

## REVIEW

НАЦИОНАЛЕН ЦЕНТЪР ПО ОБЩЕСТВЕНО ЗДРАВЕ И АНАЛИЗИ	
Изм. №:	20
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From Prof. Tzveta Georgieva, PhD

National Center for Public Health and Analysis, Sofia

Member of the scientific jury according

to order RD-163 / 15.04.2021 of the Director of NCPHA, Sofia

**Subject:** Competition for the academic position of "Associate Professor" in the field of higher education 7. "Health and Sports" in professional field 7.1. "Medicine" for the scientific specialty "Hygiene" (including labor, communal, school, radiation, etc.) for the needs of the Department "Microbiological Factors" at the Directorate "Analytical and Laboratory Activities", NCPHA Sofia (SG No. 14 of 19.02 .2021)

The only candidate in the competition is Ch. assistant Vessela Ivanova Georgieva, PhD

This review has been prepared on the basis of the submitted documents, in accordance with the required Regulations of NCPHA Sofia, the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations thereto. The documentation meets the requirements.

### **Brief biographical data**

Chief Assistant Vessela Georgieva, PhD is a Head of the Microbiological Factors Department at the Analytical and Laboratory Activities Directorate, NCPHA. Her entire scientific and professional career took place at the National Center for Public Health. Immediately after graduating with a Master's degree in Biology, specialty "Hydrobiology and Water Protection" at the Faculty of Biology, Sofia University "St. Kliment Ohridski ", in 1992, started working as a biologist at the National Center for Hygiene, Medical Ecology and Nutrition (now NCPHA). In 2014, he acquired the educational and scientific degree "Doctor" in the scientific specialty "HYGIENE" in the field of higher education 7. "Health and Sports" in the professional field 7.1. "Medicine", with a defense dissertation on "Biological contaminants in the hygienic assessment of bottled water." Since 2014, he has been annually leading and participating in training courses from the "Program of courses for continuing specialization of medical and non-medical specialists" of NCPHA. The topics of the trainings are related to the microbiological research and the interpretation of the results in water, cosmetics,



swimming pools; changes in the regulatory framework and methods; validation / verification of the microbiological methods applied in practice. They are visited with great interest by specialists from RHI and plumbing companies, as well as from other private laboratories. He is a lecturer in the basic course "Microbiology", module "Sanitary Microbiology - for the acquisition of the medical specialty" Microbiology "at NCIPD.

## **Evaluation of the submitted materials**

### **Quantitative indicators**

Chief Assistant Vessela Georgieva participated in the current competition with a total of 37 publications, three of which with impact factor, in 17 of them Vessela Georgieva was the first author, of which 8 - independent author, three were published in foreign journals with impact factor; 12 are published in publications that are referenced and indexed in world-famous databases of scientific information (Scopus and Web of science); 18 have been published in unrefereed journals with scientific review or in edited collective volumes. He has participated in 4 national and 3 international projects, two national programs and one program of Sofia Municipality.

The research and research - applied activity of the candidate is focused on a particularly important area of public health, namely the microbiological factors of our environment. It started in 1992, in the department "Microbiological factors of the environment". Sanitary microbiology is a branch of medical microbiology and studies bacteria in water, soil and air, in food, in cosmetics, in environmental objects that people use in their life and work. Conducting and interpreting microbiological analyzes in the field of sanitary microbiology requires high scientific and expert training and experience, which the candidate undoubtedly possesses, for which evidence is available in the documentation submitted at the competition.

The total number of points on indicators from A to E is 820 (Table № 1), with a minimum required number of points of 400, according to the NCPHA Regulations. The scientometric indicators of the candidate in the competition exceed twice the required number of points.



Таблицата №1 - Справка по Приложение 1 и 2. от Правилника на НЦОЗА с точки по критериите за доцент.

Група	Показател	Изисквания на Правилника на НЦОЗА	Постигнати от кандидата
Група А	Докторска дисертация	50	<b>50</b>
Група Б	Доктор на науките	-	-
Група В	Хабилитационен труд, под формата на научни публикации (не по-малко от 10) в издания, които са реферирани и индексирани в световноизвестни бази данни с научна информация;	100	<b>277</b>
Група Г	Публикации и доклади, публикувани в нереферирани списания с научно рецензиране или публикувани в редактирани колективни томове	200	<b>228</b>
Група Д	Цитирания или рецензии в научни издания, реферирани и индексирани в световно известни бази данни с научна информация или монографии и колективни томове. Цитирания в монографии и колективни томове с научно рецензиране Цитирания и/или рецензии в нереферирани списания с научно рецензиране	50	Общо <b>145</b>
Група Е	Участие в национален научен или образователен проект Участие в международен научен или образователен проект	-	4 x 15 = 60 3 x 20 = 60 Общо: <b>120</b>

The scientific-teaching and activity of the chief assistant Vessela Georgieva covers a wide range of trainings from postgraduate and continuing education of specialists in the healthcare system and basic courses of specialists from SDO specialty "Sanitary Microbiology" from 2014 to date.

The contributions of Ch. Assistant Professor Vessela Georgieva can be summarized in several areas:

*1. Microbiological characterization of surface water bodies, water supply settlements, tap water, drilling*

Surface water bodies, especially dams, which supply the settlements with drinking water are subject to constant monitoring in order to preserve their purity in terms of physico-chemical, microbiological and biological parameters. They have a special status and with strictly protected areas around water bodies. Over the years I have participated in the research of more than one dam for water supply - Iskar Dam, Dyakovo Dam, Asenovets Dam and others. In 1999-2000. A topic was developed regarding the condition of Bebreesh Dam, with a view to the water supply



of the town of Botevgrad. As a result of the performed chemical, microbiological and hydrobiological analyzes, a hygienic assessment of the condition of the dam and the three rivers feeding it was made. Microbiological study of bottled water

A large - scale study of Bulgarian bottled water was conducted at the NCPHA, which began in 2000, and within 14 years more than 3,000 water samples were tested - from the deposits themselves and bottled. Thanks to this study, a solid database has been accumulated and very important conclusions have been made about the qualities of Bulgarian bottled waters - in addition to their excellent taste, the sources and ways of secondary contamination of these products in the bottling process have been clarified; it has been established which are the most common deviations in microbiological indicators in bottled water. The findings were confirmed by similar studies published by other researchers around the world. Three monitoring schemes have been set up for bottling companies to improve quality.

## *2. Microbiological examination of cosmetic products*

Cosmetic products have direct access to the eyes, oral cavity, various sensitive mucous membranes, and some of them are intended for babies and young children, they must meet certain requirements both in terms of their chemical composition and in terms of their bacterial purity. In recent years, very relevant among consumers are cosmetic products containing natural ingredients. This type of cosmetics has characteristic specifics that must be in accordance with current regulations. This is the reason for the introduction of microbiological research methods in order to limit the health risk.

## *3. Microbiological examination of WWTP sediments; biowaste; soil improvers*

Sludges resulting from the treatment of wastewater in treatment plants (WWTPs), biowaste such as composts, eg various soil improvers - liquid fertilizers, fertilizer mixtures, etc., are subject to strict microbiological control to prevent turning them into sources of pathogenic bacteria and a risk to public health. The topic is being worked on a scientific project (2019 - 2021), funded by the NSF contract KP-06-N 36/11 of 13.12.2019, on "Socio-economic efficiency of the use of sludge from WWTP in agriculture." Vessela Georgieva is the leader of the team from NCFPHA, which is a partner scientific organization of the project.

## *4. Hydrobiological study of surface water bodies, water supply settlements and water bodies used for recreation and fishing*

A number of scientific studies have been carried out in order to objectively assess the condition of water bodies, including those for drinking purposes, and in particular to study the



development of toxic microalgae (cyanobacteria), which are classified as emerging risks as a result of climate change. for human health as well as for animals and the environment. Informative materials aimed at the public, the respective municipalities and institutions have been developed in order to communicate the risk. The research was also carried out within the framework of the National Program for Action on Environment and Health (NEAP): A program for research and monitoring of surface water for drinking purposes and bathing water with high potential for flowering of toxic microalgae has been developed. Improving the prepared profiles of bathing water.

*5. Hydrobiological study of bottled water and soft drinks*

In addition to microbiological problems, bottled water and soft drinks have shown that microscopic algae and various molds that come in contact with water or the environment (air, soil) can make finished products unfit for consumption. In the last ten years, data have been accumulated, thanks to the conducted microbiological and hydrobiological analyzes. The database thus created is interpreted and derived

*6. Developed microbiological method for analysis of antibiotics in the air at work*

The production of antibiotics is one of the most important branches of the pharmaceutical industry. Particular attention is paid to the antibiotic powder that is in the air of the working environment. And since it is present in the respiratory zone of workers performing various operations in the processes of drying, screening, granulation, coating, encapsulation, packaging, there are prerequisites for health risk in workers, exposure to antibiotics (for 9 of which there are limit values for working environment, according to the Bulgarian legislation). This requires constant monitoring of the work environment. The development and validation of a new method is a significant scientific and practical development, and I believe that it is a significant contribution to the protection of public health.

The candidate has a scientific interest in a number of specific problems, such as research on the presence of microorganisms of the genus *Legionella* in water samples from refrigeration plants in various industries. - an infectious disease with a potentially fatal outcome.

Chief Assistant Vessela Georgieva, PhD is a scientist with significant contributions in a number of areas of microbiology, as evidenced by scientific publications, developed new methods (which are still applied in accredited microbiological analyzes, laboratories) and procedures and participation in



a number of research projects. and programs. The provision of methodological and scientific support to specialists from microbiological laboratories is based on the high scientific potential and professionalism of Chief Assistant. Georgieva

In conclusion, based on the submitted documents, I consider that Chief Assistant Vessela Georgieva, PhD is a built scientist with significant scientific and professional contribution in the field of hygienic microbiology. The scientometric indicators of the candidate fully meet and exceed the requirements of PRAS of NCPHA, ZRASRB and the Regulations to it.

Based on the above, I strongly vote "in favor" and recommend to the esteemed scientific jury to award the scientific title of "Associate Professor" to Chief Assistant Vessela Geprgoeva, PhD, in the field of higher education 7. "Health and sports" in professional field 7.1. "Medicine." the scientific specialty "Hygiene" for the needs of the Department of Microbiological Factors, Directorate "Analytical and Laboratory Activities", NCPHA, Sofia.

Prepared by:

Prof. Tsveta Georgieva, PhD

Sofia, June 10, 2021

