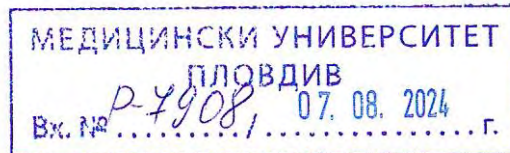




## STATEMENT

from



Prof. Dr. Nikoleta Ivanova Traikova, PhD

Designated to prepare a statement by Order

No. R-2392/12.07.2024 of the Deputy. Rector SIA of MU – PLOVDIV

/ Pursuant to Order No. R-3580/05.12.2023 of the Rector of MU Plovdiv/

**Scientific specialty:** Imaging diagnostics

**Institution:** UMBAL "St. George" Plovdiv; MU Plovdiv

**Regarding:** *participation in a competition for occupation of the academic position  
of "ASSOCIATE PROFESSOR"*

From the field of higher education 7. Health and sports, professional direction 7.1. Medicine at the Department of "Clinical Oncology", MF at the MU - Plovdiv, announced in the State gazette no. 35/ 19.04.2024

One candidate submitted documents for participation in the competition: Chief Assistant Dr. Albena Dimitrova Botushanova, MD

### **I. Analysis of the candidate's career development**

Dr. Albena Dimitrova Botushanova was born on June 5, 1966. She graduated from the Faculty of Medicine of the Medical University of Plovdiv in 1992 with excellent results. From 07.02.1995 started working as a resident doctor in the Radiotherapy clinic at the Laboratory of Radiobiology of UMBAL "St. George" EAD - Plovdiv. She acquired the specialty "Radiobiology" Diploma series Бс No. 000033, Reg. No. 002850, 06.05.1998. Since 1999 she has been working in the Nuclear Medicine department at Radiotherapy

clinic. In 2003 acquired a second specialty in Nuclear Medicine - Diploma series Bc No. 000422, Reg. No. 007872, 27.01.2003. Since 2004, she has been working on the scientific topic "Nuclear-medicine methods for the diagnosis of abnormal parathyroid glands in primary and secondary hyperparathyroidism" and obtained a doctorate in the scientific specialty "Medical radiology and roentgenology (incl. use of radioactive isotopes)" at the Medical University. Prof. Dr. Paraskev Stoyanov", Varna, Diploma Reg № 336/ 23.05.2019. Since September 2019, she has been selected as an assistant at the "Clinical Oncology" department of MU - Plovdiv. She participates in the teaching of medical and dental students. She is also a teacher at the Medical College - Plovdiv of X-ray laboratory assistants in the academic disciplines of nuclear medicine and radiobiology.

Dr. A. Botushanova graduated as a Master in Health Management at the Higher School of Agribusiness and Regional Development, Plovdiv, Faculty of Economics and Management with Diploma Reg № 336/ 23.05.2019.

From 2020 she is the head of the Department of Nuclear Medicine at the "St. George" EAD - Plovdiv, which has two bases with hybrid equipment: gamma camera SPECT/CT and PET/CT.

After a competition, Dr. A. Botushanova, PhD, takes the position of "chief assistant" at the Department of Clinical Oncology in 2021.

## **II. General description of the submitted materials for the competition**

The candidate has submitted all the necessary documents, in accordance with the requirements of the LDASRB, the Regulations for its application and Section V: Conditions and procedure for occupying the academic position "Associate professor" from the Regulations for the conditions and procedure for acquiring scientific degrees and occupying academic positions at MU- Plovdiv.

## **III. Evaluation of scientific works and publications of the candidate for the overall academic development**

The academic development and achievements of the only candidate for the occupying the academic position of "associate professor" chief assistant Dr. Albena D. Botushanova, PhD include a complex assessment of scientific production and publication

activity, application of the candidate's scientific and practical achievements, participation in educational and teaching activities, projects, project management and medical interns.

#### **A. Scientific production and publication activity**

Chief assistant professor Dr. A. Botushanova, PhD, presents her scientific works to the competition, structured in two lists, according to the requirements of the Regulations of the MU - Plovdiv: Publications and reports published in scientific publications, referenced and indexed in IDB- Scopus and Web of science, of which at least three in journals with IF and List of Publications and Reports, in non-referenced peer-reviewed journals, or in edited collective volumes. Dr. A. Botushanova, PhD is the leading author (up to second incl.) in nine of them. Scientific metrics are characterized by a total IF=15,963 of articles and reports. The publications are from interdisciplinary collectives in the field of nuclear medicine, nephrology, oncology. A. Botushanova, PhD has a successfully defended dissertation work in 2019 on the topic "Nuclear medicine methods for diagnosis of abnormal parathyroid glands in primary and secondary hyperparathyroidism". Primary hyperparathyroidism (PHPT) is due to overproduction of parathyroid hormone (PTH) by one or more abnormally altered parathyroid glands and leads to the development of hypercalcemia. Until recently considered a rare disease, in recent years, with the introduction of routine testing of serum calcium levels into clinical practice, its incidence has been found to be approximately 42 per 100,000, and in the majority of cases it is asymptomatic. Primary hyperparathyroidism (PHPT) is 2 to 3 times more common in women, and its incidence increases with age, reaching 4 in 1,000 in women over 60 years of age. Classic manifestations of primary hyperparathyroidism such as: nephrocalcinosis, nephrolithiasis and osteitis fibrosa cystica are rare nowadays. Most of the patients with this disease are asymptomatic and the disease is diagnosed by the changes in the serum levels of calcium, phosphorus and PTH. In more than 85-90% of patients, the cause of PHPT is the presence of a solitary parathyroid adenoma, while in the remaining 10-15% it is due to primary hyperplasia of the parathyroid glands. In the past, the standard surgical treatment for primary hyperparathyroidism was bilateral cervical exploration to locate and visualize all four parathyroid glands, followed by removal of any that were macroscopically altered. Because only a single gland is affected in most patients, bilateral cervical exploration in all patients with hyperparathyroidism is not always necessary. In order to minimize the duration of the operation and the risk of complications, unilateral

cervical exploration and removal of the previously established and topically localized adenoma is preferable in these cases. In this regard, preoperative scintigraphy of parathyroid glands with  $^{99m}\text{Tc}$ -sestamibi or  $^{99m}\text{Tc}$ -tetrofosmin plays a major role in detecting hyperfunctioning parathyroid glands, especially in those with an atopic location, as well as disease recurrence. The topic of the dissertation work is actual and defines the scientific field to which the candidate's interest is focused. Various modern diagnostic methods and modern nuclear medicine equipment were used.

### **B. Scientific contributions:**

1. Nuclear medicine methods for the diagnosis of abnormal parathyroid glands in primary and secondary hyperparathyroidism: For the first time, the results of nuclear medicine examinations conducted in a large group of patients with PHPT and SHPT are summarized. The advantages and disadvantages of single-isotope dual-phase methods and two-isotope subtraction modality with  $^{99m}\text{Tc}$ -sestamibi and  $^{99m}\text{Tc}$ -tetrofosmin performed in patients with PHPT and SHPT are presented. The role of the SPECT technique for increasing the diagnostic sensitivity of single-isotope dual-phase and two-isotope subtraction methods is emphasized. An in-depth study was made of the relationship between scintigraphic findings and indicators of calcium-phosphorus homeostasis, as well as with the volume of the ultrasound findings in patients with PHPT and SHPT. The risks of false-negative and false-positive results were analyzed. Protocols have been prepared for the combined use of SPECT technique with single-isotope dual-phase and subtraction methods. An algorithm for the study of parathyroid glands has been prepared.

2. PET/CT hybrid equipment (2016): For the first time in UMBAL "St. George" EAD - Plovdiv has introduced  $^{18}\text{F}$ -FDG PET/CT examinations for carcinomas of: lung, stomach, mammary gland, kidney, colon, lymphoma diseases, malignant melanoma for the purpose of diagnosis, staging and monitoring the effect of the therapy. Application of Standard of Nuclear Medicine protocols, image processing and interpretation.

3. SPECT/CT hybrid equipment (2022): For the first time in UMBAL "St. George" EAD - Plovdiv have introduced SPECT/CT studies with protocols according to the Standard of Nuclear Medicine, processing and interpretation of hybrid images for: bone scintigraphy, radioiodine scintigraphy, lung and parathyroid scintigraphy. In 2023, sentinel lymph nodes scintigraphy was introduced.

### **C. Participation in scientific and educational projects**

Chief assistant Albena D. Botushanova, Ph.D, is the Head of the scientific project NO - 07/2023 on the subject: "Diagnosis of bone metastases by hybrid SPECT/CT and markers of bone metabolism in patients with prostate carcinoma".

### **D. Evaluation of the monographic work**

Chief assistant Dr. Albena D. Botushanova, PhD presents a monograph on "Nuclear Medicine and Parathyroid Glands - Past, Present and Future" Plovdiv 2023, publisher Autoprint EOOD, ISBN 978-619-7205-34-3. The monographic work is a continuation of the candidate's dissertation work. It appears first on the subject of our country and meets all scientific, book-publishing requirements for printing. The monograph is a story of the search for the right radiopharmaceutical for the diagnosis of abnormal parathyroid glands, as well as the development of new modalities in connection with technological advances in nuclear medicine equipment. Each chapter explores the past, present, and future directions of parathyroid scintigraphic research. Each of the chapters has supporting evidentiary material with images from own cases of patients made in the Department of Nuclear Medicine at UMBAL "St. George" EAD - Plovdiv. Each chapter ends with a bibliography supporting the text. The monograph is properly structured, with over 100 standard printed pages, containing evidence material with many figures of excellent quality, therefore it can serve as an aid for doctors in the field of nuclear medicine, endocrinology, surgeons. This monographic work indicates the personal contribution of Dr. A. Botushanova, PhD in nuclear medicine diagnostics for early, more accurate detection of parathyroid gland diseases and subsequent treatment.

### **E. Publication citations**

The attached citation report of Dr. Albena Botushanova, PhD shows 20 citations to one article: Yaneva, Mariana P; Botushanova, Albena D; Grigorov, Liubomir A; Kokov, Julii L; Todorova, Elena P; Krachanova, Maria G Evaluation of the immunomodulatory activity of Aronia in combination with apple pectin in patients with breast cancer undergoing postoperative radiation therapy. FOLIA Medica 2002; XLIV, vol. 1&2; yr. 22-25. ISSN 0204-8043; ISSN 1314-2143. All citations are in IDB journals in SCOPUS. Official evidentiary material is presented, in which there is citation.

#### **IV. Complex evaluation of the teaching-methodical and teaching activity**

In the materials for the competition, Dr. Albena Botushanova, PhD, presented the necessary official reference from the Academic Department of the MU-Plovdiv about the personal and academic workload for the last three academic years of units with medical-clinical activity. It is reflected in it that chief assistant Dr. Albena Botushanova, PhD, has classroom and non-auditory employment significantly exceeding the required minimum according to the requirements of MU-Plovdiv. From the reference, it can be seen that Dr. Albena Botushanova, PhD, is involved in teaching "Radiology" modules for third-year medical students at the Faculty of Medicine, MU-Plovdiv, as well as teaching "Nuclear medicine" and "Radiobiology" modules at X-ray laboratory students 1st and 2nd year at MC - Plovdiv.

For the last two years (required in the self-assessment table), a total study load of 1588 hours (583 points) has been completed. Dr. Albena Botushanova, PhD, participates in the preparation of lectures and exercises for the taught modules, as well as in the preparation of the exam tests for the semester exams in Radiology. Dr. Albena Botushanova, PhD, was the Head of the specialization of two medical interns. Shee is a co-author in a collective of study aids for students of medicine and clinical oncology.

**Criticisms and recommendations:** I have no criticisms and recommendations.

#### **Conclusion**

From the presented materials, it is clear that Dr. Albena Botushanova, PhD, meets all the conditions under Art. 29 of the LDASRB and the criteria for the acquisition of AP "Associate professor" according to the rules of the MU - Plovdiv.

That is why, without hesitation, I give my positive opinion with a recommendation to the respected Scientific Jury to propose to the Faculty Council of the Faculty of Medicine at the MU - Plovdiv to approve the candidacy of Dr. Albena Botushanova, PhD for the appointment of AP "Associate professor" for the needs of the Department of "Clinical oncology" at the Faculty of Medicine at the Medical University of Plovdiv.

July 30, 2024

Plovdiv

Signature:.....

Prof. Dr. Nikoleta Iv. Traikova, PhD

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