

To the chairman of the scientific jury
Medical University "Prof. Dr. Paraskev Stoyanov" Varna
Medical Faculty

Statement

Regarding the competition for the academic position of "Associate Professor" in scientific specialty "Nuclear Medicine", Higher Education Area 7. Health Care and Sports, professional direction 7.1. Medicine, field "Medical radiology and radiology /incl. using radioactive isotopes/"one, 0.5 full-time position, opened for the Department of "Imaging diagnostics, interventional radiology and radiotherapy", Faculty of Medicine and 1 full-time position for the "Nuclear Medicine and Metabolic Therapy" Clinic at UMBAL "Sveta Marina" EAD – Varna, announced in State Gazette No. 28/28.03.2023.

by Prof. Borislav Georgiev Chaushev, MD PhD

Clinic of Nuclear medicine and metabolic therapy UMBAL "Sveta Marina" EAD - Varna

Department of Periodontology and Dental Implantology

Faculty of Dental Medicine, MU "Prof. Dr. Paraskev Stoyanov" – Varna

By order of the Rector No. R-109-294 dated 25.05.2023 and by decision of the Scientific Jury, I was appointed to participate as a member in the Scientific Jury an internal member with a scientific statement.

Dear members of the scientific jury, dear colleagues,

Dr. Zhivka Dancheva Mezan, MD, participated in the competition as the only candidate. chief assistant at the Department of Imaging, Interventional Radiology and Radiation Therapy, Faculty of Medicine, MU "Prof. Dr. Paraskev Stoyanov" - Varna.

Brief information on career development and qualifications:

Dr. Zhivka Dancheva Mezan was born on September 30, 1979 in Veliki Preslav. She graduated in medicine in 2005 at MU-Pleven. In 2006, for six months she worked as a medical representative in "Actavis" EAD. Since October 2006, he has been enrolled as a full-time PhD student and resident student in the "Nuclear Medicine and Metabolic Therapy" Clinic, "St. Marina" UMBAL, Varna. In 2010, she acquired the specialty "Nuclear Medicine". In 2012, she defended her doctoral dissertation on "Metabolic radiopharmaceutical therapy with ^{89}Sr /metastron/ of painful bone metastases in patients with carcinoma of the prostate and mammary gland". From 01.01.2011 to the present, she is a specialist physician at the "Nuclear Medicine and Metabolic Therapy" Clinic. From 2016 to the present, she is a chief assistant at the "Imaging Diagnostics, Interventional Radiology and Radiotherapy" Department of the MU "Prof. Dr. Paraskev Stoyanov" Varna.

She is a member of BAR, Bulgarian Society of Nuclear Medicine, EANM, deputy national delegate in the Assembly of Delegates of EANM and a member of WIN Global - Bulgaria.

She has an excellent command of the English language, which allows her to communicate and be informed about the latest developments in nuclear medicine at the European and global level.

Scientific indicators:

The total number of scientific publications to date is 50. 30 scientific articles have been submitted for participation in the current competition, 23 of which have been published in scientific publications, referenced and indexed in world-famous databases with scientific information (Web of Science and/or Scopus), 1 monograph, 7 full-text articles and 22 reports with published summaries in scientific publications, referenced and indexed in world-renowned databases with scientific information and impact factor are presented in the competition.

A report on the implementation of the minimum national requirements, the requirements of MU-Varna for occupying the academic position "Associate professor" in professional direction 7.1 is presented. Medicine, specialty "Nuclear Medicine".

A total of 13 scientific works of the Assistant Professor competition were presented. Of these, 9 full-text articles, 7 of which have been published in journals, referenced and indexed in world-renowned scientific information databases. 4 reports with published abstracts in journals indexed in Web of Science and/or Scopus are also presented. There is one participation in an international meeting of young scientists - 2012 EANM Young Investigators Meeting — The multimodal approach in pediatric oncology: impact on therapy and patient management, with presentation of own experience on children with neuroblastoma.

In the PhD contest were presented one dissertation on "⁸⁹Sr Metabolic Radiopharmaceutical Therapy (Metastron) in Painful Bone Metastases", 3 full-text articles published in refereed and indexed publications in world-renowned databases, 2 reports with published abstracts in indexed journals. Web of Science and/or Scopus and one full-text article in a non-refereed journal.

The impact factor of the precipitant so far is IF 204.073.

The total number of citations is 26

Evaluation of scientific contributions

I "Cutaneous melanoma through the eyes of nuclear medicine" - monograph

The topic of the application of nuclear medicine diagnostic methods in skin melanoma is extremely relevant. The monograph is a summary of the world and Bulgarian stage experience the staging, follow-up and assessing of the effect of the treatment in skin melanoma, with an emphasis on Nuclear medicine, both from the point of view of lymphoscintigraphy, as a gold standard for nodal staging in early melanoma, and hybrid positron- emission tomography with computed tomography (18F-FDG PET/CT) in advanced disease.

Educational and methodical contributions are the recommendations for the methodology of sentinel lymphoscintigraphy, the indications and contraindications for its implementation.

The demonstration of personal results from over 500 patients can be defined as an original contribution, defining in several chapters the role of 18F-FDG PET/CT, in staging, the strengths and weaknesses of the methodology in relation to different types of metastatic lesions, the evaluation of the effect of treatment and follow-up of high-risk groups of patients. An essential scientific contribution are the recommendations presented in two of the chapters (Chapters 6 and 7) concerning the use of 18F-FDG PET/CT for staging and follow-up of high-risk patients and which are based on both the literature review and of own results.

The most common side effects of immunotherapy detectable with 18F-FDG PET/CT are discussed and presented in detail, and its role in the early, subclinical detection of the latter, which is of practical importance in the need for treatment correction, is summarized.

II. Contributions from the dissertation "Metabolic radiopharmaceutical therapy with 89-Sr (Metastron) in painful bone metastases", MU Varna 2012.

1. For the first time in Bulgaria and synchronously with the TRAPEZE randomized controlled trial, a comprehensive assessment of the role and place of metabolic treatment with Sr-89 in patients with prostate cancer was made. In addition, the effect of combining Sr-89, bisphosphonates, chemotherapy, and radiation therapy was also studied in breast cancer patients. The presented materials are reflected in 10 conclusions with scientific and practical application.
2. In addition to the scientific and applied contributions in the field of metabolic therapy, a significant practical contribution was also the application for the first time in Bulgaria of Samarium-153 EDTMP (Quadramet) for the palliative treatment of a patient with bone metastases in prostate cancer in 2007.

III. Scientific contributions in the presented articles and reports

1. The leading and original scientific contributions, established by the articles presented in the competition and participation in scientific forums of Dr. Zhivka Dancheva, are mainly related to the long-term and rich experience with 18F-FDG PET/CT and 68Ga-PSMA. The studies with

18F-FDG PET/CT concern several main topics - head and neck carcinomas, breast carcinoma, multiple myeloma and two publications related to conducting the study in the conditions of the Covid-19 pandemic. Regarding prostate carcinoma, the author presented 6 publications and one presentation at a national urology conference, where she demonstrated extensive research and his own results and experience.

2. Five of the presented reports addressed several aspects of the application of 18F-FDG PET/CT in head and neck carcinomas, including a study on an own cohort of patients. The role of 18F-FDG PET/CT in the detection of synchronous occult carcinomas, which are common in head and neck carcinomas and are often the cause of the patient's short life expectancy, is highlighted, necessitating their early detection.

3. Multiple myeloma is addressed in two of the publications. The role of 18F-FDG PET/CT in the staging of bone lesions is compared to that of MRI and radiographs. It is found that 18F-FDG PET/CT is better for staging than other imaging methods (MRI, X-ray and CT).

4. Four of the publications address different aspects of breast carcinoma, with 3 of them discussing the treatment of men with stage IV breast cancer. One article presents an overview of the problems associated with breast carcinoma in young women, summarized as "the different disease." The latter is determined, on the one hand, by the often aggressive biological factors, and on the other hand, in terms of psychosocial difficulties and those related to with family planning.

5. The articles related to the conduct of 18-F FDG PET/CT in the conditions of the Covid-19 pandemic are of interest. The contribution of the articles is practical and innovative in nature to the knowledge of post-vaccination lymphadenopathy. It was recommended to administer the vaccine in the arm contralateral to the tumor in patients with malignant diseases.

6. A significant number of articles – 7 are devoted to the diagnosis of prostate carcinoma. The main contributions of these articles include revealing the fact that PSMA is not prostate-specific, as was believed at the beginning of the PSMA diagnostic era. It is possible to establish benign formations and processes with pathological expression of PSMA. It was found that false-positive lesions were frequently found, mainly in bones. This should be considered in patients with low-risk carcinomas and those with an undetectable PSA value. Two of the articles are on the

sensitivity of PSMA-PET/CT at low PSA values, below 0.200 ng/ml. The articles contribute to the correct understanding and interpretation of the results, given that there is a meaningful relationship between us of PSA and the ability of PSMA to detect metastatic lesions.

7. Of practical importance are a few rare cases in which a correct diagnosis was made thanks to 18-F FDG PET/CT. These cases are reviewed in detail and supported by histological confirmation. Review article on rare diseases, discusses the need for the specialized center already existing in Bulgaria.

7. In addition to the application of 18-F FDG PET/CT in oncological diseases, among the publications there is also the application of the methodology in inflammatory diseases, and in three of the publications it demonstrates cases of patients with chronic tonsillitis, infective endocarditis of prosthetic heart valves and sarcoidosis. As a scientific contribution, the experience and guidelines provided in the recognition of malignant from inflammatory lesions can be highlighted.

8. An overview of the increasing use of 18F-FDG PET/CT in the staging and evaluation of the effect of tyrosine kinase inhibitor treatment in GIST is presented. The role of imaging methods for early detection of distant metastasis is highlighted.

9. One publication beyond the minimum scientometric requirements was also presented, including a literature review and a clinical case of a patient with diffuse B large cell NHL.

Teaching and learning activity

Ch. assistant Dr. Zivka Dancheva Mezan, MD conducts lectures and practicals in Bulgarian and English for foreign medical students fourth year at Varna Medical University, radiation technologists, nurses and midwives from medical college-Varna. She also participates in the examination committees of Bulgarian and foreign students. Actively participates in conducting the basic theoretical courses for residents in nuclear medicine, not only as a lecturer, but also as an organizer. Dr. Dancheva is one of the organizers and active precipitant in the yearly taking part Nuclear medicine days in Varna.

Diagnostic and therapeutic activity

Dr. Zhivka Dancheva Mezan, MD, is an established specialist in nuclear medicine and takes an active part in the daily workload at the Nuclear Medicine Clinic of "Sveta Marina" UMBAL Varna. Works with the most modern equipment in the Nuclear Medicine Clinic with PET/CT and SPECT/CT, according to national and international standards. In his clinical practice, she also conducts metabolic therapy with ¹³¹I in patients with toxic adenomas and differentiated carcinomas of the thyroid gland.

Personal impressions of the candidate

I know Dr. Zhivka Dancheva Mezan as a prepared and established specialist and as a researcher with great potential and a competent teacher.

She is a respected specialist with authority among her colleagues in nuclear medicine, but also among those from different clinical specialties.

Conclusion:

Ch. assistant Dr. Zivka Dancheva Mezan, MD is presented in the competition with completely sufficient scientometric indicators.

Her scientific production and lecture-teaching activities are of high quality.

She is a well-established nuclear medicine teacher and specialist with extensive experience and practice and a desire for continuous improvement.

The scientific works presented by her are proof of her scientific and creative potential.

With all this, Dr. Zhivka Dancheva Mezan, MD, I consider that she fully meets the requirements of the "Law and Regulations for the Development of the Academic Staff in the Republic of Bulgaria" and the regulations of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. This gives me the reason to vote positively and with conviction to propose to the respected

members of the Scientific Jury to award ch. assistant Dr. Zhivka Dancheva Mezan, Ph.D.,
academic position "associate professor".

Varna


Prof. Dr. B. Chaushev, MD,

07.08.2023