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To
The chairman of the scientific jury,
determined by Order No. R-2392/12.07.2024
of Vice-Rector SRA of Medical University - Plovdiv
according to Order No. R-3580/05.12.2023
15A V. Aprilov Blvd
4002 Plovdiv



To your Protocol No. 1 / 15.07.2024

Attached I present: REVIEW

in scientific specialty: "Medical radiology and roentgenology (incl. use of radioactive isotopes)"
Competition for AP "Assoc. Professor", announced for the needs of MU-Plovdiv, FM, Department
of "Clinical Oncology", Section "Radiotherapy and Nuclear Medicine" in the State Gazette, no. 35 of
19/04/2024 and a proposal approved by the FC of FM, MU - Plovdiv (Pr. No. 7 of 07/09/2024)

Reviewer: Prof. Dr. Silvia Bogdanova Tsvetkova-Trichkova, PhD

Professional direction: 7.1 Medicine

Scientific specialty: Diagnostic Imaging

Institution: Medical University - Plovdiv

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

REVIEW

by Prof. Dr. Silvia Bogdanova Tsvetkova-Trichkova, PhD,

Head of the Department of Diagnostic Imaging, FM, MU - Plovdiv

Regarding

Competition for the academic position of "Associate Professor" in the field of higher education 7. "Health and sport", in the professional direction 7.1. "Medicine" and scientific specialty: "Medical radiology and roentgenology (incl. use of radioactive isotopes)", announced for the needs of MU-Plovdiv, FM, department "Clinical Oncology", section "Radiotherapy and nuclear medicine" for the teaching in Bulgarian and English in SG, no. 35 of 19.04.2024.

One candidate participates in the competition - **Dr. Albena Dimitrova Botushanova, PhD.**

Reason for submitting the review

Member of the scientific jury for the competition, according to order No. R-2392/12.07.2024 of Vice-Rector SRA of Medical University - Plovdiv.

The review was prepared in accordance with the requirements of the Law of the Development of the Academic Staff in Republic of Bulgaria, the Regulations for its Application, the Regulations for Academic Development of Plovdiv Medical University, Order No. R-2392/12.07.2024 of Vice-Rector SRA of MU-Plovdiv for the appointment of a Scientific Jury and after the first meeting of the Scientific Jury - Protocol 1/15. 07. 2024

1. Biographical data and career profile.

Dr. Albena Dimitrova Botushanova graduated from the Faculty of Medicine of Medical University, Plovdiv in 1992 with excellent results. From 07.02.1995 she started working as a trainee in the CRT, laboratory of radiobiology at UMHAT "St. Georgi", the city of Plovdiv. In 1998, she acquired a specialty in Radiobiology, and in 2003 she also acquired a specialty in Nuclear Medicine. In 2019, Dr. Botushanova obtained a PhD degree in the scientific specialty "Medical radiology and roentgenology (including the use of radioactive isotopes)" at Varna Medical University. In September 2019, after a competition, she was elected as an assistant professor at the Department of "Clinical Oncology" of Medical University - Plovdiv. In 2021, after a competition, Dr. Botushanova, PhD, was elected as a Chief Assistant Professor at the same department.

In 2019, Dr. Botushanova also graduated as a Master in Health Management at the Higher School of Agribusiness and Regional Development, Plovdiv, Faculty of Economics and

Management. From 2020 Dr. Botushanova is also the head of the Department of Nuclear Medicine at UMHAT "St. Georgi", Plovdiv

Dr. Botushanova is responsible for educational activities in the Department of "Medical Oncology", she is a member of the expert council on nuclear medicine at the Ministry of Health.

Dr. Botushanova has numerous participations in national and international scientific forums, she participated in the European School of Nuclear Medicine in Varna in 2008 and 2012 and underwent training to work with PET/CT in Erlangen, Germany in December 2015.

Dr. A. Botushanova, PhD is a member of the Bulgarian Society of Nuclear Medicine, BAR, ESR, UEMS and USB.

2. General description of the materials submitted to the competition.

The presented materials are in full compliance with the requirements of the procedure, systematically described and arranged. The documentation is complete and comprehensive. A full range of supporting evidence is provided.

3. General characteristics of scientific production and publication activity.

Dr. Albena Botushanova, PhD submitted: an abstract of a dissertation for PhD - 1 pc with the topic of the dissertation "**Nuclear medicine methods for diagnosis of abnormal parathyroid glands in primary and secondary hyperparathyroidism**". The topic of the dissertation defines the scientific area to which the candidate's interest is focused. Various modern nuclear diagnostic methodologies and modern nuclear medicine equipment have been used in the research work. Chief assistant. prof. Dr. Albena D. Botushanova, PhD presents a monograph on "**Nuclear Medicine and Parathyroid Glands - Past, Present and Future**". In this work, Dr. Botushanova, PhD has traced the development in the search for the right radiopharmaceutical for the diagnosis of abnormal parathyroid glands and the development of new methodologies concerning technological advances in nuclear medicine equipment. The monographic work is the first on the subject for our country.

The presented scientific publications are structured in two lists, according to the requirements of the Regulations of MU - Plovdiv, namely: publications and reports published in scientific journals, refereed and indexed in Scopus and/or Web of Science, of which at least three in journals with impact factor - 12 publications are presented, of which five with impact factor; list of publications and reports in non-refereed journals with scientific peer review or in edited collective volumes - a total of five publications in journals and a chapter of a collective monograph are presented. In the presented publications, Dr. Botushanova is the lead author /up to the second one/ in 9 of them.

The presented scientific production - full-text publications and participation in congresses and conferences, are the result of joint scientific research in a multidisciplinary team, as well as participation in scientific research projects - Dr. Botushanova, PhD participates and is the leader of 1 intra-university project.

In the scientific activity of Dr. Albena Botushanova, PhD several main scientific directions emerge: Nuclear-medical methods for diagnosis of abnormal parathyroid glands in primary and secondary hyperparathyroidism with analysis of risks for false-negative and false-positive results, preparation of protocols for combined use of SPECT technique with single-isotope biphasic and subtraction methodology and of an algorithm for parathyroid examination; studies with PET/CT hybrid equipment in carcinomas of: lung, stomach, mammary gland, kidney, colon, lymphomas for diagnosis, staging and monitoring the effect of therapy; application of protocols according to the standard of nuclear medicine, image processing and interpretation; studies with SPECT/CT hybrid equipment with introduction of protocols according to the standard of nuclear medicine, processing and interpretation of hybrid images in: bone scintigraphy, radioiodine scintigraphy, lung and parathyroid scintigraphy and introduction of sentinel scintigraphy in 2023.

Numerous contributions of an original nature are outlined, and these are distributed across the above topics.

Confirmation of the relevance of the scientific publications are the citations presented by Dr. Botushanova - 20 citations for one article in journals, all journals are refereed in Scopus.

4. Educational Activities

In the competition materials Dr. Albena Botushanova, PhD has submitted the required official reference from the Educational Activities Department of Medical University of Plovdiv for the personal and teaching workload in the last three academic years of units with medical-clinical activity. It reflects that Dr. Albena Botushanova, PhD, has an academic and extracurricular employment exceeding the minimum required by the regulations of MU-Plovdiv. It includes teaching of modules "radiology" for third year medical students at FM, MU-Plovdiv, as well as teaching of modules "nuclear medicine" and "radiobiology" to 1st and 2nd year X-ray laboratory students at MC - Plovdiv, a lecture and practical training in Bulgarian and English to students from FDM, MU Plovdiv. Her teaching load for the last three academic years is **2367 hours**.

Dr. Albena Botushanova, MD participated in the preparation of lectures and exercises for distance learning during the COVID -19 pandemic. She assisted in updating the curricula of the mentioned courses. She has participated in the preparation of examination tests for the semester

exams in radiology. Dr. Botushanova is also involved in the training of resident doctors as a supervisor of two resident doctors. She is also a co-author of 2 textbooks.

The last Attestation Sheet of the Attestation Committee of the Medical University of Plovdiv reflects a good evaluation for the last 3-year attestation period.

5. Fulfillment of the requirements for the position of Associate Professor

Dr. Albena Botushanova, PhD has fulfilled and significantly exceeds the minimum national requirements, as well as meets the requirements of MU-Plovdiv for the position of Associate Professor.

Indicators Group A: Include a requirement for a defended dissertation that covers **50 points**. Proof of this is provided.

Indicators Group C (B): In this group of indicators, Dr Albena Botushanova, PhD presents a habilitation thesis - a monograph, which meets the required 100 points.

Indicators Group D (Г): A total of 17 full-text articles have been submitted, 12 of them in journals refereed in Scopus and/or Web of Science, including 5 articles with IF, as well as 5 publications and reports in non-refereed peer-reviewed journals and a published chapter of a collective monograph. The total number of points in this group is **263.5 points**, which exceeds the requirements of MU Plovdiv for 200 points.

Indicators Group E (Д): Dr. Albena Botushanova, PhD presents **20** citations with a total of **300** points, **all** of them in journals refereed in Scopus and/or Web of Science, with a minimum requirement of 100 points and 7 citations in refereed journals. Detailed references for these citations are provided with supporting material. These exceed the requirements of MU Plovdiv 3 times.

Indicators Group F (E): The minimum requirements of MU - Plovdiv include 60 points, an acquired specialty and participation in a research project. Dr. Albena Botushanova, PhD has provided evidence of acquired specialties in Radiobiology and Nuclear Medicine, supervision of one intra-university project, published 2 university textbooks - "Radiotherapy and Nuclear Medicine Manual for Students" and "Compendium of Tests in Clinical Oncology", submitted a reference from the Department of Postgraduate Training and orders for the supervisor of two resident doctors. The total number of points is **176.6**, **and** these significantly exceed the minimum requirements.

Indicators Group G (Ж): This group of indicators is related to educational activity for the last two years and academic positions held. Minimum points required - 250 for teaching load and 200 for academic position. Dr. Albena Botushanova, Ph.D submitted evidence for a total of **583 points** for

teaching workload - lectures and practical lessons and **200 points** for academic position /chief assistant professor/ or a **total of 783 points**, which again significantly exceeds the minimum requirements.

As a conclusion, Dr. Albena Botushanova, PhD, submitted evidence for a total of 1673.1 points with a minimum required of 810 points, which exceeds the minimum required criteria according to the regulations of the Medical University of Plovdiv twice.

6. Conclusion

Dr. Albena Botushanova, PhD is an ambitious scientist and lecturer with a keen interest in mastering new developments in nuclear medicine and hybrid research methods.

The overall activity of Dr. Albena Botushanova, PhD defines her as an excellent professional. A thorough analysis of the materials submitted for the competition shows that she meets and exceeds the minimum national requirements as well as the specific requirements of Medical University, Plovdiv.

After the analysis of the overall scientific research and educational activity of Dr. Albena Botushanova, PhD and knowing her personal qualities, **I confidently give my POSITIVE vote and recommend the members of the esteemed Scientific Jury to vote FOR the awarding of Dr. Albena Dimitrova Botushanova, PhD the AP "Associate Professor" in the field of higher education 7. "Health and Sport", in the professional field 7.1. "Medicine" and scientific specialty "Medical Radiology and Roentgenology (including the use of radioactive isotopes)" for the needs of MU-Plovdiv, FM, Department of Clinical Oncology, Section "Radiotherapy and Nuclear Medicine".**

05. 08. 2024г.

Signature: . . .

Prof. Dr. Silvia Bogdanova Tsvetkova-Trichkova, PhD

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