

UNIVERSITY OF RUSE "ANGEL KANCHEV"

OPINION FROM PROF. DSc. ENG. KRASIMIR IVANOV ENIMANEV

5. Technical sciences

PROFESSIONAL FIELD:

5.13. GENERAL ENGINEERING

Member of the scientific jury according to ordinance № 217 / 08.04.2021 of the Rector of TU-Varna

REGARDING:

Candidate: Ch. Assistant Sonya Kancheva Vachinska-Alexandrova, PhD

Competition for the academic position "ASSOCIATE PROFESSOR"

Field of university education - 5. Technical sciences,

Professional field - 5.13. General Engineering

Scientific field - "Occupational safety and fire-fighting equipment"

Announcement published in the State Gazette no. №15 / 19.02.2021

1. Brief biographical data

Sonya Kancheva Vachinska-Alexandrova was born in 1972 in the town of Vratsa. In 1990 she graduated from high school "V. Vodenicharski" - Vratsa, with an excellent diploma and qualification "Organizer of educational activities in Fine Arts".

In 1996 she graduated with a master's degree from the Technical University - Gabrovo with a degree in "Engineering and technology of textiles and clothing" with a professional qualification "Mechanical Engineer". Upon graduation, she received a cash prize for high academic achievements.

In 1997 she completed an intensive course of English at the School of Foreign Languages of the Agricultural Academy "N. Pushkarov", Sofia.

From 2000 to 2006 she covered doctoral program at the Technical University of Varna and defended his dissertation before the SNA on "Mechanical Technologies and Transport" at the Higher Attestation Commission under the doctoral program "Ergonomics and Industrial Design". She received a doctorate on the basis of a defended dissertation on "Study of ergonomic performance of sewing companies." Since the end of 2008, after winning a competition in the scientific specialty 02.19.02 "Applied Geometry and Engineering Graphics", she was accepted as an assistant and began teaching at the Technical University of Varna in the department "Machine Elements"). In 2010 she was reassigned to the position of Chief Assistant in the restructured and renamed department "Industrial Design".

Since 2018 she is part of department "Technology of Mechanical Engineering and Metal Cutting Machines", where she continues to teach fundamental disciplines such as Applied Geometry and Engineering Graphics, Electrical Engineering and Technical Documentation. Her marital status since March 2021 is married, so the published works do not contain the supplement from the surname of her husband (-Alexandrova).

2. General description of the presented materials

A total of 22 works, 16 publications, one monograph on the topic "Healthy and safe workplaces" (V.3.1) and 5 teaching aids were presented. They are structured in 5 thematic groups: organisation of workplaces (3 publications - G.8.1, G.8.2, G.8.5), environmental risk factors (3 publications - G.7.1, G.8.3, G.8.10), safety and health prevention (3 publications - G.8.4, G.8.6, G.8.7), innovative training (3 publications - G.8.8, G.8.9, G.8.12) and fundamental engineering competencies (4 publications - G.8.11, G.8.13, G.8.14, G.8.15). Four of the publications are in English (G.7.1, G.8.3, G.8.8, G.8.9), two are from participation in conferences abroad (G.8.3, G.8.8), one is from a conference indexed in the database Scopus data (G.7.1), the rest are from participations in international scientific congresses and conferences in Bulgaria. Most publications - 13, are author's, 4 are co-authored, as Vachinska-Alexandrova, PhD is the first author in 3 publications and the second author in only one publication. The candidate is cited a total of 20 times as follows: 7 times in scientific publications in referenced and indexed in Scopus conference volumes (D.12.1, D.12.2, D.12.3, D.12.4, D.12.5, D.12.6, D.12.7), 11 times in collective volumes with scientific review in our country (D.13.1, D.13.2, D.13.3-5 citations, D.13.4, D.13.5, D.13.6, D.13.7) and 2 times in non-refereed editions (D.14.1-2 citations) from a conference of TU-Sofia.

The presented materials cover the necessary requirements of the indicators from group V, group G and group D of Appendix-1 for holding the academic position "Associate Professor", specified in the Regulations for the terms and conditions for holding academic positions at the Technical University - Varna.

The candidate presents a total of 5 textbooks in the competition. She is an independent author of 4 published textbooks and co-author of one of them, all related to fundamental engineering disciplines such as applied geometry, engineering graphics, technical documentation and electrical documentation.

A list of the applicant's participation in one international project, 5 national projects funded by various programs and two intra-university projects funded by the national budget is presented. In 2 projects the candidate was a leader, in one expert - a

coordinator, and in the others she is a member of the team. A reference was received for 4 participations in the National Program of the Ministry of Education and Science "Student Olympiads and Competitions", where the candidate prepared students for the Olympiad in "Technical Drawing".

Sonya Vachinska-Alexandrova is a member of various prestigious scientific organizations in Bulgaria - the Union of Scientists in Bulgaria, the Territorial Organization of STU-Varna, STU of Mechanical Engineering - Sofia, she is member of the Society of Ergonomics and Industrial Design and the Society of Textiles, Clothing and leather to STU-Sofia. She has participated in the National Arbitration and Evaluation Commissions of the Technical Drawing Olympiad at the Ministry of Education and Science. She was member of the Faculty Council of TU-Varna, and she is currently member of the Academic Council of TU-Varna.

The candidate has participated in the development of 24 curricula in the field of Applied Geometry, Engineering Graphics, Technical and Electrotechnical Documentation.

The first interactive whiteboard in TU-Varna was acquired under a project funded by the NSF of the Ministry of Education and Science, led by Ch. Assistant-S. Vachinska-Alexandrova, PhD.

She also contributes to the renovation and modernisation of the material and technical base of the University. Over the years, professional realisation she has participated in various courses and trainings to increase professional competencies, for which supporting documents have been attached.

3. General characteristics of the research and scientific-applied activity of the candidate

The publishing research activity covers areas such as: organization of workplaces (G. 8.1, G. 8.2, G. 8.5), risk factors of the working environment (G. 7.1, G. 8.3, G. 8.10), prevention for safety and health of employees (G. 8.4, G. 8.6, G. 8.7), innovative training (G. 8.8, G. 8.9 G. 8.12) and fundamental engineering competencies (4 publications-G. 8.11, G. 8.13, G. 8.14, G .8.15).). She was awarded a prize for an article related to e-learning from the period preceding today's emergency, which required mass distance work due to the risk of Covid-19.

The contributions contained in the publications submitted for participation in the competition can be grouped into the following main categories:

I. Scientific and applied contributions

- There are two types of tasks for examining the health risk associated with workplaces. The first type is related to the examination of the risk of developing musculo-skeletal disorders

(V.3.1, G.7.1, G.8.6). The second type concerns the management of the risk of stress at work (V.3.1).

- Based on the theoretical research, a reasoned model for assessment of harmful and / or dangerous working postures and movements has been proposed (V.3.1, G.8.5, G.8.7).

- An in-depth analysis of the risks for the development of musculo-skeletal injuries during work has been made (V.3.1, G.7.1, G.8.5). Its results are the basis for future development of new, more effective methods of prevention.

- Substantiated recommendations for health prevention and reduction of risk factors in the work environment have been made (G.8.4, G.8.10).

- The characteristic features of different working environments are explained and a generalizing model for examination of the health risks is derived (G.8.1, G.8.2, V.3.1).

- Objective solutions for future development of basic engineering and educational problems have been derived (G.8.13, G.8.14, G.8.15).

- On the basis of studied initial data are presented own graphs, figures and models of the multidisciplinary impacts of the working environment on the psycho-physiology of the individuals, referring to his/her health (V.3.1, G.7.1, G.8.3, G.8.6, G.8.12).

- An in-depth analysis of innovations in the field of training and basic engineering education has been made (G.8.8, G.8.9, G.8.11, G.8.12, G.8.13, G.8.14, G.8.15) and significant conclusions have been drawn for their development).

II. Applied contributions:

- Practically applicable models for examination and analysis of the effects of the environment on health have been developed (V.3.1) and innovative training techniques have been applied (G.8.8, G.8.9).

- On the basis of a priori research, questionnaires have been prepared and applied in order to accumulate data on various impacts (G.8.6, G.8.7, G.8.8, G.7.1).

- An adapted algorithm for application in different work environments (computerized workplace and jobs in the garment industry) for testing the impacts on people has been proposed (G.8.2, V.3.1).

- A creative approach is proposed in the interpretation of the innovative fundamental engineering education (G.8.11, G.8.13, G.8.12, G.8.14, G.8.15) and objective solutions and statements for future development are derived.

A monograph was published on the topic: "Healthy and safe workplaces" (B.3.1), which addresses a painful and important

problem for the health of workers daily and long-term with a computer. The possible risk of damage to the physics and psyche, during the use of a computer, today affects many more people in various fields of activity - teachers, students, accountants, auditors, lawyers, programmers, clerks, traders, employees, etc. , because of the mass work "from home".

The candidate's articles have made numerous analyzes of specific factors and proposed a number of measures for localization and risk management, arguing recommendations for possible management, organizational, placement and other measures leading to the reduction of harmful postures, to avoid the appearance of muscle - skeletal pain and stress reduction during work. In this regard are the received 7 citations in scientific journals in world-famous databases (D.12.1, D.12.2, D.12.3, D.12.4, D.12.5, D.12.6, D.12.7), 11 pcs. citations in collective volumes with scientific review (D.13.1, D.13.2, D.13.3-5 citations, D.13.4, D.13.5, D.13.6, D.13.7) and 2 citations in non-refereed publications with scientific review (D.14.1-2 citations).

The necessary requirements have been met, including quantitative indicators for holding the academic position of "Associate Professor", specified in the Regulations for the terms and conditions for holding academic positions at TU-Varna, and for participation in the competition are presented a monograph, 16 articles, of which 12 independent (G.7.1, G.8.1, G.8.2, G.8.3, G.8.5, G.8.6, G.8.7, G.8.9, G.8.10, G.8.13, G.8.14, G.8.15) and 4 in co-authorship (G.8.4, G.8.8, G.8.11, G.8.12). She has published 5 textbooks, 4 of which she is an independent author. Four of the presented publications are in English (G.7.1, G.8.3, G.8.8, G.8.9), and the remaining 12 - in Bulgarian.

4. Educational and pedagogical activity of the candidate

The subsequent teaching activity is in TU-Varna and amounts to more than 12 years.

For the last 5 academic years the classroom employment is: for 2020/2021 - 587 hours (including 21 hours of English language training - ELT), for 2019/2020 - 601 hours (including 64 hours of ELT), for 2018/2019 - 602 hours (including 72 hours of ELT), for 2017/2018 - 441 hours (including 24 hours of ELT), for 2016/2017 - 458 hours (including 54 h ELT).

The lectures given according to the curriculum for the last 3 years amount to a total of 242 hours, and after taking into account the hours missed on holidays, 216 hours were actually held, including 40 hours of lectures in English (Indicator G.29).

There were three mobilities under the Erasmus program for teaching and learning at the Technical Universities in Koszalin (Poland) – 2015, in Ostrava (Czech Republic) – 2018 and in Lisbon (Portugal) – 2019.

5. EVALUATION OF THE PERSONAL CONTRIBUTION OF THE CANDIDATE

I definitely believe that the shown scientific production, both independently and in co-authorship, is conducted by Eng. Sonya Kancheva Vachinska-Alexandrova.

The existing and new scientific knowledge has been summarized in relation to the already mentioned scientific publications, which is a prerequisite for improving the quality of teaching in the training of specialists with university education.

6. CRITICAL NOTES

I do not find any significant weaknesses and omissions in the materials presented to me for the competition for the academic position of "Associate Professor".

My recommendations to the candidate are:

- To continue with the maintenance, as before, of intensive publishing activity in renowned, referenced publications at home and abroad, emphasizing the applicability of adapted social policies in a specific organizational environment in order to generate sustainable competitive advantages, contributing to production and innovation potential of business organizations.

- In the future development of educational and methodical materials (textbooks, manuals), independently and / or in co-authorship, to clearly state their already established critical view and professional expertise in order to maintain recognition in both academic and public communities.

7. PERSONAL IMPRESSIONS

I do not have the honor to know the candidate, Ch. Assistant Eng. Sonya Kancheva Vachinska-Alexandrova PhD, but seen from the scientific and educational activities, she has all the necessary qualities to take the academic position of "Associate Professor" at TU – Varna.

8. CONCLUSION

Having in mind the above, I propose Ch. Assistant Eng. Sonya Kancheva Vachinska-Alexandrova PhD, to be elected "ASSOCIATE PROFESSOR" in the field of university education 5. Technical sciences, professional field: 5.13 General engineering; scientific field "Occupational safety and fire-fighting equipment"

May, 2021
Ruse

Jury member:
Prof.DSc.Eng. Krassimir Enimanev