

STATEMENT

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Subject: Competition for the academic position "Professor" in "Biochemistry", announced for the needs of the Department of "Biochemistry, Molecular Medicine and Nutrigenomics", Faculty of Pharmacy at the Medical University "Prof. Dr. P. Stoyanov", Varna.

Competition data

According Order No. R-109-96/21.03.2024 of the Rector of the Medical University "Prof. Dr. P. Stoyanov" - Varna, I was elected as a member of the Scientific Jury, and with protocol No. 1 of the first meeting of the Scientific Jury, I was appointed to prepare a statement in connection with the procedure for occupying the academic position "Professor" in the scientific specialty "Biochemistry" ", field of higher education 4. Natural sciences, mathematics and informatics, professional direction 4.3. Biological sciences under a competition announced in State Gazette No. 07/23.01.2024 for the needs of the Department of "Biochemistry, Molecular Medicine and Nutrigenomics", Faculty of Pharmacy at the Medical University "Prof. Dr. P. Stoyanov" - Varna, with the only candidate in the competition Assoc. Prof. Maria Atanasova Radanova, PhD from the same Department. The review of the documents shows that all necessary materials have been submitted and they fully meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its Application at the Medical University - Varna.

Biographical data

Assoc. Prof. Maria Radanova completed her higher education at Sofia University "St. Kliment Ohridski" in 1999 with a Master's degree in "Molecular Biology" and a specialization in "Clinical Chemistry". He has acquired a specialty in "Biochemistry" in 2015.

Maria Radanova began her professional career in 2000 as a biologist at the Institute of Reproductive Biology and Immunology "Acad. Kiril Bratanov", Bulgarian Academy of Sciences, Sofia. Later, in the period 2001-2006, he successively held the positions of biologist, assistant and senior assistant at Ruse University "Angel Kanchev", branch - Silistra. Since 2006, he has been an

assistant and later a senior assistant in biochemistry at the Department of Biochemistry, Molecular Medicine and Nutrigenomics of the Medical University "Prof. Dr. Paraskev Stoyanov", Varna. Since 2016, she has held the position of "Associate Professor" in "Molecular Biology" in the same department. In the period 2017-2023, she was appointed as an associate professor in the Laboratory of Molecular Pathology at the UMBAL "St. Marina", Varna. She worked as a part-time lecturer at the University of Rousse "Angel Kanchev", Faculty of Public Health and Healthcare in the period 2011-2012. In 2024, he was appointed to the position of established researcher (R3) in scientific group 3.1.1. on the project: "Medical University - Varna: Increasing Translational Achievements in Medicine (MUVE-TEAM)", Research Institute at the Medical University "Prof. Dr. Paraskev Stoyanov", city of Varna.

Research activity

Maria Atanasova Radanova was enrolled as a PhD student in 2007 and defended her PhD thesis in 2011 at the Medical University - Varna with the topic "Study of molecular effects of C1q inhibition in patients with lupus nephritis." Thus, in area 4. Natural sciences, mathematics and informatics, the candidate has the necessary 50 points on Indicator A1 of the scientometric indicators for occupying the academic position "Professor".

Prof. Maria Radanova has presented a description of the contributions of the scientific works in which she is an author/co-author. The reference is very well arranged and systematized, where the contributions are described briefly and comprehensively and are divided into scientific-theoretical, scientific-applied and methodological. The reference also indicates the scientific projects, the realization of which is connected with the respective contributions.

From the provided report on the contributions of Assoc. Prof. Radanova's scientific works, it is visible that her scientific and research activities are in the following three main directions:

- I. Diagnostic, prognostic and predictive biomarkers in solid tumors;
- II. Molecular effects of inhibition of C1q – the first component of the complement system – in patients with autoimmune diseases;
- III. Pathological dysregulation of metabolism

In direction *I. Diagnostic, prognostic and predictive biomarkers in solid tumors*, the role of non-coding RNAs (ncRNAs) and single nucleotide polymorphisms (SNPs) in their genes as diagnostic and prognostic biomarkers was investigated. In this direction, interdisciplinary teams have been united under the leadership of Assoc. Prof. Radanova, within the framework of two research projects and one PhD dissertation. As a result, a database of circular RNAs (circRNAs) with oncogenic function in colorectal carcinoma was created. Detailed information is presented on

all known names of the relevant circRNA, on its mechanism of action, on established associations with clinicopathological characteristics, as well as on its potential as a diagnostic and/or prognostic biomarker. Two novel colorectal carcinoma circulating circRNAs were identified, one of which has prognostic significance in metastatic patients. The prognostic potential of a novel colon carcinoma microRNA (microRNA, miRNA) in patients with advanced disease, and also single nucleotide polymorphisms (SNPs) in the genes of some miRNAs associated with the prognosis of patients with metastatic colorectal cancer and with the risk of developing the disease, these associations not being mediated by the levels of the respective miRNAs. Other research is related to the search, analysis and evaluation of biomarkers relevant to prognosis and response to therapy in patients with colorectal cancer, non-small cell lung cancer and metastatic breast cancer.

In direction *II. Molecular effects of the inhibition of C1q - the first component of the complement system - in patients with autoimmune diseases*, the contributions are result of the work on an international research project and a second PhD thesis, under the scientific supervision of Assoc. Prof. Maria Radanova. A functional deficiency of C1q was discovered for the first time, indicating the critical role of the functional regions located in the collagen like region of the protein in maintaining tolerance to self structures. The functional consequences of the binding of autoantibodies and hemolysis products to the globular domains of C1q have been established, which could explain the insufficient clearance of immune complexes and CRP-opsonized apoptotic cells in lupus nephritis. An association between certain genetic polymorphisms and the risk of developing rheumatoid arthritis was established for a Bulgarian cohort.

In direction *III. Pathological Dysregulation of Metabolism* Assoc. Prof. Maria Radanova studied the protective role of S-adenosylmethionines in a model of fructose-induced metabolic disorders in rats, where the beneficial effects of this compound on lipid peroxidation and other biomarkers of oxidative stress, as well as on the expression of hemoxygenase-1 in fatty liver. Another study conducted is the first meta-analysis in a pioneering study to assess the association between variants in dynein-related genes and male infertility.

All the presented original scientific contributions in the reference are of research published in the period 2017 - 2023 after the acquisition of the degree "Associate Professor" (June 22, 2016).

Publication activity

In the current competition for "Professor" in "Biochemistry", Assoc. Prof. Maria Radanova submitted an academic reference, which contains 5 (five) publications that are according to Indicator B4 - equivalent to a habilitation work (Habilitation work = scientific publications in publications that are referenced and indexed in world-renowned databases of scientific information (Web of Science and Scopus)). The total number of points under Criterion B is 102. In this way, the minimum and mandatory requirement of 100 points under Criterion B is met and exceeded.

According to Criterion Д in the documentation of Assoc. Prof. Maria Radanova, a total of 9 full-text articles, beyond those equivalent to a habilitation thesis, published in scientific journals, referenced and indexed in world-renowned databases with scientific information (Web of Science and/or Scopus) in journals with an impact factor (Indicator Г7) are presented. and two book chapters in publications referenced and indexed in Scopus (Indicator Г8). Also, outside of the minimum scientometric requirements, the candidate indicates two other publications in journals, referenced and indexed in global databases with scientific information, outside of the minimum scientometric requirements for occupying academic degree "Professor".

The scientific works of Assoc. Prof. Maria Radanova in indicators Г4 and Г7 for the period from 2017 to 2023 have a total Impact Factor of 44.892 and a total Scimago Journal Rank of 10.732. In 7 of the scientific works in indicators B4, Г7 and Г8 (16 in total) she is the corresponding and/or first author, and in 5 of the remaining scientific works in these groups of indicators - the last author. In addition, Prof. Maria Radanova has participated in a number of scientific forums in the country and abroad.

The citation index (h-index) of Maria Radanova is 10 according to Scopus (<https://www.scopus.com/authid/detail.uri?authorId=23499446600>) and 13 according to Google Scholar (<https://scholar.google.com/citations?user=UzXPPM0AAAAJ&hl=bg&oi=ao>).

The total number of points from the publications presented in the reference for fulfilling the minimum national requirements for the academic position "Professor" in Criterion Г is 210, fulfilling and exceeding the minimum requirement of 200 points from indicators Г5-Г10.

In indicator Д11, Assoc. Prof. Radanova indicated 119 citations (=238 points).

Assoc. Prof. Maria Radanova has participated in 4 national research projects (Indicator E14=40 points) and is the head of another 3 national research projects (Indicator E16=60 points) and is a leader of a Bulgarian team in an international research project (Indicator E17=50 points). Accordingly, the funds attracted for scientific projects, according to Indicator E18, the points are 57.

Teaching activity

Assoc. Prof. Radanova has more than 21 years of teaching experience, of which over 15 years at the Medical University - Varna and over 7 - as an associate professor at the Medical University - Varna. The average annual study and workload for 4 years is 217 hours, which exceeds the minimum requirement of 100 hours.

Assoc. Prof. Radanova is the supervisor of three successfully defended doctoral students: 1) Galya Mihailova Mihailova, doctoral program in Biochemistry, defended in 2020; 2) Maria Blagoeva Kosturkova, doctoral program in Internal Medicine, defended in 2022, and 3) Rostislav Radoslavov Manev, doctoral program in Oncology, defended in 2022 (Indicator E13=100 points).

As part of her teaching activities, Assoc. Prof. Maria Radanova is the author of a chapter in a university textbook (Indicator E19=0.98 points) and a co-author of four textbooks on biochemistry for students majoring in Medicine and Kinesitherapy (Indicator E20=9 points).

The total sum of points in the group of indicators E12-E20 is 316.98 points with a minimum requirement of 150 points, with the condition that at least 100 points are from Indicator E13.

In a summarized form, the scientometric indicators of Assoc. Prof. Maria Atanasova Radanova for the participation in the current competition for "Professor" in biochemistry are reflected in the following table:

Criterion	Content	Minimal scientometric „Professor“ (number points)	Maria Atanasova Radanova
A	Indicator A1: PhD thesis to acquire of the educational and scientific degree of PhD	50	50
B	Indicator B3 or B4: Habilitation thesis – monography	100	102
Г	Sum of indicators Г5-Г10	200 (≥ 80 p. from Indicator 7)	210 (180)
Д	Indicator Д11	100	238
E	Sum of indicators E12-E20	150 (≥ 100 p. from Indicator E13)	316,98 (100)

Conclusion

In conclusion, according to the materials and documents presented to me for a statement, I believe that the scientific interests and contributions of Associate Professor Maria Atanasova Radanova, PhD, are in accordance with the profile of the announced competition. All mandatory requirements for scientometric indicators laid down in the currently effective Law on the Development of Academic Staff of the Republic of Bulgaria and the Regulations

for the Development of Academic Staff at the Medical University "Prof. Dr. P. Stoyanov", city of Varna.

Based on the performance of the mandatory scientometric indicators, as well as my general assessment of her research and teaching activities and scientific contributions, I consider that Assoc. Prof. Maria Radanova meets all the requirements for holding the academic position "Professor", reflected in the above mentioned regulations. All this gives me the reason to give my positive assessment and with conviction to recommend to the Honorable Members of the specialized Scientific Jury to award her the academic position "Professor" in the scientific specialty "Biochemistry", in the professional direction 4.3. Biological Sciences, for the needs of the Department of Biochemistry, Molecular Medicine and Nutrigenomics at the Faculty of Pharmacy of the Medical University "Prof. Dr. Paraskev Stoyanov", city of Varna.

May 28, 2024

Varna

Member of scientific jury

/Prof. Yoana Kiselova-Kaneva, PhD/

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