

OPINION

**by Dr. Svetlana Milcheva Momchilova - Associate Professor
at the Institute of Organic Chemistry with the Centre for Phytochemistry - BAS**

of the materials submitted for participation in the competition
to occupy the academic position of "**Associate Professor**"
at **University of Plovdiv "Paisii Hilendarski"**

by: field of higher education 4. Natural sciences, Mathematics and Informatics
professional direction 4.2 Chemical sciences
(Organic Chemical Technology, Food Chemistry)

In the competition for academic position of "Associate Professor", announced in the State Gazette, no. 39 of 02.05.2023 and on the web-site of Plovdiv University "Paisiy Hilendarski" for the needs of the Department of Chemical Technology at the Faculty of Chemistry, as the only candidate participates Assist. Prof. Dr. Zhana Yulianova Petkova from the Department of Chemical Technology of the PU "P. Hilendarski".

1. General presentation of the received materials

Subject:

By order No. RD-21-1426 dated 30.06.2023 of the Rector of the Plovdiv University "Paisii Hilendarski" (PU) I have been appointed as a member (external to the PU) of the scientific jury in the competition for the academic position of "**Associate Professor**" **at the PU** by field of higher education 4. Natural sciences, Mathematics and Informatics, professional direction 4.2 Chemical sciences (Organic Chemical Technology, Food Chemistry), **announced for the needs of the Department "Chemical Technology"** at the Faculty of Chemistry of the PU.

Only **one candidate** submitted documents for participation in the announced competition, namely **Assist. Prof. Dr. Zhana Yulianova Petkova** from PU "P. Hilendarski".

The set of materials presented by Assist. Prof. Dr. Zhana Petkova is in accordance with the Rules for the Development of the Academic Staff of the PU, and includes the following documents:

- Autobiography;
- Diplomas for degree "Bachelor", "Master" and "Doctor";
- List of scientific works and electronic copies of publications;
- List of citations (2015-2022);

- Certificate of compliance with the minimum national requirements for professional direction 4.2. Chemical sciences and Certificate of compliance with the minimum additional requirements of the Faculty of Chemistry at PU "P. Hilendarski";
- Annotations of the materials under Art. 65. from Rules for the Development of the Academic Staff of the PU (in Bulgarian and English) and extended habilitation reference;
- Self-assessment of contributions;
- Declaration of originality and authenticity of the attached documents;
- Certificate of work experience;
- Certificate of academic work, Certificate of teaching mobility under "Erasmus+", title pages of graduate theses of students under the supervision of the Assist. Prof. Dr. Zhana Petkova;
- Documents for scientific research work - lists of participation in projects, conferences, prepared reviews, samples of scientific activity from Scopus and Web of Science.

The candidate Assist. Prof. Dr. Zhana Petkova has submitted a total of 29 scientific papers and 1 textbook for laboratory work. **18** scientific papers are accepted for review (all of them in publications, referenced and indexed in the Scopus and/or Web of Science databases): **6** according to indicator **C4** (*B4* in Bulgarian, as an equivalent number of articles for a habilitation thesis) and **12** according to indicator **D** (*I* in Bulgarian), which are outside the dissertation and are counted in the final grade, and **1** textbook for laboratory practice. 6 research papers on the dissertation and 5 research papers from the competition for the academic position "Assist. Prof." are not reviewed being outside of the competition's issues.

2. Brief biographical data of the applicant

The candidate in the competition Assist. Prof. Dr. Zhana Petkova obtained her Bachelor's degree in 2009 and the Master's degree in 2010, in scientific specialty "Technology of fats, essential oils, perfumery and cosmetics" at the University of Food Technologies - Plovdiv. In 2015, she defended her thesis for the degree "Doctor" at the Faculty of Chemistry of the PU "P. Hilendarski". In 2015, she became an Assistant, and from 2016 until now she is Assist. Prof. in the Department of Chemical Technology in the Faculty of Chemistry of the PU "P. Hilendarski", where she is actively engaged in research and teaching activities.

3. General characteristics of the applicant's activity

Evaluation of the educational and pedagogical activity

For the period 2016-2023, Assist. Prof. Dr. Zhana Petkova has an active teaching activity at the PU with 4158 hours in classroom with students, at a required minimum of 1080 hours. She was the scientific supervisor of three students' theses (in 2017, 2018 and 2019). She briefly visited the University of Lisbon in 2023 as an Erasmus+ lecturer. She is the co-author of a textbook for laboratory practice in Food Chemistry.

Evaluation of the candidate's scientific and scientific-applied activity

Among scientific publications presented in the current competition, 8 are in journals of category Q1 (3 issues according to indicator C and 5 according to indicator D), 6 are in journals of Q2 (1 according to indicator C and 5 according to indicator D), 2 are in journals of Q3 (1 each of indicators C and D) and 2 are in journals of Q4 (1 each of indicators C and D). After 2016, Assist.Prof. Dr. Zhana Petkova was the coordinator of 2 national research projects (1 at the BNSF and 1 at the NSP "Young scientists and post-doctoral students"), a participant in 4 university projects (3 at the PU and 1 at the UFT-Plovdiv), in 1 international, in 1 under OP SEID and in 1 under the Recovery and Development Mechanism. In the period 2016-2023, she participated with posters in 3 international conferences and 5 seminars with international participation; she has given 4 talks and presented 21 posters at national, national with international participation, and university conferences. She has reviewed 20 articles in scientific journals.

Contributions (scientific, scientific-applied, teaching-methodical) and citations:

- For the first time, the chemical composition, with an emphasis on the lipids, has been investigated for unconventional and so far rarely used plants in Bulgaria such as the fruits of sorghum, vitex, laurel and juniper, fruits and seeds of two physalis types, seeds of black pine, lupine, tobacco, roshkov, nettle, burchak and madiya, with the aim of their detailed characterization to establish biologically active components and their application for food, pharmaceutical and other industrial purposes.
- The changes that occur after heat treatment under different conditions of pumpkin, melon and sunflower seed oils have been determined, and approaches have been found to increase their oxidative stability.
- Information about composition of the investigated plant raw materials, as well as that of eggs from different genotypes of hens, can be used to prepare food products with improved physical and functional properties.
- A Guide for laboratory practice in Food Chemistry has been issued, which will be of great benefit not only to students in the Bachelor's and Master's programs, but also to specialists from various other scientific fields, incl. outside the system of university education.

The materials for the present procedure also include a list of 232 citations for the period 2015-2022, of which 90 citations (70 of them referenced and indexed in Scopus and/or WoS) are of the publications included in this competition. The candidate Assist. Prof. Dr. Zhana Petkova has an h-index of 7 (Scopus) and 5 (Web of Science) and her quantitative indicators of the criteria for holding the academic position "Associate Professor" (752 points) significantly exceed the required minimum of 400 points.

Implementation activity

Copyright certificates, patents, etc. are not presented.

4. Evaluation of the candidate's personal contribution

All scientific publications are co-authored, and in 6 of them (33%) the Assist. Prof. Dr. Zhana Petkova is first and/or corresponding author.

5. Critical remarks and recommendations

No.

6. Personal impressions

I have talked with the Assist. Prof. Dr. Zhana Petkova during a scientific seminar and I have excellent impressions of her scientific competence.

CONCLUSION

The documents and materials presented by Assist. Prof. Dr. Zhana Petkova for this competition meet the requirements of the Law on the development of the academic staff in the Republic of Bulgaria, the Regulations for its implementation and the Regulations for the development of the academic staff at the PU. The scientific works participating in the competition, published after receiving the degrees of "Doctor" and "Assist. Prof.", are sufficient in number and show contributions in the characterization of lipids in various plant raw materials with the possibility of being used in food products and feed mixtures, as well and as a promising source of valuable biologically active components. The indicators of the Assist. Prof. Dr. Zhana Petkova for her scientific research and teaching activities significantly exceed the minimum national and additional requirements of the PU for occupying the academic position "Associate Professor". All this gives me the reason to give my **positive assessment** and to recommend the Scientific Jury to prepare a report with proposal to the Faculty Council of the Faculty of Chemistry for the election of the Assist. Prof. Dr. Zhana Yulianova Petkova in the academic position of "Associate Professor" at PU "Paisii Hilendarski" in the field of higher education 4. Natural sciences, Mathematics and Informatics, professional direction 4.2 Chemical sciences (Organic chemical technology, Food chemistry).

05.09.2023

Reviewer:

Assoc. Prof. Dr. Svetlana Momchilova