

# OPINION

**From Petko Nedyalkov Denev, PhD - professor at IOCCP-BAS**

on the materials in the competition for the academic position "Associate professor"  
**at Plovdiv University „Paisii Hilendarski”**

scientific field 4. Natural science, mathematics and informatics

professional direction 4.2. Chemical sciences (Organic chemical technology, Food chemistry).

## **1. General introduction of the procedure and the candidate**

By order № ПД-21-1426 from 30.06.2023 of the Rector of Plovdiv University "Paisii Hilendarski" (PU) I have been appointed as a member of the scientific jury of a competition for the academic position "associate professor" in PU in the field of higher education 4. Natural sciences, mathematics and informatics, professional direction 4.2. Chemical sciences (Organic chemical technology, Food chemistry). The competition is announced in the State Gazette, № 39 from 02.05.2023 and on the PU website for the needs of the "Chemical Technology" department at the Faculty of Chemistry. To participate in the announced competition only Zhana Yulianova Petkova, PhD, from the same department of PU, submitted documents

The set of materials presented by Zhana Petkova in paper and electronic media is in accordance with the Act for the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Regulations for its Implementation and the Regulations on the Development of the Academic Staff of the PU and includes: Application to the rector for admission to the competition; CV; Diplomas for Master's and Doctor's degrees; List and copies of scientific publications; List of citations; Certificate of compliance with the minimum national requirements; Annotations of the materials under Art. 65 (in Bulgarian and English) with extended habilitation reference; Self-assessment of contributions; Declaration of originality and authenticity of the enclosed documents; Certificates of working and teaching experience; List of participations in projects and scientific conferences; Certificate of compliance with the minimum additional requirements of the Faculty of Chemistry at the PU; Title pages of defended diploma theses prepared under the supervision of the candidate; List and certificates for prepared reviews of scientific works; Erasmus+ teaching mobility certificate.

The candidate has submitted a total of eighteen scientific publications for the period 2018-2022 and one textbook. All 18 scientific papers are on the subject of the competition, have not been presented in other competitions and are accepted for review. I do not know the candidate personally and have no direct personal impressions of her.

## **2. General characteristics of the applicant's activity**

The pedagogical activity of Dr. Zhana Petkova meets the specific requirements for holding the academic position "associate professor" at the PU. It includes total teaching experience of over 8 years, first as an assistant professor (1 year) and then as a chief assistant professor (over 7 years) in the "Chemical Technology" department at the Faculty of Chemistry of the PU. Dr. Petkova's teaching activity is very intensive and includes lecture courses on "Food Supplements", "Materials for Medicine" for bachelors majoring in "Medicinal Chemistry", as well as "Chemistry of Food Supplements" and "Functional Foods" for Masters, specialty "Food Chemistry". She also conducts practical courses for bachelors and masters of various specialties in a number of disciplines such as: "High molecular compounds" "Polymer chemistry", "Food analysis", "Medicine technology", "Technology of dosage forms", elective discipline "Food Additives", "Materials for Medicine", elective discipline "Food Chemistry", "Food Chemistry", "Chemistry of food products", "Research Practice", "Chemistry of Food Additives" and elective discipline "Functional Foods". She is the co-author of a study guide for practical courses in "Food Chemistry". Indicative of the intensity of her teaching activity is the fact that for the period 2016-2023 Dr. Petkova has conducted 4158 hours of classroom activities with students, with a required minimum of 1080 hours. She has been the supervisor of three graduate students and has collaborated with undergraduates and PhD students in publications and projects.

Concomitantly with the intensive educational and pedagogical activity, chief assist. prof. Zhana Petkova also demonstrates an affinity for research work. Her active participation in scientific projects, including as a leader, makes a very good impression. She was the head of one project in the competition for "Funding of fundamental scientific research of young scientists and postdoctoral fellows" from the Bulgarian National Science Fund, as well as one project under the program of the Ministry of Education and Science "Young scientists and postdoctoral fellows". She also participated in one international project, one project under the Operational Program "Science and Education for Smart Growth", one under the national recovery and sustainability plan, as well as seven projects funded by the PU.

Chef assist. prof. Zhana Petkova has submitted an abstract for the acquisition of doctoral degree with a dissertation on the topic "Investigation of the composition of biologically active components

in seeds of fruits from the family Cucurbitaceae and their potential application in food and cosmetic products", which brings her 50 points according to indicator A from the scientometric indicators of the regulation for implementation of ADASRB. After obtaining the PhD degree, she continued to work in this direction, and her research activities are mainly focused in the field of lipid chemistry and food chemistry. Of the eighteen scientific papers in the competition, six publications were presented as equivalent to a habilitation thesis. In two of these six publications, the candidate is the first author, and in another two – second, which is indicative of her personal contribution to their creation. Thus, according to indicator B of the ADASRB, she collects 122 points with a required minimum of 100 points. The twelve publications under indicator  $\Gamma$  bring her 252 points with a required minimum of 200 points. According to these two indicators, she exceeds the minimum by more than 20% each. A list of 232 citations is also presented, of which 162 are in publications referenced or indexed in Scopus and/or Web of Science. They are equal to 324 points under group  $\Delta$  indicators and significantly exceed the required minimum of 50 points. A search in Scopus showed 210 citations and an H-index of 7, which is a good certificate for the quality of the scientific publications in which Dr. Petkova participates and is indicative of the topicality of the subject on which she works. Her participation as a co-author in a published university guide brings her another 4 points under indicator group E. Thus, the candidate covers, and in group  $\Delta$  significantly exceeds the minimum scientometric requirements laid down in the regulation for implementation of ADASRB, with the points for the individual indicator groups being as follows:

Indicator	Minimal requirements	Candidate's points
A	50	50
B	100	122
$\Gamma$	200	252
$\Delta$	50	324
E	1	4
Total		752

Research interest of chief assist. prof. Zhana Petkova, Ph.D., can refer to the fields of food chemistry, food technology, bioorganic chemistry and phytochemistry. As a result of the scientific research in which she participated, original scientific and applied contributions were achieved. They are mainly in the complex assessment of the chemical and lipid composition of various plant species,

as well as in the study of the possibilities of increasing the oxidative stability of glyceride oils, study of changes in the lipid composition and physicochemical characteristics of lipid products subjected to heat treatment and storage. Along with the fundamental nature of the contributions to the study of the composition of plant raw materials, the candidate also participated in the study of the possibilities for the utilization of their biologically active substances, and this information can find practical application in the preparation of food products with improved functional properties.

### **3. Critical remarks and recommendations**

I have no critical remarks and recommendations to the presented documents and materials, and to the scientific production of the candidate.

### **CONCLUSION**

The documents and materials presented by chief assist. prof. Zhana Petkova, PhD meets the requirements of the Act for the Development of the Academic Staff in the Republic of Bulgaria, the Regulation for its Implementation and the specific Regulations Plovdiv University "Paisii Hilendarski". The candidate demonstrates a very intensive educational and pedagogical activity, and her teaching qualification is undoubted. In the competition, she presented a sufficient number of scientific works published outside the procedure for the defense of a PhD degree and the competition for the appointment of "chief assistant professor". Contributions from the scientific research activity of Dr. Zhana Petkova are original, and evidence of the qualities of her research work are the good citation and the high Hirsch index. The results achieved in the educational and scientific research activities fully correspond to the minimum national requirements and the additional requirements of the Faculty of Chemistry at PU "Paisii Hilendarski".

After being acquainted with the materials and scientific works presented in the competition, analyzing their significance and the scientific and applied contributions contained in them, I am fully convinced to give my positive assessment and recommend the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Chemistry for election of chief assist. prof. Zhana Petkova, PhD, in the academic position "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).

06.09.2023 г.

**Member of the scientific jury:**  
**(prof. Petko Denev, PhD)**