

OPINION

by Assoc. Prof. Velichka Yordanova Andonova, Ph.D.,

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Member of scientific jury according to Order № R-109-117/22.03.2024 of the Rector of Medical University – Varna

Regarding: competition for the academic position "Associate Professor," specialty "Pharmaceutical Chemistry," the field of higher education 7. "Health and Sports," professional field 7.3. "Pharmacy"—one, announced in SG issue 07/23.01.2024 for the needs of the Faculty of Pharmacy to Department of "Pharmaceutical Chemistry" of the MU-Varna.

By order № P-109-117/22.03.2024 of the Rector of MU-Varna, I was elected as a member of the Scientific Jury, and according to Protocol № 1 of the first meeting of the Faculty of Science, I was appointed to prepare an opinion in the procedure for holding an academic position "associate professor" in "Pharmaceutical Chemistry" specialty. One candidate, Ch. Assist. Prof. Nadya Vasileva Agova, PhD, is participating in the competition. The competition procedure has been followed. The submitted documents have been prepared following the requirements of the Act on Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation, and the Regulations on academic staff development at Medical University "Prof. Dr. Paraskev Stoyanov"—Varna and the criteria for holding the academic position "associate professor" laid down there.

Analysis of the applicant's career profile:

Ch. Assist. Prof. Nadya Agova was born in 1991 in Petrich. In 2016, she graduated as a Master of Pharmacy at the Faculty of Pharmacy of the Medical University of Varna.

From 2016 to 2019, she was a PhD student in an independent form of study at the Department of "Pharmaceutical Chemistry", faculty of "Pharmacy" at the MU-Varna with the dissertation work on the topic "Preparation and characterization of bexarotene derivatives with potential biological activity". Consecutively, in 2019 and 2022, she acquired the specialties

"Analysis of medicinal products" and "Toxicology and toxicological analysis" according to Regulation № 1/22.01.2015.

From 2016 to 2020, she was an assistant in the "Pharmaceutical Chemistry" department of the University of Varna, after which she held the position of "chief assistant professor" in the same department until now. The general academic experience of Ch. Assist. Prof. Nadya Agova in the professional direction of "Pharmacy" has been in the field for eight years. She also works as a Pharmacist with an M. Sc in pharmacy.

Teaching and learning activity

Ch. Assist. Prof. Nadya Agova began her teaching career as an assistant professor in the Pharmaceutical Chemistry department of the Faculty of Pharmacy at the Medical University of Varna in 2016, where she led practical exercises in pharmaceutical chemistry and the elective course "Chemistry of Antibiotics" for students in the regulated profession - Pharmacy. As well as the discipline "Quality and properties of the starting raw materials in cosmetics" for students of the specialty of the unregulated profession - "Cosmetology". By decision of the Faculty Council, 37 hours of lectures on the same disciplines have been assigned. The study load for the last five academic years averages 361 study hours/year.

Scientific activity

In the current competition, Ch. Assist. Prof. Nadya Agova presents 23 full-text scientific publications in addition to those for acquiring a PhD degree; 1 habilitation thesis – monograph; and one more full-text publication in a scientific journal, beyond the minimum scientometric requirements for taking the academic position of "associate professor":

- ✓ Habilitation thesis – monograph, titled "Systematic review of the properties and action of nutritional supplements. Safety and quality" with a volume of 249 pages, co-authored with Assoc. Prof. Svetlana Fotkova Georgieva. A separation protocol is presented, certifying the equal contribution of the two authors (indicator B3 – 100 points).
- ✓ six scientific publications were published in scientific journals, referenced and indexed in world-renowned databases of scientific information (WoS; 82 points), and 17 were published in non-refereed peer-reviewed journals or published in edited collective volumes (157 points). In the published full-text scientific publications in journals and anthologies, Ch. Assist. Prof. Agova is the first author in 13 of them, the second author

in 7, and the third and successive author in 3. The total number of points for indicators G5-G9 is 239 items with a mandatory minimum of 200 p.

- ✓ Nadya Agova has been cited in scientific publications six times. 2 according to indicator D10 and 4 according to indicator D12. The author has a total of 50 points in indicator group D.
- ✓ She has acquired medical specialties in "Analysis of medicinal products" and "Toxicology and toxicological analysis" under Regulation № 1/22.01.2015.
- ✓ Participated in 7 national scientific or educational projects:
 - Project #23009 "Design, production and research of isatin hybrid molecules with suspected broad-spectrum antimicrobial activity and potential application in implantology";
 - Project #20008 "Investigation of the toxicity of bexarotene hydrazones by applying the *in vitro* and *in vivo* method";
 - Project #29 "Prediction of the toxicity of newly synthesized hydrazide and hydrazone derivatives with potential antineoplastic effect";
 - Project #19026 "Determination of the antimicrobial activity of newly synthesized nitroimidazole derivatives with potential application in transplantation medicine";
 - Project #18019 "Synthesis and characterization of new nitroimidazole derivatives with potential biological effect";
 - Project #18018 "Determination of biological activity and antioxidant properties of neosynthesized bexarotene analogs";
 - Project #17011 "Synthesis and characterization of a new generation of retinoids".

Apart from the minimum scientometric requirements for taking the academic position of "associate professor", Ch. Assist. Prof. Nadya Agova presents one more full-text publication in a scientific journal, bringing her 7.5 points. She participated in 38 scientific forums.

The general assessment of the candidate's compliance with the mandatory conditions, quantitative criteria, and scientometric indicators according to the Act on Development of the Academic Staff in the Republic of Bulgaria and the Regulations on academic staff development at Medical University "Prof. Dr. Paraskev Stoyanov"—Varna and the criteria laid down in them for occupying the academic position „associate professor"

Ch. Assist. Prof. Nadya Vasileva Agova presents evidence of the fulfillment of the mandatory conditions, quantitative criteria, and scientometric indicators according to the Act on Development of the Academic Staff in the Republic of Bulgaria and the Regulations on academic staff development at Medical University "Prof. Dr. Paraskev Stoyanov"—Varna and the requirements laid down in it for occupying the academic position "associate professor" in the field of higher education 7 "Health and sports", professional direction 7.3. Pharmacy. According to the PRAS of MU-Varna, the total number of points by groups of indicators of the candidate is 439 against the required 400.

The documents submitted by Ch. Assist. Prof. Nadya Agova fully meet and exceed the minimum national requirements and those of the Regulations on academic staff development at Medical University "Prof. Dr. Paraskev Stoyanov"—Varna for occupying the academic position "Associate Professor" in the field of higher education 7. "Health and Sports", professional direction 7.3. Pharmacy.

Evaluation of scientific contributions

The scientific contributions in the publications of Ch. Assist. Prof. Nadya Agova, submitted for participation in the current competition, focus on several interrelated scientific areas corresponding to the topic of the announced competition in professional direction 7.3 "Pharmacy".

The monograph deals with fundamental issues in using nutritional supplements. The content is structured in three chapters. The first chapter is devoted to the classification of dietary supplements and the role of vitamins, antioxidants, minerals, and amino acids as essential nutritional supplements, the interaction between them, individual characteristics, recommended intake, potential benefits and risks of their use, and the risks of their joint use with drugs products. The second chapter thoroughly examines the regulatory framework related to the production, distribution, and Application of nutritional supplements. It focuses on the main points in European, Bulgarian, and Russian legislation. The prohibited substances, contaminants, and methods for their identification are indicated. In the third chapter, the results of the studies regarding market trends regarding nutritional supplements and consumer attitudes toward using dietary supplements in Varna are indicated. The eating behavior and eating habits of students from Bulgaria and Russia in the conditions of COVID-19 were also analyzed.

The author's research, reflected in the published articles, covers the following main scientific directions:

- ✓ Synthesis and characterization of bexarotene analogs with potential pharmacological activity. Scientific contributions include the developed three-step synthetic approach for obtaining new hydrazide-hydrazone derivatives of bexarotene; the structural characterization of the newly obtained compounds using instrumental analysis methods - IR-spectroscopy, ¹H-NMR-analysis and mass spectrometry; the development and validation of a rapid, precise and accurate HPLC method for the identification of bexarotene and its derivatives alone and in mixtures - publications G7-1, G8-1, G8-4.
- ✓ Application of *in silico* and *in vitro* models to predict the toxicological and pharmacological profile of bexarotene, its metabolites, and derivatives - publications G7-2, G7-3, G8-2, G8-3, G8-7, G8-9, G8-10.
- ✓ Studies on the antimicrobial activity of a newly synthesized bexarotene derivative against *Escherichia coli* and *Staphylococcus aureus* clinical isolates in mouthwash - publications G7-4, G8-6.
- ✓ Analyzing data in the scientific literature on the history and development of retinoid therapy and the possibility of drug design of new compounds is done through publications G8-2, G8-11, G8-13, and G8-14.
- ✓ Tracking trends for modern therapy of socially significant diseases - publications G7-5, G7-6, G8-8, G8-12, G8-15, G8-16, G8-17.
- ✓ Quality assurance of medicinal products - publications D8-5 and additional 1.

I believe that the scientific works of Ch. Assist. Prof. Nadya Agova possess modern scientific and applied merits and have made an original contribution in the field of the announced competition for associate professor in the specialty "Pharmaceutical Chemistry".

CONCLUSION

Based on the materials provided to me on the competition and my impressions of Ch. Assist. Prof. Nadya Agova, I am convinced that she fully meets the requirements of the the Act on Development of the Academic Staff in the Republic of Bulgaria, the Rules for its Application, and the Regulations on academic staff development at Medical University "Prof. Dr. Paraskev Stoyanov"—Varna and the criteria laid down in it for taking the academic position of "associate professor".

In connection with the above, I confidently give my positive assessment and recommend the members of the scientific jury to vote positively for the occupation of the academic position of "associate professor" in area 7. "Health and sports", professional direction 7.3. Pharmacy by Ch. Assist. Prof. Nadya Vasileva Agova, Ph.D..

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Prepared.....

(Assoc. Prof. Velichka Andonova, Ph.D.)