STATEMENT

by Professor Gergana Boncheva Nenova, Ph.D, DSc

The Department of Kinesitherapy, Faculty of Public Health, Medical University "Prof. Dr. P. Stoyanov" - Varna

Regarding: Competition for the academic position "Professor" - announced in the State gazette, issue 7 of 23.01.2024, by specialty „Public Health Management", professional direction 7.4. Public health, area of higher education 7. Healthcare and sports, for the needs of the "Medical Laboratory Technician" Educational sector, Medical College - Varna, Medical University "prof. Dr. Paraskev Stoyanov" - Varna with candidate

Assoc. Prof. Emilia Petrova Georgieva, Ph.D.

By order of the Rector of the Medical University „prof. Dr. Paraskev Stoyanov" - Varna no R - 109-90/21.03.2024 and in accordance with the decision on Academic coucil under protocol No. 83/26.02.2024, I am included in the Scientific Jury, and with protocol No. 1/04.04.2024 from a meeting of the Scientific jury, I am appointed to prepare an opinion as an internal member in the procedure for acquiring the academic position "Professor" in the specialty "Public Health Management", professional direction 7.4. Public health, area of higher education 7. Healthcare and sports, for the needs of the "Medical Laboratory Technician" Educational Sector, Medical College - Varna, Medical University "prof. Dr. Paraskev Stoyanov" - Varna.

For participation in the competition on the basis of Article 4 (2) and (5) of the Regulations for the Development of the Academic staff at the University of Medicine - Varna, the Commission for the admission of candidates for participation in competitions for academic positions at the University of medicine - Varna, appointed by order No. P - 100-198/14.03.2024 admits a candidate – Assoc. Prof. Emilia Petrova Georgieva, Ph.D. For the competition assoc. prof. Emilia Georgieva, Ph.D. has submitted all the necessary documents in accordance with the requirements of the Law on the Development of the Academic staff and the regulations of the Medical University "prof. Dr. Paraskev Stoyanov" - Varna for its application.

Assoc. prof. Emilia Georgieva was born in 1976, in 1995 she graduated as a "professional bachelor" graduated in "Medical Laboratory Technician" at the Medical College of the Medical University "prof. Dr. Paraskev Stoyanov" - Varna, in 2008 he obtained a

bachelor's degree in "Healthcare Management" at the Medical University of "prof. Dr. Paraskev Stoyanov" - Varna, and in 2013, educational qualification "Master" in the same specialty and in the same University. Since 2010, he has a master's degree in "Marketing" at "Episkop Konstantin Preslavski" University of Shumen. In the period 2015-2016, she is a doctoral student of independent training at the Department of "Healthcare", specialty "Health Management care", Medical University - Varna and in 2016 he defended her dissertation on the topic "Assurance with medical-laboratory services in the general medical practice in north-eastern Bulgaria" and obtained the title of "Doctor". In the period 22.05.2023 - 02.06.2023 she specialized in Turin, Italy - "Good practices in working with bio-laboratory technologies" and acquires a specialty in "Public Health". Her professional career began in 1995 at the "Sveta Marina" UMBAL - Varna as a medical laboratory technician, and from 2008 to 2012 she was a medical representative of laboratory equipment, consumables and reagents for scientific activity at "Sofbiolife - Biomedika" Ltd. Sofia. Since 2012, she has been a teacher in the "Medical Laboratory Assistant" Educational sector at the Medical College of the Medical University - Varna, and from 2018 to 2021, she is an "associate professor" in the same department. From 2021, she holds the position of Deputy College Director, "Career Development, Quality and Accreditation" at the Medical College at the Medical University "Prof. Dr. P. Stoyanov" - Varna, where she still works today.

There are over 100 scientific publications in Bulgaria and abroad and over 50 reports. She has participated in 48 national and international scientific congresses and conferences, she supervised 2 successfully defended doctoral students and is currently the scientific supervisor of three doctoral students, and she also supervises one graduate student. Assoc. prof. Georgieva has participated as a member of a research team in one completed project, a member in one current project and the head of one current project. The candidate is a member of the National Anti-Doping Center, the Bulgarian Association of Healthcare Professionals, the Bulgarian Scientific Society for Public Health, the National Association for Prevention and Therapeutic Training.

Assoc. prof. Emilia Georgieva participates in the teaching of the disciplines "Trends in laboratory diagnostics - POCT" and "Clinical laboratory", as well as leads the educational practice "Clinical laboratory" and "Microbiology".

The list of known cited publications contains 9 citations of scientific works in refereed, non-refereed editions and in monographs and collective volumes D/10, D/11 and D/12.

To the attention of the reviewers and the scientific jury are presented 39 scientific articles, distributed by quantitative indicators according to the criteria as follows:

- Doctoral thesis - 1 pc.
- Monographs – 1 pc. (independent author)
- Publications and reports published in scientific publications, referenced and indexed in the world database with scientific information - 11 items. (6 items – second author; 5 items – third and subsequent author)
- Publications and reports published in non-refereed peer-reviewed journals or published in edited collective volumes - 23 nos. (13 items - first author; 3 items - second author; 7 items - third and subsequent author)
- Published chapter of a collective monograph - 1 pc.

Apart from those participating as evidentiary material to cover the minimum requirements for occupying the academic position "Professor", the candidate participated with two full test articles.

The main guidelines in the candidate's research work are aimed at improving the population's access to laboratory services through new methods and approaches for the diagnosis of various diseases. Attention is paid to the importance of laboratory results, which provide an opportunity for early diagnosis, as well as determining the effect of treatment. In terms of content, the majority of publications and monographs are aimed at finding new approaches and solutions through the introduction of laboratory tests to be performed by the patient at home, to improve the timeliness of the result and increase satisfaction.

A worldwide spread of COVID-19 caused by the SARS-CoV-2 virus highlights the importance of diagnostics and outlines the need to develop rapid tests. Nanotechnology in the production of portable, miniature electronic laboratory devices (PCR tests) for rapid detection of various infectious diseases creates a new trend in the laboratory diagnosis of various diseases. Pandemics and antimicrobial drug resistance (AMR) are parallel and interconnected severe health situations, necessitating the search for new formulations, such as combinations of established antibiotics and essential oils. The research and study of the potential synergistic effect between specific Lamiaceae essential oils and therapeutic agents is of interest to the author.

The main thematic directions of the candidate's scientific research and teaching activities unite the achievements of her entire creative and professional path, with a focus on the interdisciplinary approach to improving public health through the introduction of innovative

methods and technological solutions. The main thematic areas of the scientific works can be summarized in the following several directions:

1. Introduction of innovative technological solutions to improve time and access to medical laboratory services.
2. The role of the medical laboratory technician as part of the interdisciplinary team during the diagnostic and treatment process.
3. Laboratory diagnostics as part of an integrated approach in the diagnosis and control of chronic diseases.
4. Investigation of the antimicrobial effect of natural products (essential oils) alone and in combination with approved antibacterial dosage forms.
5. New approaches in the fight against antimicrobial drug resistance.

Contribution under direction 1 (A1; D8.2; D8.6; D8.11; D8.13 and D8.14). The quality of medical-laboratory services and their maintenance through new standards was examined. Territorial aspects of access and observed trends of existing regional disparities are explored. The need for complex management of all types of related activities in the diagnostic process is emphasized - quality planning, organizational and direct work on quality assurance, control, analysis of the causes of errors and taking measures for their prevention and elimination. The benefits of the introduction and application of new methods and ROST tests (point-of-care testing) in laboratory diagnostics, aimed at increasing diagnostic possibilities, have been clarified.

The contributions under direction 1 are of a theoretical and practical-applied nature.

Contribution under direction 2 (D7.10 and D8.1; D8.4; D8.5; D8.7; D8.10; D8.16 and D8.18). The role of the medical laboratory assistant in the interdisciplinary team, both in our country and in Europe, has been defined, assisting other medical specialists in the diagnostic and treatment process. The level of training of medical laboratory workers was investigated, and whether it corresponds to the modern dynamic situation. The importance of good professional communication in medical practice is emphasized, which is achieved through strict compliance with the established rules of medical ethics. The need to create an atmosphere of trust, support and empathy in the work process of the medical staff has been studied.

Contributions under direction 2 are of a theoretical- cognitive nature.

Contribution under direction 3 (B3; D8.3; D8.9; D8.12; D8.13; D8.15; D8.17 and D8.22). Synergy between different sectors in healthcare has been found to be essential to

achieve better healthcare efficiency. The frequency of chronic diseases, which has an increasing trend, and the importance of laboratory-diagnostic screening for diagnosis and referral to a specialist for further clarification were studied. The basic care necessary for the chronically ill, as well as the increased predisposition to perceive new information by these patients and the participation of medical specialists in the algorithm of preparing, placing or measuring necessary laboratory parameters or medicinal forms, are analyzed. The COVID-19 pandemic highlights the need for the development of rapid tests for the timely control of various infectious agents, and in this context, the global experience in their use for diagnostics in order to control diseases and limit the spread is reviewed.

Contributions under direction 3 are methodological and scientific-applied in nature.

Contributions under direction 4 (D7.1; D7.2; D7.3; D7.4; D7.5; D7.6; D7.11; and E -1; E-2). A study was conducted in the Municipality of Varna among menopausal women, which showed an increase in the consumption of natural natural products to control the symptoms of menopause. The study of the antimicrobial activity of the alcoholic mouthwash with essential oils by the agar diffusion method showed the highest antimicrobial activity of the chlorhexidine-chlorobutanol combination and suppressed the natural microbiome. The study shows that the tested essential oils of Thymus vulgaris have strong antimicrobial properties and may in the future represent a new source of natural antiseptics. The results of a study on the determination of MIC and MBC of thyme and oregano oils show that E. coli, S. aureus and C. albicans have high sensitivity and can be used in therapeutic practice, and some of them possibly in combination with other antimicrobial agents.

The contributions under direction 4 are of a scientific and practical-applied nature.

Contributions under direction 5 (D7.7; D7.8; D7.9 and D8.19; D8.20; D8.21). Antimicrobial drug resistance necessitates the search for new drug forms. The combination of established antibiotics and essential oils from the family Lamiacea increases the interest in studying a potential synergistic effect. Methanol and ethanol solutions of metronidazole derivatives showed antimicrobial activity against S. aureus and C. albicans. After primary infection, EBV virus remains latent in B-lymphocytes, whereas lytic infection occurs primarily in epithelial cells and may persist for months with persistent release of virus in saliva and nasopharyngeal secretions. As a result, the unnecessary and prolonged use of antimicrobials and incorrect antibiotic therapy, which increases antibiotic resistance, has been investigated. Studies have shown the utility of using procalcitonin algorithms to guide decisions to initiate

and/or discontinue antibiotic therapy. Benzocaine as an anesthetic and its role as an antimicrobial agent directs the applicant to search for likely microbial metabolites and their mechanism of action from the OECD QSAR Toolbox.

The contributions under direction 5 are of a theoretical and practical-applied nature.

In conclusion: on the basis of the fulfillment of the minimum national requirements specified in the Regulations for the Application of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations of the Medical University "prof. Dr. Paraskev Stoyanov" - Varna, the established contributions of the candidate's scientific activity and teaching and clinical experience give me grounds for my positive vote and I suggest to the honorable members of the Scientific Jury to vote "positively" and to propose to the Rector of the Medical University " Prof. dr. Paraskev Stoyanov" - Varna, Assoc. Prof. Emilia Petrova Georgieva, Ph.D. to occupy the academic position "Professor" in the specialty "Public Health Management" for the needs of the Academic sector "Medical Laboratory Assistant", Medical College at the Medical University "prof. Dr. Paraskev Stoyanov" - Varna.

May, 2024

Prof. Gergana Nenova, Ph.D, DSc