

OPINION

by **Dr. Romyana Ivanova Bakalska,**

Associate Professor at Plovdiv University "Paisii Hilendarski"

of the materials submitted for participation in the competition

to occupy the academic position of "**Associate Professor**"

of Plovdiv University "Paisii Hilendarski"

in: higher education field 4 Natural sciences, mathematics and informatics

professional direction 4.2 *Chemical Sciences (Organic Chemical Technology, Food Chemistry)*

In the "Associate Professor" competition, announced in the State Gazette, no. 39 of 02.05.2023 and on the website of Plovdiv University "Paisii Hilendarski" for the needs of the Department of Chemical Technology at the Faculty of Chemistry, as the **only candidate** participated Chief Assistant **Zhana Yulianova Petkova**, PhD, from the Department of Chemical Technology, Faculty of Chemistry, "Paisii Hilendarski" University.

1. General presentation of the procedure and the candidate

By order No. PD-21-1426 dated 30.06.2023 of the Rector of the Plovdiv University "Paisii Hilendarski" (PU), I have been appointed as a member of the scientific jury to ensure a procedure for selecting an "**Associate Professor**" **at the PU** in the field of higher education 4 Natural sciences, mathematics and informatics, professional direction 4.2 **Chemical Sciences (Organic Chemical Technology, Food Chemistry)** for the needs of the Department of Chemical Technology at the Faculty of Chemistry of the PU. The presented by Dr. Zhana Petkova, a set of materials on paper and electronic media is in accordance with Article 36 (1) of the Regulations for the Development of the Academic Staff of the PU, and includes all the required documents.

To participate in the competition, the candidate Dr. Petkova submitted a total of **30** scientific articles and **1** university textbook. All of them are in the competition area of Organic Chemical Technology. The dissertation work for obtaining the educational and scientific degree "Doctor" is

based on 6 articles, and in the competition for the administrative position "Chief Assistant" 5 articles are presented. For her participation in the current competition for "Associate Professor", Dr. Petkova presents **18** scientific articles published in prestigious international editions specialized in the field and **1** university textbook. All **18** articles have been published in issues that are referenced and indexed in the world-famous *Web of Science (WOS)* and *Scopus* databases, with **8** of them being **Q1** quartile, **6** pcs. are with **Q2**, **2** pcs. are with **Q3** and **2** pcs. are with **Q4**. All scientific publications are co-authored, which is usual for the chemical field, and in 6 of the publications (33%) the candidate is the first and/or corresponding author.

Brief biographical data. Zhana Petkova completed her higher education at the University of Food Technologies in 2009, majoring in "*Technology of fats, essential oils, perfumery and cosmetics*", and the following year a master's program in the same major and university. In the period 2012-2015, she was a PhD student at the Department of Chemical Technology at the Faculty of Chemistry of PU. She successfully defended his dissertation work on the topic: "Investigation of the composition of biologically active components in the seeds of fruits of the family *Cucurbitaceae* and their potential application in food and cosmetic products" in 2015, and since then she has been working as an Assistant and Chief Assistant at same department. Zhana Petkova is upgrading her knowledge and skills at the International School of Instrumental Methods of Analysis for students from Southeast Europe in the field of GC, UV-Vis, IR-methods for the analysis of wines, foods and food additives.

2. General description of the applicant's activity.

Dr. Zhana Petkova is distinguished by her intensive teaching and research activity.

Evaluation of educational and pedagogical activities.

Chief Assistant Petkova has 8years of teaching experience in the Chemical Technology Department. Her annual study load in the period 2016-2023 is between 530 - 720 hours (with the 360 plan). She conducts lecture courses in the following disciplines - optional subjects Food additives, Materials for medicine (for bachelors), Chemistry of food additives; optional subjects Functional foods (for masters, specialty Food Chemistry). In addition, she leads exercises and seminars in the following disciplines: for bachelors - High molecular compounds, Chemistry of polymers, Food analysis, Technology of medicinal products - Part II, Technology of dosage forms, Materials for medicine, optional subjects Nutritional supplements, optional subjects Food chemistry; For Masters - Food Chemistry, Chemistry of Food Products Part I, Scientific Research Practice I, Chemistry of Food Additives, optional subjects Functional Foods. She is the academic supervisor of 3 graduates who have successfully defended their diplomas.

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

Dr. Petkova's scientific research activity is impressive - high publication activity, management of national projects and participant in scientific teams, including international ones. She is a leading researcher of a scientific group for the project "Digital Sustainable Ecosystems - Technological Solutions and Social Models for Ecosystem Sustainability (DUEkoS)", for Investment Project 4 "Research Universities" from the Recovery and Sustainability Plan; She is the head of 2 successfully completed projects at the Ministry of Education and Culture, as well as a member of the scientific teams of another 9 projects. Her activity is also manifested in the organization of several scientific conferences in the faculty as a member of their organizing committees.

Contributions (scientific, applied science, applied) and citations.

Scientific achievements are generally contributions to the enrichment, expansion and deepening of knowledge in the researched field. According to the author's evaluation, the scientific and scientific-applied contributions of the works can be grouped in the following areas:

- complex assessment of the chemical and lipid composition of a number of traditional and non-conventional plant cultures, in order to establish the presence of biologically active components, and their application for food, pharmaceutical and other industrial purposes;
- finding opportunities to increase the oxidative stability of glyceride oils, based on the research conducted on changes in the lipid composition and physicochemical characteristics of lipid products subjected to heat treatment and long-term storage;
- establishing the composition of eggs from different genotypes of hens in order to increase consumer awareness.

The total number of observed citations across all publications (up to 2022) is **232**, with **162** in *Scopus* and/or *Web of Science* databases and **70** in other non-refereed peer-reviewed journals.

3. Critical remarks and recommendations.

I have no critical remarks about the materials presented to me, on the contrary - the documentation for the competition is completed and arranged neatly, which not only eases the work of the scientific jury, but also confirms the overall excellent impression of the candidate's creative presentation.

CONCLUSION

The documents and materials presented by chief assistant Dr. Zhana Petkova **meet** all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the Implementation of the ZRASRB and the relevant Regulations of PU "Paisiy Hilendarski". The required number of scientific publications and contributions in them, as well as the applicant's teaching experience, are present. I am convinced that with her overall scientific work and teaching experience, Dr. Zhana Petkova meets the criteria for holding the position of Associate Professor at the PU. The scientific and teaching qualifications of Dr. Zhana Petkova **are undoubted**.

The results achieved by Dr. Zhana Petkova in the educational and research activities (with a total of **752** points from the scientometric indicators) **exceed** the minimum national and additional requirements of the Faculty of Chemistry, adopted in connection with the Regulations of the PU for the application of ZRASRB.

After familiarizing myself with the materials and scientific works presented in the competition, analyzing their significance and the scientific, scientific-applied and applied contributions contained in them, I find it reasonable to give my **positive** assessment and **to recommend** the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Chemistry for the selection of **chief assistant Zhana Petkova, PhD**, to the academic position of "associate professor" at PU "Paisii Hilendarski" in: field of higher education 4 Natural sciences, mathematics and informatics, professional direction 4.2 Chemical Sciences (Organic chemical technology, Food chemistry).

08.08.2023 г.

Prepared the opinion:

(Dr. Romyana Bakalska, Assoc. Prof.)