

STATEMENT

from assoc. Prof. Dr. Gotcho Slavov, "Todor Kableshev University of Transport"

of: dissertation for gaining "PhD" title in science in discipline 5.

"Technical sciences"; division 5.2. "Electronic, Electrical engineering and Automation", PhD program; 02.21.07. "Automated systems for information processing and management"

Topic: "Methods and means for observing the energy efficiency of buildings and constructions"

Author: Veneta Hristova Yosifova

Basis: ord. № 187/31.10.2018 г. Of IICT director for Science jury members

The dissertation has 132 pages and includes four chapters, conclusion, scientific results commercialization plan, references, originality declaration and list of author's publications.

The goal of the dissertation is to observe the building's and facilities energy efficiency and new methods and means for its increasing to be suggested

In pursuance of this goal the following task will be achieved:

1. Overview, analysis and systematization of the main factors concerned buildings energy efficiency;
2. Studying building's effect over climate changes;
3. Studying the current problems in buildings energy efficiency;
4. Proposing plan for energy efficiency increasing of typified office area in standard office building;
5. Conducting experiments for testing and comparing modern heating methods and also discovering hidden defects in applied energy efficient solutions; Analyzing the experimental results.

The marked goal and the formulated tasks resemble the actuality of the dissertation work. The results for evaluating building's and facilities energy efficiency allows their application in variety of construction works.

Over the dissertation 6 publications are made — 1 over international conference abroad (Rome), published in an International magazine, 1 at a International conference in Bulgaria, 2 in local journals in English, 2 at local International conferences. 4 of the publications are independent.

There is no data for quotations or protection of intellectual property.

The dissertation is structured in 5 chapters as follows:

Overview, analysis and systematization of the main factors concerned buildings energy efficiency have been made. Current methods and means for increasing energy efficiency are presented. Innovative approaches for increasing the energy efficiency for existing buildings and facilities are proposed. Experimental results are presented. A plan for scientific results commercialization has been discussed;

I accept PhD student's formulation of contributions as follows:

1. The problems in building's energy efficiency and and the state of modern scientific researches on this topic are analysed for determining the main factors that affect the energy efficiency.
 2. The influence over the climate changes and the energy consumption is observed.
 3. The current methods and means for increasing building's energy efficiency are studied.
 4. A model for increasing the energy efficiency of a typified office space in a typical office building is presented.
 4. A real experiments for comparing the work of modern heating appliances are made. The results are described and analysed in addition to reduce the heat loss and energy consumption.
- A real experiments for determining construction defects in solutions for energy efficiency. The results are described and analysed in addition to increase the energy efficiency.

The contributions has scientifically-applied and application character. The described scientifically-applied and application contributions can be asquired to the following groups: **proving with new means of significant new sides of already existing scientific fields, problems, theories, hypotheses; creation of new classifications, methods, constructions, technologies and obtaining confirmatory facts, constructions and methods and enrichment of the existing knowledge with practical application.**

The autoreferate has 43 pages. He resembles the core and the consistence of the dissertation work, including dissertation's goal and the tasks, the means of their achieving and the experimental results.

The PhD student personally does the dissertation and the contributions. The PhD student has done a great research work and made a deep entrance in this actual topic.

The dissertation is characterized by thoroughness, precision, aspiration to explore the problem posed from different points of view and to find a workable practical solution. The area studied is up-to-date with prospects for further development.

I have remarks and recommendations for the PhD student mainly related to the technical elaboration of the dissertation, the design of the bibliographical reference, etc.

As a recommendation for future work, it would be good to target more publications in prestigious international magazines, as well as intellectual property protection.

Conclusion

The requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria (ЗПАКРБ) and the standards of its application (ППЗ) are fulfilled. I give my positive evaluation and recommend to the honorable Scientific Jury to award the educational and scientific degree "doctor" to **Veneta Hristova Hristova — Yosifova** for discipline **5. "Technical sciences"**, division **5.2. "Electronic, Electrical engineering and Automation"**, PhD program **02.21.07. "Automated systems for information processing and management**

16.11.2018

Sofia

