



REVIEW

by **Prof. PhD Atanas Dimitrov Shterev, M.D.**
University "Prof. Dr. Assen Zlatarov", Burgas
Professional field 3.7. Business administration,
Scientific field "Organization and management of non-material production"
An internal member of the Scientific Jury for a competition

**With a participant assoc. prof. engineer - economist Stoyanka Petkova
Petkova-Georgieva**

According: Competition for the academic position "professor" in the high education area 7. Public health care and sport, professional field 7.4. Public health, scientific field "Organization and management of non-material production (health management)"

The present review is prepared in consideration with the documents deposited for the discussed competition, issued by the Government Newspaper in number 93 from 26 November 2019 for the needs of University "Prof. Dr. Assen Zlatarov", Burgas, reported by Prof. PhD Hristo Bozov, D.M. – the Dean of FPHHC and Decree №4020/10.12.2019 of the FPHHC faculty council. The Scientific Jury members are authorized in Decree №РД – 310/12.12.2019 by The Rector of University "Prof. Dr. Assen Zlatarov", Burgas – Prof. PhD M. Mitkova.

The present review is in full accordance with the requirements of the Act of the Development of the Academic Personnel in The Republic of Bulgaria (ADAPRB) and its rules for the Implementation (RIADAPRB) and with the internal rules for awarding of the scientific degrees and academic positions at University "Prof. Dr. Assen Zlatarov", Burgas.

The accepted candidate for estimation is **assoc. prof. engineer - economist Stoyanka Petkova Petkova-Georgieva**

1. Applicant's fulfilment of the conditions for occupation of the academic position "Professor" in accordance with ADAPRB and RIADAPRB and minimum national requirements, and also in accordance with The Rules of the University "Prof. Dr. Assen Zlatarov", Burgas for the implementation of the Act and the minimum required quality results.

The applicant qualifies for the academic position of "Professor" in accordance with Art. 29 by the ADAPRB and the minimum required quality results

for the academic position “Professor” declared in the Rules for the Implementation of the Act of the Development of the Academic Personnel of the Republic of Bulgaria (RIADAPRB) for the high education area 7. Public health care and sport, professional field 7.4. Public health. The candidate fulfills all the conditions for the academic position “professor” in accordance of act 73 by the The Rules of the University “Prof. Dr. Assen Zlatarov”, Burgas for the implementation of the Act and the minimum required quality results (table 1).

Table 1. Minimal required quality results for the academic position “professor” in high education area 7. Public health care and sport, professional field 7.4. Public health according to ADAPRB, RIADAPRB and The Rules of the University “Prof. Dr. Assen Zlatarov”, Burgas for the implementation of the Act and the minimum required quality results.

Indicators groups	“professor” by the ADAPRB and the RIADAPRB	“professor” by the the Rules of the University “Prof. Dr. Assen Zlatarov”, Burgas	assoc. prof. engineer - economist Stoyanka Petkova Petkova- Georgieva
A	50	50	50
Б	-	-	-
B	100	100	100
Г	200	250	1256,67
Д	100	150	725
E	100	120	258,33
Total:	550	670 (E 14 = 60)	2390 (E 14 = 60)

Summary description of the presented for the competition reviewing scientific materials

For the present competition participation there are entered for reviewing 43 publications in total 25 of which are published abroad) as followed:

№	Publication type	Self-author	With co-author	Total
		Total number	Total number	Total number
1.	Monography	1	-	1
2.	Collective monography	-	1	1
3.	Short research books	-	-	-
4.	Publications	8	17	25
5.	Scientific papers	7	5	12
6.	Text books	2	2	4

7.	Publication total number	18	25	43
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All of the represented by the candidate publications are not the same as the candidate had entered in the past competitions for the scientific degree “PhD” and the academic position “associate professor”.

3. Short CV information of the candidate

Stoyanka Petkova Petkova-Georgieva was born on 19.05.1975 in the city of Burgas. In 1994 she graduates English Language School “Geo Milev” – Burgas. In 1999 she graduates MBA (industrial management), engineer-economist at University “Prof. Dr. Assen Zlatarov”, Burgas. In 2000 she graduates at the same University as engineer-chemist, master of technology of petroleum.

In 2006 she is awarded with the educational and scientific degree “PhD” in the professional field 3.7. Business administration, cipher 05.02.21 “Organization and management of the production (by industrial areas)”.

4. Characteristic and estimation of the academic-pedagogic activity of the candidate

Since 2000 Stoyanka Petkova-Georgieva works on a basic employment contract at University “Prof. Dr. Assen Zlatarov”, Burgas. Her occupational (working) experience as a university lecturer is presented in the following order:

- From 24.02.2000 to 12.02.2002 as an assistant;
- From 13.02.2002 to 17.10.2006 as senior assistant;
- From 18.10.2006 to 16.06.2010 as chief assistant;
- Since 17.06.2010 and still as associate professor.

5. Description of the candidate’s areas of research and her publications

5.1. Basic summary of the presented scientific publications

For the competition participation is presented one “habilitation” scientific work – a monography by indicator B.1 and one published monography, which is not as a main “habilitation” scientific work by the indicator Γ .5.1. All the research publications are 37, 19 of which are by the indicator group Γ 7 (publications in Scopus and WOS) and 18 of them are by the indicator group Γ 8. 16 of the publications from indicator group Γ 7 and 4 of the publications (indicator group Γ 8) are with second co-author. From the indicator group Γ 9 are presented four books in which are published chapters from collective monographies. Also, for the competition are entered four textbooks (from indicators ‘group E 20).

The entered scientific publications by assoc. prof. PhD engineer-economist Stoyanka Petkova Petkova-Georgieva for the competition are in the area and according with the meaning of the present competition – “Public health care and

sport”, professional area 7.4. “Public health”, scientific specialty “Organization and management of nonmaterial production (health management)”.

The monographies, the published chapters of co-authored monographies and the text books are reviewed by professors and are published with ISBN codes.

The candidate’s scientific reports, articles and publications are issued in journals with scientific reviewing or are published in edited collective volumes.

The publications are in specialized scientific journals and some of them are in prestigious scientific forums.

The applicant's style is academic, thorough, understandable and accessible.

5.2. Main scientific fields (directions) of the publishing activity

The applicant has submitted her work in a different format, thematically profiled in three scientific areas:

I. Health risk prevention from occurrence of socially significant diseases, as a result of:

- not following of the standards for healthy and ergonomic labor (working) conditions (B.1.; Г.8.6.; Г.8.8.; Г.8.10.; Г.8.12.; Г.8.15.; Г.8.18. E.20.3.);
- toxic effects of pesticides, petroleum and petroleum products (Г.7.1.; Г.7.4.; Г.7.5.; Г.7.6.; Г.7.7.; Г.7.12; Г.7.13.; Г.7.14.; Г.7.15.; Г.7.16.; Г.8.11; E.20.2.);
- toxic effects of chemical substances with nanoparticles (Г.9.2.; Г.7.2.; Г.7.3. and part of E.20.2.).

II. Mathematical modelling of the thermal processes in the laser beam propagation in biological tissues by using of: (Г.5.1.)

- the role proving of irradiation (energy on unit of area) depending on the change of optical parameters of tissues and the extent of their thermal impact;
- the role of the wavelength, the exposure time and the size of the primary heat source and the significance of the impulse sequence for the regulation of the exposure time of the treated tissue;
- the importance of the temperature, exposure time and the following changes in different biological tissues and the possibility to control these processes by changing those two parameters;
- possibility to determine the volume of the treated tissue and monitoring the treating process in real time.

III. Solving of organizational-management problems in the field of the public health care (at micro- and macro- level) by:

- application of methodology with mathematical models for the impact of the interdependencies on the level of decentralization for the decision making at micro- (a business health organization) and at macro- (The

Government) level in the field of the public health care system and the development of a proper Balanced Score Card system of key indicators (Γ.7.8.; Γ.7.10.; Γ.7.11.; Γ.7.17; Γ.7.18; Γ.8.1.; Γ.8.3.; Γ.8.5.; Γ.8.9.; Γ.8.14.; E.20.1.);

- validation of calculation procedures, by which the practical application can be described for the theory of fuzzy sets while several of indicators have to be aggregated for the need of the controlling system in order strategic decisions to be solved at a business organization with occupation in the field of public health care (Γ.7.9.; Γ.7.19.; Γ.8.4.; Γ.8.13.);
- proposing strategic decision solutions for health tourism development in order to increase the quality level of the contemporary medical-healing and medical treatment services in the field of public health (Γ.9.1.; Γ.8.2.; Γ.8.7.; Γ.8.16.; Γ.8.17; Γ.9.3.; Γ.9.4.; E.20.4.).

The number of the publications is in accordance with the required conditions for publication activity. The publications present significant results. The texts justify the assumption that the candidate has developed skills for self-common scientific interpretation, the same as a member of scientific -research teams.

The scientific publications are distinguished by their good style and clarity of presentation, as they are a summary of results on current and significant issues in the field of the competition for the academic position “professor”.

This justifies my assessment that the scientific publications meet the necessary requirements.

5.3. Assessment of the science and science – practical achievements

I accept the described by the competition participant science and science-practical achievements because they naturally develop and make the existing knowledge more significant with new investigational results.

The candidate’s science achievements are in seven thematical groups:
Basic science achievements:

A. ORGANIZATION AND MANagements OF HEALTHY AND ERGONOMIS LABOR (WORKING) CONDITIONS

With this thematical field are in common the following scientific-research publications: B.1.; Γ.8.6.; Γ.8.8.; Γ.8.10.; Γ.8.12.; Γ.8.15.; Γ.8.18. E.20.3.

B. HEALTH RISK FROM THE TOXIC EFFECTS OF PESTICIDES, PETROLEUM AND PETROLEUM PRODUCTS

With this thematically field are in common the following scientific-research publications: Г.7.1.; Г.7.4.; Г.7.5.; Г.7.6.; Г.7.7.; Г.7.12; Г.7.13.; Г.7.14.; Г.7.15.; Г.7.16.; Г.8.11; E.20.2.

C. HEALTH RISK FROM TOXIC EFFECTS OF CHEMICAL SUBSTANCES WITH NANOPARTICLES.

With this thematically field are in common the following scientific-research publications: Г.9.2.; Г.7.2.; Г.7.3. and part of E.20.2 (pp. 114-140).

D. MATHEMATICAL MODELLING OF THE THERMAL PROCESSES IN THE LASER BEAM PENETRATION IN BIOLOGICAL TISSUES.

With this thematically field is in common one basic scientific-research publication: Г.5.1.: The scientific research investigation about the spread of laser radiation while penetration through biological tissues – a monography.

E. DEVELOPMENT OF A METHODOLOGY WITH MATHEMATICAL MODELS FOR THE IMPACT OF THE INTERDEPENDENCIES ON THE LEVEL OF DECENTRALIZATION FOR THE DECISION-MAKING AT MICRO- (A BUSINESS HEALTH ORGANIZATION) AND AT MACRO- (THE GOVERNMENT) LEVEL IN THE FIELD OF THE PUBLIC HEALTH CARE SYSTEM AND THE DEVELOPMENT OF A PROPER BALANCED SCORE CARD SYSTEM OF KEY INDICATORS.

With this thematically field are in common the following scientific-research publications: Г.7.8.; Г.7.10.; Г.7.11.; Г.7.17; Г.7.18; Г.8.1.; Г.8.3.; Г.8.5.; Г.8.9.; Г.8.14.; E.20.1.

Science-practical achievements:

- a research based on a conducted survey and statistical analysis of the obtained experimental results there is investigated a model with which the level of decentralization for the decision making can be described between the balanced Score Structure of the key indicators' system. The research study is approved by the obtained results from a processed information. The necessary data for the test of the model was obtained from a survey of 78 health managers from 18 divisions of the Bulgarian facilities and hospitals (health mangers at different levels of business administration with skills and duties in the area of the public health management);
- as a result from a conducted research among health business organizations with occupation in the area of the Bulgarian public health care there are

summarized all the basic conditions and fields by which most effectively can be estimating the activities and as a result they will be much easily managed and guided in the direction of achieving of positive and better financial results.

F. THE THEORY OF FUZZY SETS PRACTICAL APPLICATION FOR CALCULATION PROCEDURES FOR THE AGGREGATION OF SEVERAL OF INDICATORS IN ORDER STRATEGIC DECISIONS TO BE SOLVED FOR THE NEED OF THE CONTROLLING SYSTEM AT A BUSINESS ORGANIZATION WITH OCCUPATION IN THE FIELD OF PUBLIC HEALTH CARE.

With this thematically field are in common the following scientific-research publications: Г.7.9.; Г.7.19.; Г.8.4.; Г.8.13.

G. STRATEGIC DECISIONS FOR HEALTH TOURISM DEVELOPMENT IN ORDER TO INCREASE THE QUALITY LEVEL OF THE CONTEMPORARY MEDICAL-HEALING AND MEDICAL TREATMENT SERVICES IN THE FIELD OF PUBLIC HEALTH

With this thematically field are in common the following scientific-research publications: Г.9.1.; Г.8.2.; Г.8.7.; Г.8.16.; Г.8.17; Г.9.3.; Г.9.4.; E.20.4.

The full review of the submitted scientific papers proves the existence of a clearly defined scientific topic, in which the candidate is a proven lead researcher. This is an evidence for the whole fulfillment of the necessary requirements by act 73 and act 75 from the internal rules for awarding of the scientific degrees and academic positions at University "Prof. Dr. Assen Zlatarov", Burgas. The main point I want to make is that assoc. prof. PhD Stoyanka Petkova-Georgieva is over fulfils even much more the required criteria for the Minimum National Requirements for the academic position "Professor", that are settled and required for indicators А, Б, В, Г, Д и Е. Really very impressive is the achieved positive difference according to the minimum required scientific metric results for indicators Г, Д and Е: for indicator Г are necessary minimum 250 points but the real points that assoc. prof. Stoyanka Petkova achieves are 1256 points; also instead of the necessary minimum 150 points for indicator Д, she shows evidences for achieving real 725 points; and for indicator Е are required minimum 120 points and she has evidences (materials, documents, text books, etc.) for achieving real 258 points.

EDUCATIONAL and EXPERT EXPERIENCE and ACTIVITY

The participant for the present competition is fulfilling the requirements and standards for educational activity and as a lecturer experience. Under the candidate science consulting and guidance has graduated two "PhD" scientist. She has participated in the development of educational programs and also has been a lecturer in many disciplines such as "Micro and macro economy", "Economic of public health", "Financial issues of public health care", "Public health care business organizations management", "Financial issues of accounting and control", "Effectiveness and competition of health business organizations", "Prices and reimbursement in public health care", "Social health insurance systems", "Controlling process at health organizations", "Labor payment and working time optimization of public health business organizations", "Economy, management and financing of health organization", etc. She is self-author and co-author of four text books that are with practical use for University "Prof. Dr. Assen Zlatarov", Burgas.

As a proven scientist she has been managing one and participating in two international science or educational projects and also has been a co-member in one national science or educational project.

I know personally assoc. prof. Stoyanka Petkova-Georgieva and I can say that together with her indisputable skills as a scientist she has organizational and leadership skills and is actively involved into the "life" of University "Prof. Dr. Assen Zlatarov", Burgas and the scientific community.

Critical notes

My critical notes, concerning some terminological imperfections and several misspellings and also the using of a little verbosity in the explanation of the scientific meanings, are not at all important and so strong to influence on my opinion of positive estimation for the scientific work of the participant for the present competition.

Conclusion

After I have read all the competition documents and materials. I can admit that assoc. prof. Stoyanka Petkova-Georgieva is an established scientist and researcher, whose results are published in world famous scientific journals and books. She has a proven level in the scientific-researchable expert activity and has the necessary professional skills for the academic position "professor". The impressive scientific-researchable publication production, the innovative topics of the developed projects' tasks and the high citation index of the published results

prove that the present competition participant is an outstanding specialist in the field of health management with significant scientific and applied contributions and achievements. Based on all of the above written I accept that assoc. prof. engineer - economist Stoyanka Petkova Petkova-Georgieva is fulfilling all the requirements and is exceeding all the criteria for "professor", required in the Act of the Development of the Academic Personnel in The Republic of Bulgaria (ADAPRB) and the current, by the date of the competition regulations. In conclusion, I give my high appreciation of the scientific-research and expertise activity of assoc. prof. engineer - economist Stoyanka Petkova Petkova-Georgieva. I admit that her many years of dedicated work, her huge experience and organizational-management skills contribute to the development and the elevation of the prestige of the University "Prof. Dr. Assen Zlatarov", Burgas and the improvement success of the department, that she is a head manager, as a significant at national level in the field of the health management. I confidently suggest to the honorable Scientific Jury and the Faculty Council at the University "Prof. Dr. Assen Zlatarov", Burgas to vote for and to elect assoc. prof. engineer - economist Stoyanka Petkova Petkova-Georgieva for the academic position "Professor" in the professional field 7.4. Public health care.

Burgas

23 February 2020

Reviewer: ...

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