical University of Gabrovo.

I can note that the educational and professional career of the candidate for the position of Associate Professor demonstrates systematicity, purposefulness, and consistent development in the professional direction and specialty of the competition. He has an excellent command of English and possesses in-depth practical knowledge of contemporary technological systems and processes in the field of textile materials. In the competition, Stoyanov, PhD participates with scientific materials that do not repeat the publications presented for obtaining the scientific degree of "Doctor" and for taking up the academic position of "Chief Assistant".

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

The scientific works submitted by the candidate for the competition can be summarized into three groups: a monograph research paper, published educational aids, and scientific publications - articles in journals and conference reports.

The monograph "Laser Marking of Textile Materials" is dedicated to the development and enhancement of an important element in modern textile material technology, namely laser marking. The solutions proposed by the author, based on a system for laser marking and marking methodologies, ensure the successful integration of scientific achievements and technological procedures into a unified concept, which can significantly improve the quality of marking, enhance productivity and efficiency, and expand the functional capabilities of this

innovative technology in the textile industry. The reliability of the conclusions and deductions made in the monograph is proven by experimentally obtained data, which are based on a substantial amount of experimental work, conducted using correctly composed methodologies. The experimental research is developed in distinct independent stages, including the development of necessary experimental setups, research methodologies, actual experimental work, and analysis of the results.

The second group of materials includes three published educational aids. The content in these aids is well-structured, clearly and concisely presented, and covers all the necessary aspects for both theoretical and practical training of students in the specialty "Industrial Design and Textile Engineering (IDTE)".

The third group of works includes 47 publications printed between 2004 and 2023, with 28 being journal articles and 19 conference papers. Ten of these published articles and reports are in peer-reviewed and indexed journals from the databases of Web of Science and/or Scopus, and five of these are in journals with an Impact Factor (Thomson Reuters), which is a significant testament to the high level of the candidate's scientific work. Eleven of the publications are sole-authored, while the rest are co-authored, with the number of authors ranging from 2 to 11. This broad authorship demonstrates that Stoyanov, PhD is a sought-after team partner and scholar with national and international authority. Here, I want to highlight the systematic manner in which the candidate's research results are published in proceedings of prestigious international conferences, renowned journals with Impact Factor, and completed scientific works, demonstrating Stoyanov's, PhD continual development and serious interest in both the theory and practice of the textile industry.

4. General characteristics of the candidate's activity

4.1. Educational and pedagogical activity

Candidate Stoyanov, PhD possesses extensive professional experience as a university lecturer at TU-Gabrovo, where he has been employed since 2006. Stoyanov, PhD conducts lecture courses and leads exercises in over 10 disciplines, all within the thematic scope of the announced competition for the position of "Associate Professor." The annual teaching load of the candidate for the last three years exceeds the required minimum according to regulatory documents for the announcement of the competition. He has sequentially passed through all the previous stages in his academic career from Assistant (2006) to Chief Assistant (2007). Therefore, it is entirely logical that Stoyanov's, PhD career development should continue with the conferral of the academic position of "Associate Professor." In support of this statement, I can point out that the "IDTE" Department at TU-Gabrovo has highly rated his educational and pedagogical skills and has entrusted him with leading lecture courses in 10 disciplines for the Bachelor's degree program.

4.2. Scientific and Applied activities

The analysis of Stoyanov's, PhD publications demonstrates that his scientific interests encompass a wide range of academic fields. The topics in Stoyanov's, PhD scientific publications range from laser marking of textile materials to electron-beam treatment of metals, each marked by a distinct specificity. Nonetheless, it can be summarized that the research across all thematic directions is based on an approach that incorporates theoretical and experimental studies, wherein the methods for solving the tasks presented in these works are diverse in their intricate nature but are generally integrated within an environment where the primary elements are theoretical and empirical knowledge. A particularly impressive aspect of the candidate's scholarly output is that the principal conclusions and deductions are synthesized based on extensive experimental material, derived from the author's participation in 22 national and

university research and applied projects, three of which he led. Consequently, Stoyanov's, PhD scientific publications are sought-after and duly valued by the academic community both nationally and internationally, a testament to which is the corresponding citation rate. From the inquiry I conducted, as of the drafting of this statement, I would like to point out that I have found 16 citations in global databases and in publications from the national reference list, of which 7 are in the Web of Science and/or Scopus.

4.3. Implementation activities

Stoyanov's, PhD implementation activities are exceptionally active as a participant in the aforementioned projects with end clients being national institutions and companies. This is evidenced by the candidate's engineering-implementation work in companies such as "KARDENA – TEX" Ltd., "AMK" Ltd., "MV YANTRA" JSC, and "ADTECH" Ltd. His participation in significant research projects, which have successfully concluded and received positive evaluations, demonstrates that the candidate for the associate professor position is a prominent and sought-after researcher.

5. Contributions. The importance of contributions to science and practice

I believe that the contributions identified are both scientific-applied and applied. However, it's necessary to note that the systematization of these contributions could be organized much more successfully through the introduction of broader encompassing principles. According to the nature of the scientific-applied contributions, they can be classified into the following generally accepted methodological categories:

A. Development of new classifications, methods, approaches, algorithms, structures, models, etc.

This category includes contributions I.1; I.6; I.7; I.8; I.9; I.10; I.11; I.12; and I.7, as formulated by the candidate.

B. Obtaining confirmatory facts

Contributions: I.2; I.3; I.4; I.5; II.10

C. Employing new means to prove important new features of theories, hypothesis, etc.

Contributions: II.1 – II.9.

I fully accept the provided reference of applied research contributions.

6. Evaluation of candidate's personal contribution

The teaching, pedagogical, research, and applied scientific activities of B. Stoyanov, PhD are indisputably significant and meaningful. With his publications, Stoyanov, PhD establishes a unique contribution in the field of technologies for processing textile materials and electron beam treatment of metals. The provided reference shows an active pedagogical experience as a university lecturer, and the serious scientific results, specific applications, and citations are largely due to his personal efforts, ideas, expertise, organizational qualities, and skills.

7. Critical remarks and recommendations

The merits highlighted above in the materials presented by the candidate distinctly dominate in my entirely positive evaluation. I believe that many contributory aspects and derived results possess high scientific value, which forms the basis of my recommendation for their publication in journals with an Impact Factor (IF).

8. Personal impressions

I have known Stoyanov, PhD since the beginning of his academic career. I am impressed by both his professional and personal qualities: goodwill, responsiveness, excellent relationships with colleagues and students. He is distinguished by high scientific competence and creativity.

9. Conclusion

In view of the above **I propose to the esteemed Scientific Jury that Chief Assistant Professor Borislav Tsonev Stoyanov, PhD be awarded the academic position of “Associate Professor”** in:

higher education area – 5. Technical sciences,
professional field - 5.1 Mechanical engineering,
scientific subject - Textile Materials Technology

02.11.2023

Member of jury: /signature/

/Prof. Dimitar Dichev, DSc/