

STATEMENT

on a competition for the obtaining of the academic position “Associate Professor” in professional field 5.13. General Engineering, scientific specialty “Workplace safety technique and fire-fighting equipment”

Announced in State Gazette issue 15/19.02.2021

Candidate: Sonya Kancheva Vachinska-Aleksandrova, Dr., Eng., Chief Assistant Professor

Member of the Scientific Jury: Plamen Borisov Dyankov, Dr. Sc., Eng., Professor

In accordance with Order № 217/08.04.2021 by the Rector of Varna Technical University

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

The candidate participates in the competition with a total number of 22 scientific works, of which 16 scientific publications, one monograph titled “Workplace health and safety“ (B.3.1) and 5 teaching aids. They are structured in 5 thematic groups: workplace organization (3 scientific publications - Г.8.1, Г.8.2, Г.8.5), environment risk factors (3 scientific publications - Г.7.1, Г.8.3, Г.8.10), prevention for safety and health (3 scientific publications - Г.8.4, Г.8.6, Г.8.7), innovative teaching (3 scientific publications - Г.8.8, Г.8.9, Г.8.12) and fundamental engineering competencies (4 scientific publications - Г.8.11, Г.8.13, Г.8.14, Г.8.15). Four of the publications are in English (Г.7.1, Г.8.3, Г.8.8, Г.8.9), two of the publications are from participation in conferences abroad (Г.8.3, Г.8.8), one of the publications is from a conference indexed in Scopus database (Г.7.1), while the rest of the publications are from participations in international scientific congresses and conferences in Bulgaria. In most of the publications, 13, the candidate is a single author, 4 are co-authored, while Dr. Vachinska-Aleksandrova is the leading author of 3 of these co-authored publications and a second author in only one of the publications. According to the submitted Reference under art. 26 of the Act for the Development of the Academic Staff in the Republic of Bulgaria, art. 60, para. 3 of the Rules for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria and art. 1, para. 2 of the Rules and Conditions for Holding Academic Positions in Varna Technical University the materials submitted for the competition **cover** the necessary requirements of the indicators as follows: group A – 50 p., group B – 100 p., group Г – 300 p., group Д – 107 p. for the obtaining of the academic position “Associate Professor” in Varna Technical University.

According to the information and evidence provided, the applicant has participated in 8 projects, 6 of which are externally funded, two are funded from the national budget, one is an international project, the candidate is a manager of two of the projects, an expert coordinator of one of the projects, and a member of the team of the rest of the projects.

2. Evaluation of the pedagogical preparation and activity of the candidate

The candidate presents a total number of 5 textbooks. She is a single author of 4 published textbooks and a co-author of one of the textbooks, all of them related with fundamental engineering disciplines such as applied geometry, engineering graphics, technical documentation and electrotechnical documentation. According to the reference under art. 26 of the Act for the Development of the Academic Staff in the Republic of Bulgaria, art. 60, para. 3 of the Rules for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria and art. 1, para. 2 of the Rules and Conditions for Holding Academic Positions in Varna Technical University for group Ж (hours of lectures conducted at Varna Technical University for the last 3 academic years) and required 30 p. Dr. Eng. Vachinska-Aleksandrova, has acquired 216 p., including lectures conducted by the candidate in English. The candidate has taken participation in the development of 24 co-authored syllabi in various basic engineering and technical academic disciplines. According to a reference signed by the Head of Teaching and Methodology Department, she conducts lectures and exercise classes in two languages with full-time and part-time students from all of the four faculties at Varna Technical University. Sonya Vachinska-Aleksandrova acquired the qualification “Teacher” in 1995 and accumulated her initial 5 years of pedagogical experience at the Professional Secondary School of Clothing in Sofia and has been a lecturer at Varna Technical University more than 12 years so far, while

preparing potential University students to participate in Technical Drawing Olympiads under the auspices of the Ministry of Education and Science. Impressive is the evidence of the candidate's participation in various organizing committees of congresses, conferences, seminars, online journals, etc., as well as her almost annual training and increase of knowledge and competencies in various fields. The concept of "Lifelong Learning" of the EU, set in one of the projects with the participation of the candidate is clearly and purposefully traced in her development as a Bulgarian scientist.

3. Basic scientific and applied scientific contributions

In the submitted documents for the competition and in the scientific production of the candidate the creative approach, the topicality and the vital need to apply the presented models for assessment of unhealthy working postures and movements are clearly visible (B.3.1, Г.8.5, Г.8.7). In-depth analyzes of the risks of developing musculoskeletal disorders (MSD) at work (B.3.1, Г.7.1, Г.8.5) are crucial for the quality of life and have a growing social significance, given the need for remote work. The presented analysis of the innovations in the field of instruction and fundamental engineering education (Г.8.8, Г.8.9, Г.8.11, Г.8.12, Г.8.13, Г.8.14, Г.8.15) and the outlined guidelines for their development came true in the last year of distance learning, which is a proof of the topicality of the studied issues and confirms the hypothesis of the author. The proposed algorithm, surveys and evaluation cards for studying the impact of the working environment (B.3.1, Г.7.1, Г.8.6, Г.8.7, Г.8.8, Г.8.9) are applicable in various fields of activity and address issues that have a significant and massive impact, because pain, tingling and other discomfort in the shoulders, back and lower back are common causes of absences due to illness and affect work productivity and quality. In the monograph an in-depth examination is made and the strategies for health risk management are outlined in two main directions - the risk of developing musculoskeletal injuries and the risk of stress at the workplace of the design engineer. In view of the widespread use of ICT, these risks can also be found in other work environments, which justifies the wide applicability of research.

I accept the contributions formulated by the candidate as scientific-applied and applied and I consider that they are her personal work due to the clear and emphasized author's interpretation of the presented research and in view of the long-term scientific and teaching activity of the candidate. No materials of implementation are presented, but the applied nature of the research and the conclusions in many publications can be successfully implemented in various companies as part of their training programs for healthy and safe working conditions.

4. Significance of the contributions for science and practice

The scientific research of Ch. Assist. Prof. Dr. Eng. Sonya Vachinska-Aleksandrova have contributions to the theory, practice and training, as they are related to the most valuable thing for people - their health. Evidence of this are the seven citations in publications related to stress detection and prevention of spinal deformities, published in the Scopus database. Another proof of recognition of the importance of the scientific works is the award "The best paper" for publication Г.8.12.

The last pandemic year has proved to all of us that health care depends a lot on our habits and knowledge and is not just an issue dealt with by doctors. The application of the recommendations described in the works, good practices and standards for avoiding the risk of developing MSD, through training of employees and / or students will increase the personal competencies of people, and thus will have a positive impact on the general health of the nation. I believe that the studied issues should become more widespread in practice and the respective scientific findings should be integrated en masse into the daily lives of workers in order to improve the quality and duration of work and life of the population.

The quantitative indicators presented by the candidate in groups A, B, Г and Д fully meet the requirements for holding an academic position under the Act for the Development of the Academic Staff in the Republic of Bulgaria, the Rules for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Rules and Conditions for Holding Academic Positions of Varna Technical University.

5. Critical remarks and recommendations

I have no critical remarks on the candidate's works, even technical ones. The candidate's participation in research projects, scientific forums and membership in scientific organizations are indicative of her diligence, as well as her wide range of knowledge, scientific and applied activities and they present Dr.

Aleksandrova as an organized, active and highly motivated scientist. I still strongly recommend that she continue her work to hold the academic position “Professor” in the future.

CONCLUSION

Based on the acquaintance with the presented scientific works, their significance, the scientific, scientific-applied and applied contributions contained in them, I find it reasonable to propose Chief Assistant Dr. Eng. Sonya Kancheva Vachinska-Aleksandrova, to take the academic position ”Associate Professor” in the professional field 5.13. General Engineering, scientific specialty “Workplace safety technique and fire-fighting equipment”.

Date: 17.05.2021

MEMBER OF THE JURY:

/Prof. Dr. Sc. Eng. Plamen Borisov Dyankov/