

REPORT

Regarding: competition for the occupation of the academic position "Associate Professor" in the field of higher education 7. Health care and sports, professional direction 7.3. Pharmacy, on the scientific specialty "Pharmacognosy and Phytochemistry", at the Department of "Pharmacognosy and Pharmaceutical Chemistry", for teaching in Bulgarian and English on "Pharmacognosy and Phytochemistry", MU-Plovdiv, promulgated in the Official Gazette, no. 59 of 11.07.2023, on the approved proposal of the FS of the FF of MU-Plovdiv (Ex. No. 8 of 18.10.2023).

by Prof. Georgi Tsvetanov Momekov, DSc

Department of Pharmacology, Pharmacotherapy and Toxicology at the Faculty of Pharmacy, Medical University-Sofia, Appointed as a member of the Scientific Jury pursuant to Order No. P-3080/24.10.2023 of the Rector of the Medical University-Plovdiv

PREAMBLE: Two candidates submitted documents for participation in the competition for Academic degree "Associate Professor", as follows: Ch. Assist. Prof. Diana Karcheva-Bahchevanska, PhD, and Ch. Assist. Prof. Paolina Lukova-Katsarova, Ph.D., who are currently full-time members of the academic staff of the Department of "Pharmacognosy and Pharmaceutical Chemistry" at the FF of MU-Plovdiv. The documents, in general, have been prepared in accordance with the explicit criteria and requirements, with the exception of circumstances related to the monographic work of the Ch. Assist. Prof. Paolina Lukova-Katsarova and the study and workload described in detail below.

BRIEF BIOGRAPHICAL DATA AND ACADEMIC CAREER OF THE CANDIDATES

Ch. Assist. Prof. Diana Karcheva-Bahchevanska, PhD

Ch. Assist. Prof. Diana Karcheva-Bahchevanska, PhD obtained a professional bachelor's degree as an pharmacy technician at the Medical College of the Medical University of Plovdiv in 2006. In 2012, she graduated with the educational and qualification degree "MSc in Pharmacy" at the Faculty of Pharmacy at the Medical University of Plovdiv. Diana Karcheva-Bahchevanska has obtained a PhD in the doctoral program "Pharmacognosy and Phytochemistry" with the defense of a thesis titled: "Investigation of the functional properties of polyphenolic extracts from species of the genus *Vaccinium* L. on enzymes of carbohydrate metabolism" at the MU-Plovdiv in 2018. In the period from 2015 to 2018, the candidate worked in a Biochemistry and Microbiology laboratory at the Center for Technologies at Paisii Hilendarski University of Plovdiv. In the period from 2012 until now, she has developed her academic career in the primary unit of the current competition, where she successively held the academic positions of Assistant Professor and Chief Assistant Professor, and is currently also the administrative responsible person of the Department. Since 2018, she has acquired the board-certified specialty "Medicinal plants and phytopharmaceutical products" from MU-Plovdiv.

Ch. Assist. Prof. Paolina Lukova-Katsarova, PhD

Ch. Assist. Prof. Paolina Lukova-Katsarova, is also a graduate of the Faculty of Pharmacy at the MU-Plovdiv, where she obtained the Master of Pharmacist degree in 2012. Since 2018, she has a doctoral degree in "Pharmacognosy and Phytochemistry" after defending a dissertation on the topic: "Investigation of the prebiotic potential of polysaccharides in some species of the genus *Plantago* L., distributed in Bulgaria" in MU-Plovdiv, as well as acquired the board-certified specialty "Medicinal plants and phytopharmaceutical products". Since 2012,

she has been working as an assistant professor in the primary unit of the competition, and since 2018 she has held the academic position of chief assistant professor.

TEACHING AND EDUCATIONAL ACTIVITY AND WORKLOAD

Ch. Assist. Prof. Diana Karcheva-Bahchevanska, PhD

Ch. assistant Dr. Diana Karcheva-Bahchevanska is actively involved in the training of pharmacy students to acquire the "MSc in Pharmacy" and "Professional Bachelor – Pharmacy technician" degrees and has provided a report for the last three academic years, showing an almost fourfold excess of the legally required hourly workload. In addition, evidence has been presented that the candidate is engaged as an academic mentor to Pharmacy students within the framework of the "Student Practices Phase 1" program of the Ministry of Education and Science, at MU-Plovdiv. Dr. Diana Karcheva-Bahchevanska was the supervisor of an intern from Polytech Clermont, France within the Erasmus+ Program activities. The certificate submitted by the candidate about her study load for the last two years was a total of 2138 hours, including 402 hours of lectures and 1736 hours of practicals.

Ch. Assist. Prof. Paolina Lukova-Katsarova, PhD

Ch. Ass. Prof. Dr. Paolina Lukova-Katsarova participates in the training of pharmacy students for the acquisition of the "Master's" and "Professional Bachelor's degrees". According to data from the workload report, the applicant's teaching employment (lectures and practicals) for the last two years is zero, due to the use of paid and unpaid leave due to pregnancy and childbirth and raising a small child up to 2 years of age, and leave for raising a child up to 8 -years old. Due to this fact, the applicant applies an academic reference for study load for the academic years 2019/2020, 2018/2019 and 2017/2018, which, however, is not in accordance with the explicit instructions of the normative documents related to the procedure and, respectively, cannot be reflected in the comparative table.

PUBLICATION ACTIVITY, SCIENTOMETRIC INDICATORS AND SCIENTIFIC RESEARCH ACTIVITY

Ch. Assist. Prof. Diana Karcheva-Bahchevanska, PhD

For participation in the competition Ch. Assist. Prof. Diana Karcheva-Bahchevanska participated with a monograph on the topic: "HPTLC - application and possibilities in the analysis of substances of plant origin", 2023. ISBN 978-619-04-0029-5, of which she is the sole author.

Dr. Diana Karcheva-Bahchevanska has provided a list of 30 real full-text publications, 16 of which are in publications with an impact factor according to Clarivate Analytics, for participation in this competition, 27 of which are in English and three in Bulgarian. There are 26 experimental articles representing the candidate's original scientific contribution (including 14 in journals with an impact factor). Five scientific reviews (Nos. 12, 13, 20, 29, 30) are also provided. Publications in journals, refereed and indexed in world-renowned databases are a total of 20, and scientific articles in non-refereed peer-reviewed journals are 10. Publications provided for the competition are not duplicated with the articles used for the acquisition of the ONS "Doctor". The cumulative impact factor of Dr. Karcheva-Bahchevanska's articles is 54.95. A reference is also provided for 128 independent citations of works, including 92 in citations in journals referenced and indexed in the world-renowned Scopus and Web of Science databases. The candidate's Hirsch index is 6. It is important to note that virtually all publications submitted for participation in this competition are in the field of pharmacognosy and phytochemistry.

The provided monograph entitled "HPTLC - application and possibilities in the analysis of substances of plant origin", comprises a multifaceted review of the characteristics and advantages of this chromatographic method in the field of phytochemistry, plant biochemistry and pharmacognosy. The main contributions of Dr. Diana

Karcheva-Bahchevanska in the set of publications provided by her are in the field of pharmacognosy and phytochemistry, including various modern methods for structural characterization and analysis of plant secondary metabolites. Main directions are related to the study of the effects and characteristics of various plant secondary metabolites with adaptogenic action, potential application in metabolic syndrome and obesity, and other socially significant diseases. The potential of *Vaccinium myrtillus* L. fruit extracts to be used as α -amylase inhibitors was investigated. The tissue-specific essential oil content of *Echinophora tenuifolia* subsp. *sibthorpiana*. Polysaccharides from the genus *Plantago* were isolated and their pharmacological characteristics were also studied. Other taxa that have been the subject of phytochemical, pharmacognostic and in some cases pharmacological studies include *Tanacetum vulgare*, *Tanacetum parthenium*, *T. macrophyllum*, *Cardaria draba*, *Trigonella foenum-graecum*, biocultivated *Lavandula angustifolia* and *Matricaria chamomilla*, etc.

Critical analyzes were carried out regarding the quality of commercial products, based on plant substances or extracts, and inconsistencies between the nominal declared compositions and the experimentally established chemical composition were identified, with recommendations for optimizing quality control.

Ch. Assistant Prof. Paolina Lukova-Katsarova, PhD

In the current competition, Dr. Paolina Lukova-Katsarova participated with a monograph on the topic: "Polysaccharide microcarriers for drug delivery". 2023. Publisher: Lax Book. ISBN: 978-619-189-217-4. Unfortunately, the candidate did not provide a separation protocol for reporting and verifying her partial contribution to this publication, as it was co-authored with Prof. Plamen Katsarov. According to the explicit requirement of RESOLUTION No. 122 OF JUNE 29, 2018 amending and supplementing the Regulations for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria, adopted by Resolution No. 202 of the Council of Ministers of 2010 (promulgated, SG, No. 75 of 2010, amended and supplemented, No. 19 of 2011, No. 9 of 2012, No. 62 of 2013, No. 60 of 2014 and No. 57 of 2015), promulgated in SG No. 56/2018, **"with regard to monographs with more than one author, a separation protocol between the authors must be available"**. Regardless of the undoubted scientific contributions of this monograph, the absence of a separation protocol is a critical violation of the explicit requirements of the regulatory framework relevant to the competition, which is essential given the participation in the competition of a second candidate whose monograph is not co-authored and can be accepted and scored according to the relevant regulations without objection.

For his participation in the competition Ch. Assist. Prof. Paolina Lukova-Katsarova has provided a list and copies of 34 full-text scientific publications, 18 of which are in journals with an impact factor, and 3 are chapters of a collective monographic work, 27 of which are in English and the rest in Bulgarian. Experimental studies are reflected in 27 publications, including 14 in journals with an impact factor, and review publications are 4 (No. 13, 14, 22 and 23). There are no publications duplicating the articles reflected in the auto-abstract of the PhD candidate. The cumulative impact factor of the articles for participation in the competition is 70.481. The reference to the independent citations of the articles shows that they have been cited a total of 278 times, with 238 citations being in scientific publications referenced and indexed in the Scopus database. The H-index of Ch. Assist. Prof. Lukova Katsarova (according to Scopus) is 7. **Of the 34 publications provided, however, only 21 are in the field of pharmacognosy and phytochemistry, i.e. in the thematic scope of the competition. At the same time, 12 of the publications, i.e. practically a third of the deposited works (3, 5, 6, 8, 13, 14, 19, 20, 21, 22, 32 and 34) are in the field of drug technology, incl. articles with multiple co-authors - experts in the field of pharmaceutical technology, making the applicant's contribution and their relevance to the current competition difficult to define.**

The main scientific contributions of Dr. Paolina Lukova-Katsarova are in the field of pharmacognosy and phytochemistry, and she is a co-author in 12 publications with contributions in the field of drug technology. A major part of the candidate's scientific research, described in the monograph and publications is focused on the extraction, characterization and analysis of polysaccharides produced by marine algae and higher plants, as well as on approaches to enzymatic modification of native natural polysaccharides, investigation of their pharmacological and biochemical properties and their application possibilities as excipients in the design and preparation of dosage forms and drug-delivery systems of new generations. A detailed study of the methods for the isolation of P. Lukova-Katsarova and characterization of natural polysaccharides from seaweed and some higher plants - fucoidans, alginates, etc. was carried out. Approaches for enzymatic modification of native polysaccharides from species of the genus *Plantago* have been studied and systematized. The pleiotropic biological activity of polysaccharides, as well as their analogues and derivatives, was also monitored. *Contributions in the field of drug technology are not subject to review given the thematic scope of the competition.*

ASSESSMENT FOR COMPLIANCE WITH THE MINIMUM REQUIRED POINTS BY GROUPS OF INDICATORS.

Comparative Table of MANDATORY MINIMUM SCIENTOMETRIC INDICATORS OF MU-PLOVDIV FOR DIRECTION 7.33. PHARMACY of Ch. Assist. Prof. Diana Karcheva-Bahchevanska, PhD and Ch. Assist. Prof. Paolina Lukova-Katsarova, PhD.

Group	Indicators	Minimal Score for Associate Professor	Points of Ch. Ass. Prof. D. Karcheva-Bahchevanska, PhD	Points of Ch. Ass. Prof. Paolina Lukova-Katsarova, PhD
A	1. Dissertation work for the award of the educational and scientific degree "PhD"	50	50	50
C	3. Habilitation thesis - monograph	100	100	0*
D	7. Publications and reports published in scientific publications, referenced and indexed in world-renowned databases of scientific information		217.43	187.09
	8. Publications and reports published in scientific publications, referenced and indexed in world-renowned databases of scientific information		121	138.50
	9. Published chapter of a collective monograph			4.25
Total:		210	338.43	329.84**
E	10. Citations or reviews in scientific publications referenced and indexed in world-renowned databases of scientific information or in monographs and collective volumes		1 530	3 570**
	11. Citations in monographs and collective volumes with scientific peer review		50	30
	12. Citations or reviews in non-refereed peer-reviewed journals		180	185
Total:		300	1 760	3 785**

Group	Indicators	Minimal Score for Associate Professor	Points of Ch. Ass. Prof. D. Karcheva-Bahchevanska, PhD	Points of Ch. Ass. Prof. Paolina Lukova-Katsarova, PhD
F	15. Board-certified medical specialty		40	40
	16. Participation in a national scientific or educational project		165	105
	18. Management of a national scientific or educational project		30	
	21. Published university textbook or textbook that is used on the school network		13.34	
	22. Training of interns, specialists and doctoral students (seminars and practical classes)		30	
Total:		50	278.34	145
G	Educational workload (lectures and practicals):	360 <small>(for the last 2 years X 0.5 pt/hour)</small>	1 069 <small>(for the last 2 years X 0.5 pt/hour)</small>	0*** <small>(for the last 2 years X 0.5 pt/hour)</small>
	Academic degree:	200	483.33	483.33
Total:		560	1552.33	483.33
Total:		1270	4079.10	4809.84**

**For the monographic work of P. Lukova-Katsarova, no separation protocol was provided by the co-author of the book Assoc. Prof. Plamen Katsarov. The monographic work is a condicio sine qua non under the current national and institutional legal and regulatory framework applicable to this competition.*

***Part of the points for publications and citations of P. Lukova-Katsarova are in connection with works in the field of pharmaceutical technology, i.e. with major contributions outside the specialty of the current competition.*

**** P. Lukova-Katsarova has not provided data on study load lectures and exercises for the last two academic years.*

It makes an excellent impression that for its 15-year history, the Faculty of Pharmacy at MU-Plovdiv has provided the opportunity for the growth of its own personnel, from the student bench to a stable and productive academic career, including the two undoubtedly worthy candidates for participation in this contest. A huge difficulty in the analysis of the data, however, comes from the significant number of works in which the two candidates are co-authors, which, in the absence of a separation protocol signed by the co-authors, makes their personal contribution practically indeterminable, unless we take into account the position of the author in the authors' team, whose role in such procedures is not clearly spelled out in the regulations.

Here, however, it should be pointed out again that there is a significant flaw in the documentation provided by Ch. Assist. Professor Lukova-Katsarova, namely the absence of a separation protocol, in order to be able to unconditionally recognize the written and co-authored monograph book - condicio sine qua non in the sense of the regulations relevant to this procedure. In addition, a third of the publications are outside the thematic scope of the competition, including the works contributing in part to the established citations, and the teaching load is substantially lower than that of the other candidate. The study load reference is not from the required period, providing historical data that cannot be analyzed in comparison to Dr. Karcheva-Bahchevanska's data.


CONCLUSION

The comparison of the provided materials and the quantitative estimates calculated on their basis shows that **Ch. Assist. Prof. Diana Karcheva-Bahchevanska, PhD** participated in the current competition with more points on

indicators D, E and G, while Ch. Assist. Professor Paolina Lukova-Katsarova, PhD participated with more points only on indicator E, while at the same time a third of the scientific works are outside the thematic scope defined by the specialty of this competition, and there is also an absence of the separation protocol critical for the recognition of the monographic work from the other co-author of the book provided as a habilitation thesis. Given that habilitated lecturers are selected on the basis of a balanced review of research and teaching activities, it can be pointed out that only **Ch. Assist. Prof. Diana Karcheva-Bahchevanska, PhD**, has provided a reference with evidence of academic workload for the required period, which is a critical parameter according to the current institutional regulatory framework.

The presented data and considerations give me reason to recommend to the honorable members of the scientific jury to award Ch. Assist. Prof. **Diana Karcheva-Bahchevanska, PhD** the academic position "Associate Professor" in the field of higher education 7. Health care and sports, professional direction 7.3. Pharmacy, in the scientific specialty "Pharmacognosy and Phytochemistry", at the Department of "Pharmacognosy and Pharmaceutical Chemistry".

Dec. 19th 2023 г.

Report by: .....

Prof. Georgi Tsv. Momekov, DSc