

To
The Chairman of the Scientific Jury,
determined by Order No. P-147/12.01.2023
of the Rector of the Medical University - Plovdiv
On your Protocol No. 11/19.01.2023

Attached I present: **Review**

for carrying out a procedure as announced in the State Gazette No. 83 of 03.10.2023 competition for the academic position *Associate Professor in the specialty "Epidemiology"*, professional direction **7.1. Medicine**, area of higher education **7. Healthcare and sports - one**, for the needs of the Academic Sector "Epidemiology", Department of "Epidemiology and Disaster Medicine", Faculty of "Public Health", at the Medical University of Plovdiv for the teaching of Bulgarian and English the discipline "Epidemiology".

Candidate: **one**: Chief assistant professor Vanya Rangelova Rangelova, PhD, MD, Department of Epidemiology and Disaster Medicine, Faculty of Public Health, Plovdiv Medical University.

REVIEW

by Prof. Yordanka Dimitrova Stoilova, Ph.D., internal member

Scientific specialty: Epidemiology

Institution: Medical University of Plovdiv, Faculty of Public Health, Department of "Epidemiology and Disaster Medicine, according to protocol No. 11/19.01.2023 from a meeting of the Scientific Jury, determined by order No. P-147/12.01.2023. of the Rector of the Medical University of Plovdiv.

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The review is prepared in accordance with the requirements of the Law on the development of the academic staff of the Republic of Bulgaria - Terms and conditions for occupying the academic position "Associate Professor".

The candidate has submitted a full volume of documents according to the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the Development of the Academic Staff of the Medical University of Plovdiv. The materials meet the qualitative and quantitative criteria for holding the academic position of "Associate Professor".

I. Analysis of the candidate's career profile:

Dr. Vanya Rangelova was born in 1989. In 2008 she completed her secondary education at the Plovdiv Language High School with intensive study of the English language. She obtained her higher education in Medicine - Master's degree at the Medical University of Plovdiv in 2014.

The candidate's professional development includes a variety of educational and practical activities, which is in favor of the teaching activity. Between 2014-2016, doctor Rangelova worked in the Emergency Internal Admissions Department of UMHAT "St. George"- Plovdiv.

Dr Rangelova's academic development started after a successful competition in September 2016, and she was appointed to the position of "Assistant Professor" in

Epidemiology of Infectious Diseases in the Epidemiology and Disaster Medicine Department, Faculty of Public Health, Medical University of Plovdiv.

In 2020, after a successful defense of a dissertation on the topic "Clinical-epidemiological, microbiological and financial aspects of healthcare-associated infections (HAIs) in the neonatal period", Dr. Rangelova obtained the ESD "Doctor". From 2021 to the present, she holds the academic position of "chief assistant professor" in the Department of "Epidemiology and Disaster Medicine". In 2020, Dr. Rangelova acquired a specialty in "Epidemiology of infectious diseases".

Dr. Rangelova has actively upgraded her knowledge and skills with additional qualifications by participating in various trainings abroad (Weil Cornell Seminar – Infectious Diseases – 05.05-11.05.2019, Salzburg, Austria; Salzburg Institut Pasteur Seminar- Global Health: Viruses, Liver and Cancers - 19-23.07.2021, Salzburg, Austria; Training School on Bayesian Latent Class Models- 31.08-02.09.2022, Novi Sad, Serbia; ECDC Observership - 10-14.10.2022, Stockholm, Sweden ;). In the period 04-08.10.2021, Dr. Rangelova carried out mobility under the Erasmus+ program at Julius-Maximilians Universitat Wurzburg, Würzburg, Germany.

The participation in intra-university, national and international projects is impressive. It should be especially noted that Dr. Rangelova has been noticed and appreciated as evidenced by an invitation in the period September 2020 - June 2023 to support the activities of the employees of the Department of Epidemiology in the surveillance of the spread of SARS-CoV-2. Therefore, he works as an epidemiologist (consultant) at the National Center for Infectious and Parasitic Diseases, Sofia.

In addition, Dr. Rangelova has been working since 2020. and currently in the field, as a hospital epidemiologist at Saint Mina Medical Center, Plovdiv.

The candidate's English proficiency is at the C1 level, which facilitates interactions with researchers from other countries and serves as a foundation for professional development and advancement.

The administrative activity of the candidate includes: Responsible for "Educational activity", "Electronic learning" and "Maintaining the relevance of the web page of the department on the website of Medical University of Plovdiv".

Membership: Bulgarian Scientific Society for Epidemiology of Infectious and Non-Infectious Diseases (Member of the Management Board), Youth Scientific Society "Asclepius" (Member of the Management Board), ESCMID - European society for microbiology and infectious diseases, Bulgarian Medical Union, Bulgarian Scientific Society for public health, Union of Scientists in Bulgaria - Plovdiv.

II. General description of the submitted materials for the competition

Dr. Vanya Rangelova participates in the competition for the academic position "Associate Professor" with a qualitative and quantitative scientific output, according to the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the Development of the Academic Staff of Medical University of Plovdiv. Adhering to the requirements, the minimum national requirements of all the data presented during the review, transformed into a point equivalent for evaluating the requirements for taking the Academic Position "Associate Professor", have been met. With a minimum required number of points of 1000, Dr. Rangelova has presented evidence for a total of 2575.72, i.e. 2.5 times more.

Distribution of scientific output according to Scientific indicators and other indicators related to teaching, specialty and current position necessary for occupying an Academic position "**Associate Professor**" area 7 "Health and Sports":

A1. Dissertation work for obtaining the educational and scientific degree "Doctor" on the topic "Clinical-epidemiological, microbiological and financial aspects of healthcare-associated infections (HAI) in the neonatal period" - 50 points.

C3. Habilitation thesis - monograph - 100 points.

B5. Published monograph that is not presented as the main habilitation thesis - 100 points.

B6. A published book based on a defended dissertation for the award of an educational and scientific degree "Doctor" - 40 points.

D7. Publications and reports published in scientific journals, referenced and indexed in world-famous databases with scientific information - 20 in Scopus and Web of Science with a total of 281 points.

D8. Publications and reports published in non-refereed peer-reviewed journals or published in edited collective volumes - 17 - 276.1 points.

D10. Citations (only Scopus and Web of Science) - 24 citations of 9 articles - 360 points.

D12. Citations or reviews in non-referenced peer-reviewed journals - 12 citations of 7 articles - 60 points

E16. Participation in a national scientific or educational project - 60 points

E17. Participation in an international scientific or educational project - 40 points

E19. Management of an international scientific or educational project - 3 projects, - 120 points

E2. Published university textbook - 18.02 points

The candidate impresses with 23 peer-reviewed articles abroad, with a total IF-58.6 of the journals - 345 points.

Training of interns - 30 points

Study load (lectures and exercises) – 455.5 points

Acquired medical specialty - 40 points

Academic position - 200 points

Dr. Rangelova perfectly and correctly presents evidentiary material for the competition.

Undoubtedly, with the acquired knowledge and skills, Dr. Vanya Rangelova has made a great personal contribution.

An important conclusion should be made that the scientific publications submitted for review include the period after the competition for the academic position of "Chief assistant professor" (2021).

III. Evaluation of the scientific works of the candidate for the overall academic development.

The dissemination and application of the scientific and practical achievements of the candidate among the scientific community determine the scientific activity, visible in the publications in authoritative and peer-reviewed scientific journals such as - Archives of the Balkan Medical Union, Journal of IMAB, General Medicine, Folia Medica, Human Vaccines & Immunotherapeutics, Healthcare, Academic Journal of Health Sciences, Frontiers in Pediatrics, etc. The presented information for a total of 36 citations with **IF=86.114** is in support of the publication image.

In the competition, Dr. Rangelova presented a total of 41 significant scientific works, including the abstract of the dissertation work. The total number in the entire scientific career is 48.

The habilitation thesis - monograph is focused on the prevention of an annual significant infectious disease - "Vaccine hesitancy and attitudes towards influenza vaccination among different population groups".

The monograph, which is not presented as the main habilitation thesis, "COVID-19 in Bulgaria. Epidemiological analysis", with 4 authors. The impressive volume of over 400 pages provides expected and necessary epidemiological information for a three-year period since the beginning of the pandemic in the country. The aim of the authors is to assess the spread of SARS-CoV-2 in Bulgaria by analyzing basic extensive and intensive epidemiological indicators. Numerous aggregated data from official sources and information resources were used, as well as case-based data for all officially registered cases, hospitalized and died in Bulgaria from the beginning of the epidemic spread of SARS-CoV-2 in the country until the end of March 2022 d. Special attention is paid to the analysis of mortality in the first two years since the beginning of the pandemic, since the index of this indicator is one of the highest compared to those registered in the world. For the study of this intensive indicator, demographic factors, premorbid background, provision of health resources in the country, the influence of the different virus variants, vaccination coverage, etc. were studied. The established dependencies in mortality from COVID-19 are the basis for designing health strategies to cope with new epidemic waves, as well as for other infectious pathogens.

The published book, based on a defended dissertation work for awarding the ESD "Doctor" - V. Rangelova. "Health care-associated infections (HAIs) in the neonatal period" is of great theoretical and applied importance for daily medical practice.

In the 20 published publications in scientific journals, referenced and indexed in world-famous databases with scientific information - in Scopus and Web of Science, Dr. Rangelova is the first author in 5 and second in 4 imprints - 45%, i.e. marked activity. Out of 20 publications - 11 have a total **Impact factor - 29,603.**

In the published 17 publications in non-referenced scientific journals, Dr. Rangelova is an independent author in 4 and first author in 5 imprints, which is 52.94%, also a marked activity.

The project activity of the candidate is impressive. I specify in detail:

Participates in 6, as follows: **One** National Project - No. KP-06-OIIP03/15 "Childhood Immunizations: a challenge for the modern Bulgarian society (Investigation of communication problems between pediatricians and parents to identify adequate measures to improve immunization coverage in Bulgaria), financed by the "Scientific Research" Fund. **One** National Educational Project - 2017 PROJECT N BG05M2OP001-2.009-0025 "PhD TRAINING IN MU-PLOVDIV FOR COMPETENCE, CREATIVITY, ORIGINALITY, REALIZATION AND ACADEMICISM IN SCIENCE AND TECHNOLOGY - 2 (PhD 2)". Funded by the Operational Program "Science and Education for Smart Growth", co-financed by the European Union through the European Structural and Investment Funds. **Two** Intra-university research projects 1. NO-02/2020 – CHARACTERISTICS OF HEPATITIS IS THE VIRAL INFECTION IN HOSPITALIZED ACUTE HEPATITIS AND IMMUNOCOMPROMISED GROUPS OF PATIENTS. 2. KOV-07/2021 COVID-19 IN DENTAL PRACTICE - PREVENTION AND CONTROL.

Participated in **2 international scientific projects** - Improving Influenza Program and Enhancing Influenza and other viral respiratory pathogens through integration of all existing surveillance systems and using one health surveillance approach 1NU51IP000905-01-00; Center for Disease Control and Prevention; 2022, -Evaluation of burden of disease for COVID-19 and other respiratory pathogens -Revised standard operating procedures (SoP-s) for sentinel surveillance based on new sampling strategy and new guidelines and Improving Influenza Program and Enhancing Influenza and other viral respiratory pathogens through integration of all existing surveillance systems and using one health surveillance approach 6-NU51IP000905-02-00; Center for Disease Control and Prevention; 2023. - Conduct a data quality assessment of integrated influenza like illness (ILI) and severe acute respiratory illness (SARI) sentinel

sites. -Evaluation of new ILI/SARI integrated surveillance system for all respiratory pathogens and further improvement of standard operating procedures (SOPs).

Manages **3 international projects**: 1. Design and implementation of multinational surveillance systems using routinely collected electronic health records in EU/EEA -E-Sure EHR-SARI Specific contract No1- ECD. 13629 ID.24334; the European Center for Disease Prevention and Control -Concluded contract with the National Center for Disease Prevention and Control (December 20, 2022)2. OJ/2021/DPR/12924 “Vaccine effectiveness, Burden and Impact Studies (VEBIS) of COVID-19 and Influenza; Specific Contract No 1 ECD.12616 ID12927 LOT1 Hospital Network for Vaccine Effectiveness, Burden and Impact Studies and for Surveillance of Severe Acute Respiratory Infections. European Center for Disease Prevention and Control - Contract concluded with the National Center for Disease Prevention and Control (December 16, 2022). 3. OJ/2021/DPR/12924 “Vaccine effectiveness, Burden and Impact Studies (VEBIS) of COVID-19 and Influenza; Specific Contract No3 ECD.13350 ID24101 LOT1 Hospital Network for Vaccine Effectiveness, Burden and Impact Studies and for Surveillance of Severe Acute Respiratory Infections. European Center for Disease Prevention and Control - Contract concluded with the National Center for Disease Prevention and Control (July 5, 2023).

Dr. Vanya Rangelova exhibits scientific activity as an author and speaker on important epidemiological topics with applied importance in 17 foreign scientific forums and in 22 national forums.

The applicant also indicates h-index = 3 /Scopus/; h-index= 4 /ResearchGate/;h-index =4 /Google Scholar/. From Reviews of articles abroad: h-index = 3 /Scopus/; h-index= 4 /ResearchGate/; h-index =4 /Google Scholar/.

IV. Main directions and thematic areas of the applied scientific works and contributions in the scientific works: Mainly 5 and another 3 scientific directions and areas, which are one of the most relevant, are distinguished thematically:

Healthcare-associated infections (HAI) developed in 9 works, of which 3 published in Scopus and Web of Science and 1 book. The scientific scope transfers measures directly into the applied epidemiology of the Surveillance of HAI, of the Indicator HAI in the details - etiological, clinical-epidemiological aspects, financial aspects and risk factors of the Prevention and control of HAI. I specifically highlight the presented studies on healthcare-associated infections with applied contributions on significant outstanding and debated issues.

12 papers are devoted to Immunoprophylaxis, of which 5 are in Scopus and Web of Science. The scope is complete and deserves admiration: Vaccination with mandatory vaccines. Vaccination with recommended vaccines. Adverse reactions after vaccination. Vaccination Attitudes and Communication Styles of Communicating about Vaccines.

Viral hepatitis in 5 studies. Actuality is a fact with 2 developments of Viral Hepatitis E- Clinical-epidemiological and molecular characterization of acute HEV infection and Trends in the spread of hepatitis E among different population groups. The risk group of hemodialysis patients is also an object of study – sero-epidemiological prevalence studies of HBV and HCV among hemodialysis patients. I highly appreciate the discussion on Prospects for the Elimination of Hepatitis C. Three of the scientific papers have been published in Scopus and Web of Science.

Airborne infections have been developed in 6 papers, of which 3 have been published in Scopus and Web of Science. Included are Epidemiology of COVID-19, influenza, scarlet fever, varicella - what infections are more current and epidemiologically significant in a scientific and applied aspect, as well as Diagnosis of COVID-19.

The **transmissible infections** Crimean-Congo hemorrhagic fever and Dengue are of epidemiological interest. The first is recognized to be the most common in our country

compared to Europe, for unknown reasons. The incidence of dengue is currently increasing in the endemic areas, which is a risk for importation into our country. The publications have been published in Scopus and Web of Science.

Single studies have been conducted on Decontamination/Sterilization, Epidemiological Surveillance. Expansion of the scope of scientific interests is also demonstrated in the direction of epidemiology of non-communicable mass diseases. In the field of psychiatry, depression and risk factors have been studied among different groups. Dr. Rangelova is interested in the assessment of health resources, history of medicine, oncology.

In the precisely prepared table regarding the above analysis, it is commendable that Dr. Vanya Rangelova is the first author in 18 papers - 41.9%, second in 6 - 14% and third in 19 - 44%. The distribution of the scientific production by place of participation of the candidate in the author's collectives confirms the leading role of the candidate, which must be taken into account. My assessment is that Dr. Rangelova's scientific works are in the most significant areas of epidemiology and benefit public health.

I accept the report presented by Dr. Vanya Rangelova on the contributions of scientific developments. From the total of 30 indicated, I emphasize on formulated **10 original contributions**, highlighting those with studies for the first time: - a comprehensive epidemiological and microbiological analysis of the results of a six-year ambispective study of the dynamics and trend of the epidemic process of HAI in a neonatology intensive care unit was carried out in one of the largest university hospitals in the country and the determinants for morbidity modeling are indicated; a financial analysis of the direct costs of treating newborns diagnosed with VAP during an intensive care stay; - a representative cross-sectional study was conducted that investigated the attitudes of general practitioners towards vaccines from the mandatory immunization calendar and the factors that could serve as predictors of hesitancy regarding vaccines were investigated; - a combination of serological and molecular methods for the detection of the Hepatitis E virus was applied among a large group of hemodialysis patients in southern Bulgaria; - through factor analysis, the communication styles of general practitioners in Bulgaria and their attitudes towards vaccines from the mandatory immunization calendar were investigated; - a complex analysis based on national data and covering a two-year period since the beginning of the COVID-19 pandemic was carried out, assessing the registered morbidity, mortality and lethality; the influence of demographic factors, premorbid background, provision of health resources in the country, the influence of different virus variants, vaccination coverage, etc. A multifactorial risk assessment was performed according to gender-age structure, regional differences and vaccination status; - a prospective cross-sectional study among physicians practicing in Afghanistan to assess the level of depression using the validated Center for Epidemiologic Studies Depression Assessment Questionnaire (CES-D).

V. Evaluation of the teaching activity of the candidate

The candidate's total teaching experience is from 2016 to the present, or 7 years of teaching experience. Proof of the high quality of the educational process conducted by Dr. Rangelova is the diverse professional work experience presented in the autobiographical data. The complex qualitative evaluation of the teaching-methodical and teaching activity after the acquisition of Academic position Chief Assistant Professor includes: report on classroom employment by years. The academic load of the candidate by years from 2020/2021 - 360 hours of practical exercises and 93 of participation in exams. Respectively for 2021/2022. – respectively 452 and 130 and for 2022/2023. 459 and 76. For 2022/2023. the hours of Audit and extra-auditory employment and Scientific activity are 953 hours.

He teaches Bulgarian-speaking and English-speaking students of Medicine, Dentistry and Pharmacists, as well as Public Health Inspectors and trainee doctors.

The training of students in various specialties requires preliminary organization, theoretical and practical training, as well as knowledge of modern methodology in the educational process. Undoubtedly, the candidate participates in the constant updating of the curricula and in the preparation of tests, a stage in the conduct of the exams. Participates in textbooks: in Bulgarian – 3 and in English – 1.

Commendable collaboration with students led to publications: 1 in a journal with IF and 2, of which 1 publication in a journal referenced in Scopus.

The candidate is an active participant in the events organized by Medical University of Plovdiv and the Department.

Critical remarks - I have no critical remarks about the candidate.

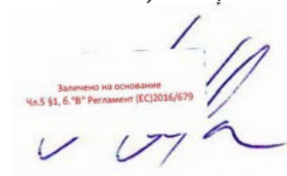
My personal impressions of Dr. Rangelova are that she is a purposeful, ambitious, tolerant, fair, honest, respectful and tireless teacher and scientific colleague.

Conclusion:

Chief assistant professor Dr. Vanya Rangelova Rangelova, PhD applies with 2.5 times the minimum required number of significant scientific works published in Bulgarian and international journals, including with an impact factor and with 2 monographs, also indicates citations in foreign journals. The scientific works contain original scientific, scientific-applied and applied contributions. Knowledgeable and experienced specialist and teacher. Chief Assistant Professor Dr. Vanya Rangelova Rangelova, PhD meets the mandatory and specific conditions and meets the recommended scientometric criteria for the academic position "Associate Professor" according to the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the Development of the Academic Staff of Medical University of Plovdiv. I strongly recommend to the members of the Scientific Jury, determined by Order No. P-147/12.01.2023 of the Rector of the Medical University of Plovdiv, Dr. Vanya Rangelova Rangelova, PhD, to be elected as "Associate Professor" in the scientific specialty "Epidemiology" for the needs of the "Department of Epidemiology and Disaster Medicine", Faculty of Public Health, Medical University of Plovdiv.

21.02.2024

Prof. Yordanka Dimitrova Stoilova, MD, PhD



Залчено на основание
Чл. 5 §1, 6 "Б" Регламент (ЕС) 2016/679