

OPINION

by Prof. Mariana Dimitrova Argirova, DSc
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concerning the materials submitted for participation in a competition for the academic position
"Associate Professor " at the University "Prof. Dr. Assen Zlatarov" – Burgas
in the field of higher education 4. Natural sciences, mathematics, and informatics, professional
field 4.2. Chemical sciences, scientific specialty Biochemistry

1. General presentation of the submitted materials

By Order No. RD-266 of the Rector of the University "Prof. Dr. Assen Zlatarov" - Burgas, as of September 15, 2022, I am confirmed as a member of a scientific jury, rendered to take a decision on granting the academic position (AP) "Associate Professor"; a competition announced in the State Gazette, no. 45/17.06.2022 (p. 39) and on the University website. At the first meeting of the scientific jury, held on October 5, 2022, I was assigned to prepare an opinion on this competition. Chief Assistant Professor Yordan Nikolaev Georgiev, Ph.D. from the Laboratory of Biologically Active Substances (LBAS) – Plovdiv of the Institute of Organic Chemistry with Centre of Phytochemistry (IOCCP), participates as the only candidate in the competition. He submitted all the documents required for the procedure in electronic format.

2. Candidate's career profile

The candidate for AP "Associate Professor" Yordan Georgiev is a graduate of the University of Food Technology (UHT) – Plovdiv, where he received a bachelor's degree in 2011, and in 2013 he received a master's degree in biopharmaceutical biochemistry at University of Plovdiv "Paisii Hilendarski". During his professional life he worked in UHT and "ITC-Innovative Technological Center" Ltd., Plovdiv as a researcher and analytical chemist. He received the educational and scientific degree "Doctor" in the doctoral program "Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances" (former code 01.05.10) in March 2018, after successfully completing full-time doctoral studies at LBAS - Plovdiv, IOCCP – BAS. Since July 2018, he has held the position of "Chief Assistant Professor" in LBAS, IOCCP – BAS. He also worked as a part-time Assistant Professor in biochemistry at the MU – Plovdiv. After winning competitions, he specialized in foreign laboratories in Germany, Japan, the Czech Republic, and Norway. He is a participant in doctoral student mobility under the Erasmus+ program for the purpose of training.

Dr. Yordan Georgiev has been granted with Young Scientist Award "Prof. Marin Drinov", in the 2021 competition, in the field "Biomedicine and quality of life", awarded by BAS on 24.05.2022. He has several other awards and nominations for his scientific activity.

3. Compliance of the presented materials with the minimum requirements of the Development of Academic Staff in Republic of Bulgaria Act (DASRBA, Amendment by decree № 26/13.02.2019) for field 4. Natural sciences, mathematics and informatics, Professional field 4.2. Chemical Sciences and the requirements of the Regulations for the terms and conditions for acquiring scientific degrees and for holding academic positions at the University "Prof. Dr. Asen Zlatarov"

General requirements

The candidate meets the requirement of having held the position of "Chief Assistant Professor" for at least 2 years and having at least 5 years of experience as a member of a research team in a university or scientific organization.

Group of indicators A

The candidate for AP "Associate Professor" has defended a dissertation for obtaining of the educational and scientific degree "Doctor" (PhD), which is based on 5 scientific papers that do not duplicate the publications presented in the current competition.

Group of indicators V

To meet the requirements under this indicator, the candidate presents 6 scientific publications, equivalent to a habilitation thesis, which do not repeat those presented in other competitions for holding academic positions and acquiring scientific degrees. Five of them are in journals in the first quartile and one in the second. These articles deal with biologically active polysaccharides isolated from medicinal plants, edible mushrooms and microorganisms, their chemical characterization, and their immunomodulatory action.

Dr. Yordan Georgiev is the first and corresponding author of 4 of these articles, and in one he is the second author, which gives me reason to assume that the candidate for AP "Associate Professor" made a substantial contribution to the experimental work and the preparation of the articles. They have been published in leading scientific journals in the field, e.g. *Journal of Ethnopharmacology* (fourth ranked among integrative and complementary medicine journals) and *International Journal of Molecular Sciences*.

In total by indicator group B, the candidate receives 145 points out of the required 100 points.

Group of indicators G

To cover the criteria under group of indicators D, 13 publications are presented, which are thematically grouped in two scientific areas – chemical characterization of biologically active polysaccharides isolated from natural sources and phytochemical analysis and antioxidant properties of extracts from forest fruits, vegetables, and medicinal plants aiming of developing new functional products with biomedical application. All of them were published after the defense of the dissertation thesis for obtaining the PhD degree, but basically, they are a logical extension of the dissertation, consistent with the current trends in the use of plant sources for the sake of human health, and these studies fit to the major scientific fields supported by IOCCP and LBAV – Plovdiv.

The first three articles presented in this section report on the isolation and chemical characterization of pectin polysaccharides from little studied plant sources – Mountain tea, leek

and *Fumaria officinalis*. Along with data on the chemical composition, established using modern instrumental methods, the physico-chemical properties of polysaccharides were also studied from the practical application in the food industry point of view.

Ten of the submitted articles can be combined as studies on low molecular mass bioactive constituents of plants such as aronia and other fruits, research on their antioxidant potential and the possibility of using these plant sources as functional foods.

All articles submitted to meet the requirements of indicator D have been published in journals referenced in international databases of scientific literature (WoS and Scopus) and have a high impact factor. I think that the publication of some of the articles in the journal *Bulgarian Chemical Communications* should be admired, since the presentation of these high-value scientific works to this journal increases its international weight. Seven of the articles are in journals in the first quartile, 3 in the second quartile, and 3 publications have Scopus impact rank.

In total, according to indicators D, the candidate has 265 points out of the required 200.

Response of the scientific community to the publications of Dr. Yordan Georgiev (indicator D)

The scientific works of Dr. Yordan Georgiev arouse interest among the scientific community, as evidenced by the fact that more than half of the articles submitted for evaluation in the current competition are cited by other authors. There are no self-citations or "hidden" citations from other co-authors in the citation list presented.

Although the Hirsch index value of the candidate for associate professor, which refers to the overall quotation of his works, is not included as a criterium, I must note that at the time of preparing my opinion Dr. Yordan Georgiev has an h-index of 6 (Scopus), which is a very good achievement for a young scientist.

I also highly admire the candidate's intensive reviewer activity for Bulgarian and international scientific journals; an activity that rarely finds recognition in competitions and attestations but is a testimony of a scientist's acquired scientific prestige and maturity.

According to indicator D of the minimal national requirements, the candidate for AP "Associate Professor" collects 218 points out of the required 50.

4. Evaluation of educational and pedagogical activity and preparation of the candidate

Dr. Yordan Georgiev was the supervisor of a graduate student completing a bachelor's degree at UHT. The topic of the thesis is closely related to the research work of the supervisor, which led to the successful defense of this thesis. He was also the supervisor of an internship within Project BG05M20P001-2.002-0001 of the Ministry of Education and Culture "Student practices - Phase 1", financed by the operational program "Science and education for intelligent growth".

I read with satisfaction the candidate's vision for his teaching activity at the University "Prof. Dr. Asen Zlatarov" – Burgas and the published self-training text-book for students. I would recommend him to consider developing and introducing an optional teaching course on oxidative stress and antioxidants, bearing in mind the importance of this process in the pathology of many

diseases and conditions. Unfortunately, this topic is not covered by the basic courses of most medical specialties, and I am sure that Dr. Yordan Georgiev has a very good background in this field.

5. Scientific projects

In the period after holding the position of Chief Assistant, the candidate for Associate Professor participated in 8 national and 2 international projects. He himself is the head of two postdoctoral projects and the head of the Bulgarian team in an international project. I find a good link between the topics of the contracts and the topics of the candidate's scientific articles, which confirms their scientific and applied nature.

6. Popularization of the results of scientific activity (scientific forums)

For the past 4 years, the candidate for JSC "Docent" has been a participant in over 30 scientific forums at home and abroad, where the results of his research activities are presented through reports or posters.

7. General characteristics of the applicant's activity

The significance of the presented scientific works for participation in the competition, assessed by the high ranking of the scientific journals in which they were published; the positive response from other scientists, mostly foreign, to the results of these scientific studies, expressed through their high citation rate; active participation in projects, including international ones, his experience as a tutor in the preparation of diploma theses and management of internships are very serious arguments in support of the candidacy of Dr. Yordan Georgiev to hold the AP "Associate Professor". The candidate significantly exceeds the minimum requirements of DASRBA for taking this AD and leaves the impression of an ambitious young scientist with extensive knowledge of natural product research methods and mastery of a wide range of experimental techniques. This gives me the confidence that, if elected, he will be able to develop and hold an adequate lecture course in biochemistry for the needs of medical students at the University of Prof. Dr. Asen Zlatarov", which is the purpose of this competition. His experience as a part-time lecturer at MU – Plovdiv will probably help him in this regard. Undoubtedly, his habilitation will open new horizons for him to supervise full-time PhD students, funding raise through national projects and active international cooperation.

CONCLUSION

The documents and materials presented by Dr. Yordan Nikolaev Georgiev meet all the requirements of the DASRBA, the Regulations for the implementation of the DASRBA and the Regulations for the terms and conditions for acquiring scientific degrees and for holding academic positions at the University "Prof. Dr. Asen Zlatarov".

The candidate in the competition has submitted enough scientific works published after the obtaining his PhD degree and after receiving the AP "Chief Assistant Professor". The candidate's works contain original scientific and scientific-applied contributions that have received international recognition, predominantly published in journals issued by international academic

publishing houses. A significant part of the theoretical research in which he participated, have practical applicability.

After getting acquainted with the materials and scientific works presented in the competition, analyzing their significance and the scientific and scientific-applied contributions, I find it reasonable to give my positive assessment and to recommend the respectable Scientific Jury to prepare a report-proposal to the Faculty Council of the Medical Faculty of the University "Prof. Dr. Asen Zlatarov" for the election of Dr. Yordan Georgiev to the academic position "Associate Professor" in the scientific specialty "Biochemistry".

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Prepared by: