

REVIEW

of a dissertation
for the award of the educational and scientific degree “**Doctor**” (PhD),
Doctoral Program “**Ergonomics and Industrial Design**”,
Professional Field **5.13 “General Engineering”**,

Author of the dissertation: **eng. Galina Doncheva Stefanova**
Dissertation title: “**CONTEMPORARY ERGONOMIC AND DESIGN
ASPECTS IN THE PROJECTION OF SPECIAL-PURPOSE CLOTHING**”

Reviewer: **assoc. prof. Yordan Doychinov, PhD**
“Angel Kanchev” University of Ruse

This review has been prepared in accordance with the requirements for candidates determined in the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the Admission, Training of Doctoral Students and the Award of the Educational and Scientific Degree “Doctor” and the Scientific Degree “Doctor of Sciences” at the Technical University of Varna.

1. Relevance of the Problem

The topic of the dissertation is relevant and suitable for doctoral research. Eng. Galina Stefanova has accurately identified the “dichotomy in the requirements for workwear” as a result of the “opposition between the priorities of workers and those of employers,” as well as the evident “lack of comprehensive studies on work uniforms in the public catering sector.”

All these observations by the doctoral candidate form a solid foundation for conducting serious scientific research that enriches the existing theoretical base.

2. Knowledge of the State of the Problem

Eng. Galina Stefanova demonstrates in-depth knowledge both in the field of ergonomics and in the methodology and technology of designing and manufacturing special-purpose clothing. This enables her to successfully address the complex nature of the research.

The objectives and tasks of the scientific study are clearly formulated, and throughout the development of the dissertation, they are methodically pursued.

The research and analytical review of the history and current state of special-purpose clothing are sufficiently detailed.

The list of references includes a total of 125 sources, 79 of which are internet-based. Considering the specificity of the research problem and the limited number of existing literary sources in this field, I believe that the conducted review is sufficient for the purposes of the doctoral dissertation. Nevertheless, the absence of titles in English raises some questions.

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3. Research Methodology

The following main methods have been applied in the dissertation: comparative analysis of existing market samples; survey research among end users; expert evaluation by specialists in the field of ergonomics.

4. Brief Analytical Characteristics of the Nature and Assessment of the Reliability of the Material on Which the Contributions of the Dissertation Are Based

The dissertation submitted for review consists of an introduction, three main chapters, a conclusion, contributions of the dissertation, references, a list of scientific publications, and applications.

The introduction is sufficiently detailed. It reveals the relevance of the topic and defines the scope, object, and subject of the research. The aim of the study is clearly formulated, as well as the five specific tasks derived from it. The described research methods are well chosen and correspond to the objectives of the dissertation.

The first chapter presents a historical overview of the emergence and development of special-purpose workwear. Special attention is paid to the emergence and development of workwear in the Republic of Bulgaria. Contemporary requirements for the work uniforms of specialists in the field of public catering and food processing are described in detail.

The second chapter is devoted to the theoretical foundations of the ergonomic design process of work uniforms in the food industry. The system "Human – work clothing – work environment" is theoretically modeled and structured, including from an ergonomic perspective. The criteria for optimality of the ergonomic system "Human – work clothing – work environment" and the possibility for ergonomic evaluation are examined.

The third chapter proposes a methodology for ergonomic design of special-purpose clothing, including workplace risk assessment, methods for evaluating the ergonomic level of work uniforms, and the design and ergonomic shaping of workwear.

The experimental application of the developed methodology in a real work environment, carried out in two separate stages during the calendar year 2023 (March–April and August), makes an excellent impression.

The applications include: working sketches and technical descriptions of the designed workwear; a survey on the suitability of workwear for specialists in food production and processing; an evaluation form for workwear and a methodology for ergonomic design of contemporary work uniforms.

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5. Main Contributions

The doctoral candidate has formulated two groups of contributions – scientific-applied and applied.

Scientific-applied contributions:

1. A systematic study and critical analysis of the historical development and current state of the design of specialized workwear in the food industry has been conducted, with a focus on their functional, ergonomic, and aesthetic characteristics.
2. The conceptual principles and methodological approaches in the ergonomic design of professional workwear intended for specialists in the food industry have been theoretically substantiated.
3. An innovative methodology for ergonomic design of work uniforms for specialists in the food industry has been developed, guiding the entire design process of product creation—from the conceptual phase to its final realization—ensuring enhanced ergonomic and overall comfort for the end user.

Applied contributions:

1. Through the systemic approach fundamental to ergonomics, a complex evaluation of the ergonomic parameters of the created workwear prototypes during their use in real working conditions has been carried out.
2. The effectiveness of the developed methodology has been experimentally proven through its application by the author in designing ergonomic and visually well-composed workwear for employees in food industry enterprises.

I accept all contributions as formulated by the author. I consider them sufficient in number, original, and contributing to the development of existing theory and practice.

Special attention deserves the developed methodology for ergonomic design of work uniforms for specialists in the food industry, which gives significant scientific weight to the study.

6. Author's Personal Contribution

Eng. Galina Stefanova has excellently accomplished the set aim and the defined specific tasks of the scientific research.

A careful review of the documentation related to the procedure gives me confidence that the entire dissertation and the formulated contributions are original. Supporting this is the fact that the scientific publications trace the chronology of the development of the research.

A declaration of originality by the author of the dissertation is also attached to the submitted materials.

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7. Publications Related to the Dissertation Topic

The doctoral candidate has presented a total of 4 publications directly related to the dissertation topic, 2 of which are single-authored and 2 co-authored.

All publications have been presented at scientific forums in Bulgaria, two of which were at the International Scientific Conference "Contemporary Technologies in Cultural-Historical Heritage."

According to this criterion, the required minimum number of points under the scientometric requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria for the award of the PhD degree has been met.

8. Application of the Results in Practice

The topic of the research is practically oriented, which gives particular weight to the dissertation. The developed methodology for ergonomic design of workwear significantly accelerates and optimizes the process of their creation—from the initial idea to the finished product. Within the dissertation, it has been established that the created prototypes meet all ergonomic requirements and provide an optimal combination of comfort, functionality, and protection, which justifies a comprehensive evaluation to validate the effectiveness of the proposed methodology.

It is commendable that Eng. Galina Stefanova has succeeded in overcoming the prevailing misconception regarding the sufficiency of existing practical solutions. This has provided her with an original authorial perspective on the researched topic.

9. Motivated recommendations for the future use of the scientific and scientific-applied contributions: what and where should be implemented.

The topic developed in the dissertation covers a very narrow and specific segment of the vast industry related to the production of special-purpose clothing. From this perspective, the obtained results and formulated contributions can be applied primarily in companies whose production portfolios include the design and manufacture of work uniforms for specialists in the field of public catering and food processing.

9. Critical Remarks and Recommendations Regarding the Abstract

I have no critical remarks or recommendations regarding the abstract. It possesses the necessary content, structure, and volume for this type of material.

10. Critical Remarks and Recommendations Regarding the Dissertation

In my capacity as a reviewer for the preliminary defense, I had made several critical remarks and recommendations, which the author has fully taken into account in preparing the final version of the dissertation.

For this reason, I have no significant remarks or recommendations regarding the dissertation.

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11. Conclusion

Through her work, doctoral candidate eng. Galina Stefanova demonstrates that she is capable of conducting scientific research, analyzing results, and formulating appropriate scientific and scientific-applied contributions.

I believe that the dissertation submitted for review meets the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the Admission, Training of Doctoral Students and the Award of the Educational and Scientific Degree "Doctor" and the Scientific Degree "Doctor of Sciences" at the Technical University of Varna, and I give it an overall positive evaluation.

Considering all the merits of the research, I believe that Eng. Galina Stefanova is fully prepared and may proceed to the defense procedure for the educational and scientific degree "Doctor" in the doctoral program "Ergonomics and Industrial Design."

08.02.2026

Reviewer:

/ assoc. prof. Y. Doychinov, PhD /

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