

O P I N I O N

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regarding the materials submitted for participation in a competition for the academic position of "Professor" at the Paisii Hilendarski University of Plovdiv,
at the field of higher education 4. Natural sciences, mathematics and informatics,
professional field: 4.3 Biological sciences,
scientific specialty: Phycology

In the competition for the academic position "Professor", announced in the State Gazette, issue 98 of 19.11.2024 and on the website of Paisii Hilendarski University of Plovdiv (UP) for the needs of the Department of Botany and Biological Education at the Faculty of Biology (FB), the only candidate participating is Associate Professor Ivanka Ivanova Teneva-Dzhambazova, PhD from the Department of Botany and Biological Education, Faculty of Biology, Paisii Hilendarski University of Plovdiv.

1. General description of the materials provided in the competition

By order No. RD-22-439 of 18.02.2025 of the Rector of Paisii Hilendarski University of Plovdiv, I have been appointed as a member of the scientific jury in the competition for the appointment to the academic position "Professor" at the field of higher education 4. Natural sciences, mathematics and informatics, professional field 4.3 Biological sciences, scientific specialty Phycology, announced in the State Gazette issue 98 of 19.11.2024 and on the website of the UP for the needs of the Department of Botany and biological education at the Biological Faculty.

The only candidate who has applied for participation in the announced competition is Assoc. Prof. Ivanka Ivanova Teneva-Dzhambazova, PhD from PU.

The set of materials, submitted by the candidate on paper and electronic form is in compliance with the The Regulations for the Development of the Academic Staff of UP (RDASUP) and includes the following documents:

- Administrative documents (Application form to the rector for admission to participate in the competition; Curriculum Vitae in European format; A higher education diploma with an acquired educational and research degree BSc; Diploma for scientific degree "Doctor"; Certificate for the academic position "Associate Professor");
- Scientific works for participation in the competition;
- Certificate of compliance with the minimum national and additional faculty requirements;
- Declaration of originality and authenticity of the attached documents;
- Annotations of the materials under Art. 76 of the PRASPU;
- Extended habilitation certificate;
- Self-assessment of contributions;
- List of citations;
- Certificate of work experience; documents for academic work;
- Documents for scientific research activity;

- Documents in accordance with the additional requirements of the respective faculty;
- Other documents - a certificate of meeting the minimum national requirements for holding the academic position of "associate professor" and attachments.

The candidate, Assoc. Prof. Dr. Teneva-Dzhambazova has submitted a total of 18 scientific papers, 2 chapters of a collective monograph, 8 textbooks and teaching aids, which were not used to obtain the PhD "doctor" and the academic position "associate professor". Twenty (20) scientific papers, 4 textbooks, 4 manuals and 9 research projects are accepted for review.

There is no evidence of plagiarism in the text of scientific publications.

The total impact factor of the presented scientific production is over 40, and the h-factor of Assoc. Prof. Dr. Ivanka Teneva is 12, according to Scopus data.

2. Brief biographical data of the applicant

Associate Professor Dr. Ivanka Teneva graduated from higher education in 1995 with a master's degree in Biology and Chemistry from Paisii Hilendarski University of Plovdiv. In the period 1995-1998 she worked as a teacher at the GPCE "Dr. Asen Zlatarov," city of Haskovo, then from 1998 to 2000 and from 2000 to 2004 she was consistently a "chemistry expert" and a "senior chemistry expert" at the Regional Inspectorate of the Ministry of Defense, city of Haskovo.

In the period 2004 - 2007 she was a doctoral student at PU. The educational and scientific degree "Doctor" (PhD) she was obtained in 2007. From 2007 to 2009 she was a research associate of Marie Curie ERG (MERG-CT-2007-210514). In 2009 she held the academic position "Assistant" and in 2010 - "Chief Assistant." Since 2013 she has been an associate professor at the Department of Botany and Biological Education of the Faculty of Biology of UP. A great contribution to her professional development has been the qualification acquired at UFZ - Centre for Environmental Research, Leipzig, German and Medical Inflammation Research Unit, Lund University, Sweden (EU Postdoc - Marie Curie).

3. Personal impressions

I personally know Assoc. Prof. Dr. Ivanka Teneva as an erudite, responsible, precise teacher and scientist with great intellectual potential. In her relations with colleagues and students, she is positive, correct, balanced person, which makes her a respected and highly valued teacher and colleague.

4. General characteristics of the candidate's activities

Evaluation of teaching and learning activities

Assoc. Prof. Dr. Teneva teaches classes at the Bachelor's Degree Programs in the following disciplines:

- Phycology – lectures and exercises in the following programs: Ecology and Environmental Conservation, full-time and part-time study, Microbiology and Virology;
- Bioresources – lectures in the following programs: Biology, full-time and part-time study, Ecology and Environmental Conservation, full-time and part-time study, Ecology of Biotechnological Industries;
- Medical Toxicology – lectures and exercises in the program of Medical Biology;
- Mycology – lectures in the following programs: Biology, full-time and part-time study, Ecology and Environmental Conservation, full-time and part-time study, Medical Biology;
- Applied Mycology – lectures in the program of Pharmaceutical Biotechnologies;

- Phyto- and Mycotoxins – lectures and exercises in the program of Pharmaceutical Biotechnologies;
- Phytopathology – lectures in the program of Microbiology and Virology;
- Plant Systematics – lectures in the program of Ecology and Environmental Conservation, part-time study and exercises in the program of Ecology and Environmental Conservation, full-time study;
- Field practice in plant systematics in the program of Ecology and Environmental Conservation, full-time and part-time study.

The average annual teaching workload of Assoc. Prof. Dr. Teneva in the Bachelor's Degree Programs for the past 5 years (academic years 2019/2020 - 2023/2024) is 348 hours of lectures (without doubling) and 254 hours of exercises. She also teaches classes at the branches of Paisii Hilendarski University of Plovdiv in the city of Kardzhali and the city of Smolyan.

Associate Professor Dr. Teneva is also teaches classes in the Master's Programs of FB in the following disciplines:

- Phyto- and mycotoxins – in the Master's program Microbiological Control and Food Safety;
- Toxicology - in the Master's program Biodiagnostics;
- Algology and Bioresources – in the Master's programs Biodiversity, Ecology and Conservation;
- Mycology and Phytotoxicology - in the Master's program Medical and Herbal Plants;
- Toxicology of drugs – in the Master's program Medical biology.

Associate Professor Dr. Teneva has developed curricula for the disciplines “Physiology”, “Phytopathology”, “Applied Algorithm”, “Applied Mycology”, “Plant and Mycotoxins” (for the Bachelor's degree), “Mycology”, “Plant and Fungal Resources” (for PU-Smolyan), “Algology”, “Bioresources”, “Phytotoxicology”, “Phytotoxins and Mycotoxins”, “Mycology” (for the Master's degree).

The candidate is the author of a textbook "Phycology" (ISBN 978-619-281-020-7), co-author of 3 textbooks "Pharmaceutical Botany Part I (1st and 2nd edition; ISBN 978-619-202-195-5, ISBN 978-619-202-313-3) and "Pharmaceutical Botany Part II (ISBN 978-619-202-241-9), and 4 Laboratory handbook on “Mycology” (ISBN 978-619-202-591-5, ISBN 978-619-202-592-2, ISBN 978-619-202-650-9, ISBN 978-619-202-649-3), which are used in the training of students.

Associate Professor Dr. Teneva is the supervisor of 3 successfully defended students from the Bachelor's School and co-supervisor of three successfully defended PhD students.

The impressive teaching and learning activity of Assoc. Prof. Dr. Teneva shows the high working capacity and professionalism, as well as the active participation in the different levels of the learning process in the Faculty of Biology.

Evaluation of research activity

Associate Professor Dr. Ivanka Teneva participated in the announced competition for “professor” with 20 scientific publications, referenced and indexed in Scopus/WoS, which are distributed as follows:

- 6 articles in journals with Q1;
- 5 articles in journals with Q2;
- 2 articles in journals with Q3;

- 2 articles in journals with Q4;
- 3 articles in journals with SJR (without quartile);
- 2 articles, which are chapters of a collective monograph.

In 6 of the publications, the candidate is the first author and in 9 - the last author, which is an indicator of the leading role in the presented research. Nineteen of the publications are in English and one is in Bulgarian.

Associate Professor Dr. Teneva also presented documents (posters, reports, abstracts) from participation in 11 international and 7 national scientific forums.

The scientific output of Assoc. Prof. Dr. Teneva is at a very high professional level. The publication of his research in prestigious journals such as *Plants*, *Heliyon*, *Chemosphere*, *International Journal of Molecular Sciences*, *Engineering in Life Sciences* with Q1 and Q2 is an indisputable attestation to the quality of the results obtained.

The scientific interests and contributions of the candidate can be systematized in 3 main directions:

I. Research on cyanobacteria (presented both in publications that are equivalent to habilitation work and in some of the publications from group D). The main scientific and applied contributions in this area are related to the determination of taxonomic status through the methods of polyphasic taxonomy, including the validation and proposal of new molecular-genetic and biochemical markers, with the comparative genomic analysis of individual cyanobacteria species (publications B4.1., B4.6., G7.9., G7.11., G7.12., G7.7.7, G7.10., G7.12.).

In addition, the production of biologically active substances from cyanobacteria with potential for biotechnological and medical application has been analyzed (publications B4.6., D7.6.), which is related to their biological activity - antibacterial, antifungal, antiviral, antitumor, antioxidant, immunomodulatory, anti-inflammatory action (publications B4.3., B4.5.). The toxic potential of some species of cyanobacteria has been established and the cytotoxic effect of the produced cyanotoxins has been assessed (B4.4., B4.5., D7.3., D7.8.). The allelopathic effects of cyanotoxins with algae have been analyzed (B4.2.).

II. Study of phytoplankton in some dams in Bulgaria - the species composition, structure and ecological status of the reservoirs were determined on the basis of new indices. A toxicological assessment was carried out; cyanobacteria, producers of cyanotoxins were identified (B4.4, G8.1, G8.2).

III. Studies of some higher plants - phytochemical, biological and toxicological characteristics. Cytotoxic effect and antitumor activity of extracts from *Betonica bulgarica* (G7.5), *Marubium friwaldskyanum* (G7.1). Cytotoxic and antitumor properties as well as antioxidant activity of xylooligosaccharides from corn have been demonstrated, which reveals potential for therapeutic application (G7.4).

I accept the original scientific, applied and methodological contributions formulated by Assoc. Prof. Dr. Teneva.

The citations of the candidate's works are 199, in scientific journals, referenced and indexed in world-renowned databases of scientific information (Scopus and Web of Science), which is indicative of the wide international response of the published results. The recognition of the candidate among the scientific community, based on the cited citations, is undeniable.

Associate Professor Dr. Teneva is the co-supervisor of three successfully defended PhD students. She is the head of 3 national projects, and of the Bulgarian team of 1 international project and a participant in 2 international and 3 national research projects. The funds raised from the projects amount to BGN 332,880.

Presented by Assoc. Prof. Dr. Teneva documents fully meet the minimum national requirements for the academic position "professor" in professional field 4.3 Biological Sciences according to the Law on the Development of the Academic Staff in the Republic of Bulgaria and the specific requirements of the Faculty of Biology. The number of points for each groups of indicators is as follows:

Indicators from group A. Indicator 1 (Dissertation for the acquisition of the educational and scientific degree "Doctor" - 50 points).

The candidate has obtained a PhD in Botany in 2007 - **50 points**.

Indicators from group B. Indicator 4 (min. 100 points).

The candidate has submitted 6 publications in journals, refereed and indexed in the Web of Science and Scopus databases, of which 2 publications are with Q1 (2 x 25 points) and 4 publications are with Q2 (4 x 20 points) - a total of **130 points**.

Indicators of group D. Sum of indicators 7 and 8 (min. 200 points).

A total of 12 publications in journals with impact factor, which have been refereed and indexed in the Web of Science and Scopus databases have been submitted, of which 4 - in journals with Q1, 1 - in journal with Q2, 2 - in a journals with Q3, 2 - in a journals with Q4, 3 – in journals without quartile, but with SJR, and 2 chapters of a collective monograph (2 x 15 poits) – a total of **234 points**.

Indicators from group E. Indicator 11 (min. 100 points).

The candidate has submitted 199 citations in scientific journals, refereed and indexed in world-renowned databases with scientific information (Web of Science and Scopus) – a total of **398 points**.

Indicators of group E. Indicators 13, 14, 16, 17, 18 and 19 (min. 150 points).

Associate Professor Dr. Teneva is the co-supervisor of three successfully defended PhD students. She is the head of 3 national projects, and of the Bulgarian team of 1 international project and a participant in 2 international and 3 national research projects. The funds raised from the projects amount to BGN 332,880. The candidate is the author of one university textbook, co-author of 3 other textbooks and 4 Laboratory handbooks - a total of **380.9 points**.

The total sum of points for the indicators is 1192.9, with the required 600, i.e. the submitted materials for participation in the competition exceed approximately 2 times the minimum required for the academic position "Professor" in Biological Sciences.

All additional requirements of Faculty of Biology for the academic position of "Professor" are fulfilled by Assoc. Prof. Dr. Ivanka Teneva in a categorical manner.

Associate Professor Dr. Teneva is also involved in the administrative and social activities of the Faculty of Biology. She was a member of the faculty committee for atestation (2017 - 2022), faculty ethic committee, member of the faculty teams that prepared the self-evaluation reports for different accreditation procedures; organizing committee of the IV Balkan Conference on Biology.

Currently, he is a member of the Control Board of the PU, as a representative of the FB.

Associate Professor Dr. Teneva is a member of the board of reviewers of the journal Microorganisms, of the Revision Board of the Journal of BioScience and Biotechnology and a guest editor of Journal Microorganisms, which contributes to raising the prestige of the Faculty of Biology.

5. Assessment of the personal contribution of the candidate

Considering the high level of competence and the rich professional experience of Assoc. Prof. Dr. Teneva, I have no doubt that the results obtained and the formulated recommendations are her personal contribution.

6. Critical remarks and recommendations

I have no critical remarks with regard to the content of the documents presented in the competition.

CONCLUSION

The documents and materials submitted by Assoc. Prof. Dr. Ivanka Ivanova Teneva meet all the requirements of the the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Law and the Regulations for the Development of the Academic Staff of Paisii Hilendarski University of Plovdiv.

The candidate has submitted a significant number of scientific works published since the materials used in the defense of the PhD and the academic position of Associate Professor. The candidate's works have original scientific and applied contributions that have received international recognition through their publication in journals with high scientific metrics. The candidate's scientific and teaching qualifications are unquestionable.

The results achieved by Assoc. Prof. Dr. Ivanka Teneva in the educational and research activities comply with the minimum national and additional requirements of the Faculty of Biology, adopted in conjunction with the Regulations of the University of Plovdiv for the application of the Law on the Development of the Academic Staff in the Republic of Bulgaria.

The review and evaluation of the materials and scientific works presented in the competition, the analysis of their significance and of the scientific, applied research and methodological contributions allow me to confirm my positive assessment, presented above and recommend to the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Biology for the election of Assoc. Prof. Dr. Ivanka Ivanova Teneva-Dzhambazova to the academic position "Professor" at the Paisii Hilendarski University of Plovdiv in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.3. Biological sciences (Phycology).

16.04.2025 г.

Prepared the opinion:

Prof. Sonya Kostadinova, PhD