

SCIENTIFIC OPINION

Regarding a contest for an Academic position “Associate Professor”

Professional field – 5.13. General Engineering

Specialty „Occupational safety and fire-fighting equipment “

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Candidate: Assist. Prof. PhD Eng. Sonya Kancheva Vachinska-Aleksandrova

Member of Scientific Jury: Assoc. Prof. PhD Eng. Pencho Angelov Stoychev form Technical University of Gabrovo,

According to TU-Varna Rector’s order no. 217 / April 8.2021

1. General characteristics of the applicant’s scientific and implementation activities of the candidate

For participate in the competition Assist. Prof. PhD Eng. Sonya Kancheva Vachinska-Aleksandrova presented a list of titles with 22 works: 16 scientific publications; one monograph named “Healthy and safety workplaces” (B.3.1) and 5 universities textbooks. They are structured in five 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); health and safety preventions (3 scientific publications - Г.8.4, Г.8.6, Г.8.7); innovation education (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 scientific publications are at English language (Г.7.1, Г.8.3, Г.8.8, Г.8.9), two are from participation conferences abroad (Г.8.3, Г.8.8), one is from conference indexed in Scopus database (Г.7.1), the others are from participations in international scientific congresses and conferences in Bulgaria. The most scientific publications (13 pcs.) are author’s, 4 pcs. are co-authored where PhD Vachinska being the first author in 3 publications and the second author in one scientific publication.

The candidate is cited 20 times total as follows: 7 times in scientific publications in referenced and indexed in Scopus conference proceedings (Д.12.1, Д.12.2, Д.12.3, Д.12.4, Д.12.5, Д.12.6, Д.12.7); 11 times in collective volumes with scientific review in Bulgaria (Д.13.1, Д.13.2, Д.13.3, Д.13.4, Д.13.5, Д.13.6, Д.13.7) and 2 times in non-refereed edition (Д.14.1).

The present publications covered the necessary requirements of the professional field 5.13. General Engineering, scientific specialty „Occupational safety and fire-fighting equipment”.

According to publication activities and their citations from other authors goes logical inference of her knowledge in the scientific community.

The compliance with the points of candidate in the indicators group and the minimal requirements for holding academic position “Associate professor” in field “Technical Science” (art. 2b of the LDASRB) is presented in the table below:

Indicators group	Indicators group	Minimal points for AP „Associate Professor “	Candidate’s points
A	Indicator A1	50	50
B	Indicator B3	100	100
Г	Total Indicator from 5 till 11	200	300
Д	Total Indicator from 12 till 15	50	107
Ж	Indicator 29	30	216

My conclusion is that the achieved 773 points Senior Assist. PhD Eng. Sonya Kancheva Vachinska-Aleksandrova with the presented monograph, scientific publications and citations fully covers the minimum national requirements for holding academic position of “Associate Professor” for the field of “Technical Science” in academic education (art. 2b of the LDASRB) as well as the minimum requirements of TU-Varna for the position in the professional field - 5.13. General engineering

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

Assist. Prof. PhD Eng. Sonya Kancheva Vachinska-Aleksandrova has acquired the qualification “Teacher”. The first five year beginning pedagogical experience she has been in Vocational High School in Sofia then she is educator more than 12 years in Technical university of Varna. She teaches the subject Applied Geometry and Engineering Graphics, Electrical Engineering documentation, Ergonomic and Design Assessment. She conducts lecture courses and exercises in

English in Engineer graphics, Technical drawing, Technical documentation.

She has completed three Erasmus mobility for teaching and learning at the Technical Universities of Koszalin (Poland) in 2015, in Ostrava (Czech Republic) in 2018 and in Lisbon (Portugal) in 2019.

3. Main scientific and applied scientific contributions

After deep analyzing of the materials submitted for participation in the competition, I classify as scientific the following contributions of the candidate:

- There are taken out typical tasks for assessment and examination the health risks associated with workplaces (B.3.1, Г.7.1, Г.8.6);
- An argumentative model for evaluation of harmful and/or dangerous working postures and movements has been proposed (B.3.1, Г.8.5, Г.8.7);
- A deep analysis of the musculoskeletal disorder risks developing in work has been made (B.3.1, Г.7.1, Г.8.5);
- Substantiated recommendations for health prevention and risk factors reduction in the work environment have been made (Г.8.4, Г.8.10);
- There are given characteristic features of different work environments and a generalizing model for examining the health risks is derived (Г.8.1, Г.8.2, B.3.1);
- Based on the studied initial data, there are presented own graphs, figures and models of the multidisciplinary influences of the working environment on the psychophysiology of the person, referring to his or her health (B.3.1, Г.7.1, Г.8.3, Г.8.6, Г.8.12).

I would emphasize the scientific and applied contributions of the candidate in the following areas:

- Practically applicable models for examination and analysis of the effects of the environment on health have been developed (B.3.1) and innovative training techniques have been applied (Г.8.8, Г.8.9);
- On the basis of a priori research, questionnaires have been prepared and applied in order to accumulate data on various impacts (Г.8.6, Г.8.7, Г.8.8, Г.7.1);
- An adapted algorithm for application in different work environments (computerized workplace and jobs in the garment industry) for testing the effects on people has been proposed (Г.8.2, B.3.1).

4. Significance of contribution to science and practice

Numerous analyzes of specific factors have been made in the candidate's articles and a number of measures for localization and risk management have been proposed with substantiated recommendations for possible managerial, organizational, placement and other measures leading to reduction of harmful postures to avoid the occurrence of musculoskeletal pain and reduce stress during work.

5. Critical remarks and recommendations

Based on the analysis of the works submitted to me for review, I make a recommendation to Assist. Prof. PhD. Eng. Sonya Kancheva Vachinska-Alexandrova to deepen its work with graduates, PhD students and young scientists in order to create a team with the capacity to obtain even more significant results.

CONCLUSION

Based on my extensive acquaintance with the scientific papers presented by the candidate Assist. Prof. PhD. Eng. Sonya Kancheva Vachinska-Alexandrova the contributions contained in them, as well as on the basis of all other presented achievements in the educational activity and the comparison made with the LDASRB I believe that she is an established scientist and researcher who fully meets the requirements for the competitive academic position of "Associate Professor".

I give a positive assessment of the candidate and I propose Assist. Prof. PhD. Eng. Sonya Kancheva Vachinska-Alexandrova to obtain the academic position "Associate Professor" at the Department "TMMM" on the MTF in the field of academic education: 5. Technical sciences, professional field – 5.13. General Engineering, specialty „Occupational safety and fire-fighting equipment”.

May 15.2021
TU-Gabrovo

Member of the Scientific Jury:
Assoc. Prof. PhD Eng. Pencho Angelov Stoychev