



OPINION

on the materials presented for participation in a competition for the academic position (AP) "Associate Professor" in the discipline "Nutrition and Agronomy" at the Department of "Anatomy, Physiology and Animal Husbandry Sciences" in the field of higher education 6. "Agrarian Sciences and Veterinary Medicine", professional direction 6.4. Veterinary Medicine, scientific specialty "Animal Hygiene and Organization of Veterinary Services", announced by the University of Forestry (UF) in the State Gazette No. 28 of 01.04.2025, procedure code: VM-AsP-0325-160.

Candidate for participation in the competition: Chief Asst. Prof. Dr. Hristina Stalinova Neshovska, lecturer at the Department of "Anatomy, Physiology and Animal Husbandry Sciences" at the Faculty of Veterinary Medicine of UF.

Prepared by: Prof. D. Sc. Dr. Teodora Petrova Popova, University of Forestry, Sofia, field of higher education 6. "Agrarian Sciences and Veterinary Medicine", professional field: 6.4. "Veterinary Medicine", scientific specialty "Epizootology, Infectious Diseases and Prevention of Contagious Diseases in Animals", appointed as a member of the Scientific Jury by Order No. ZPS-280/19.05.2025 of the Rector of the University of Forestry - Sofia.

Brief biographical data about the candidate.

Hristina Stalinova Neshovska completed her secondary education in 2005 at a Bulgarian school in Bratislava. In 2011, she graduated from the Thrakia University in St. Zagora as a Master of Veterinary Medicine, specialty "Veterinarian". In 2007-2008, she completed internships in human pharmacies in Sofia and Nessebar, as well as training under the Erasmus program at the Faculty of Veterinary Medicine in Brno - Czech Republic (02.2010-08.2010). Hristina Neshovska acquired additional professional qualification as a "Technician-technologist for the quality of food and beverages", specialty "Quality control and safety of food and beverages" at the Vocational Training Center at SP "Alfa-Hristo Stefanov" (2014). The following year, she participated in a seminar on "New Aspects in the Field of Standards and Applicable Documents for Food Safety Management Systems", organized by the International Quality Association and the Bulgarian Food Safety Agency (09.02.-10.02.2015). She has work experience as a veterinarian at the Veterinary Center "St. Antim" (22.06.2011-22.07.2014) and as Chief Inspector in the Department of "Food Control" and "Risk Analysis" at the Regional Directorate for Food Safety in Sofia - city (23.07.2014-08.06.2015), as well as Chief Inspector in the Department of "Integrated Prevention" at the Sofia Regional Health Inspectorate, Directorate "Disease Prevention and Health Promotion" (05.10.2015 - 26.10.2018). Since 29.10.2018 she has been an Assistant Professor at the Faculty of Veterinary Medicine, UF, Sofia, and since 18.10.2022 until now she is a Chief Assistant Professor. On 12.10.2021 Hr. Neshovska defended her dissertation and obtained the educational and scientific degree (ESD) "Doctor (PhD)" in the scientific specialty "Animal Hygiene and Organization of Veterinary Service". She speaks fluently English, Slovak and Czech, works with document management programs, correspondence with institutions, statistical data processing and has computer skills at a modern level. She was a member of a student canine organization and participated in organizing exhibitions in our country.

Compliance of the submitted documents and materials of the candidate with those required according to the Regulations for Academic staff development at UF.

Chief Asst. Prof. Dr. Hr. Neshovska has presented the documents necessary for participation in the competition for the academic position of Associate Professor, prepared according to the

requirements of the professional field and the Regulations for Academic staff development at UF.

Assessment of the candidate's teaching and learning activities.

Dr. Neshovska's teaching experience at the university is more than six years and six months, starting in October 2018 when she joined the UF as an Assistant Professor. For more than 2 years, she has been a Chief Assistant Professor (since 18.10.2022 to the present), and during the period 04.01.2023 - 31.12.2023 she carries out research activities as a Chief Assistant Professor - Postdoctoral Fellow at the National Program "Young Scientists and Postdoctoral Fellows-2".

Chief Assistant Professor Dr. Neshovska prepares and conducts exercises, seminars, practical and semester exams in five academic disciplines: "Nutrition and Agronomy", "Quality and Safety of Animal Feed", "Veterinary Hygiene and Technologies in Animal Husbandry", "Public Veterinary Affairs and Legislation" and "Ecology". In addition to teaching in Bulgarian, she also teaches the same subjects in the English language course. Her annual classroom workload is above the required minimum of 360 hours. These data show that **she has a sufficiently long teaching experience** in conducting classes with students in the subjects she teaches, **fulfilling and exceeding the mandatory teaching workload**. This experience is supplemented and enriched by **teaching the same subjects in English**.

Assessment of the candidate's scientific, applied and publication activities.

The scientific experience of Dr. Hr. Neshovska is more than six and a half years. For participation in the competition for Associate Professor, she has submitted a total of **20** scientific papers, which do not repeat those for acquiring the educational and scientific degree "Doctor". The materials for the ESD "Doctor" include a dissertation, an abstract and 4 publications in scientific journals. They are in English, as of one of these Hr. Neshovska is an independent author and is the lead author in the others. Two of these are in journals refereed in the Web of Sciences.

The total number of points achieved by the candidate in the groups of indicators for AP "Associate Professor" is **464.15** with minimum national requirements of 400 points, as follows:

- Under indicator 1 (**group A**) Dr. Neshovska has **50** points out of 50 required - for a dissertation for the acquisition of the ESD "Doctor" on the topic "Study of the influence of HPP - processing on the quality and safety of raw dog food", defended on 12.10. 2021 at UF, Diploma No. UF - ESD - 2021-149 / 27.10.2021.

- By indicator 2 (**group B**) – **0** points out of 0 required.

- By indicators from **group C** – **100** points out of 100 required, obtained from publishing a habilitation thesis – **monograph**: Neshovska, H. (2024). Black soldier fly-the farm of the future. Ecological source of nutrients, Avangard Prima, Sofia, 168 pp., ISBN - 978-619-279-062-2, COBISS.BG-ID – 69510152. The monograph is interesting, original, up-to-date and meets the requirements for preparing such a work. It is written in professional language, but is read quickly and easily. It examines the industrial cultivation and use of insects and more specifically the Black soldier fly species, their application as an alternative food source in the rations of various categories of animals, as well as the advantages and disadvantages of this type of innovative animal husbandry. The legislation related to the breeding of insects has been analyzed, at the national and European level.

- According to the indicators from **group G** – **234.15** points out of 200 required, of which:

- ♦ Published **book** based on a defended dissertation for the award of the ESD "Doctor": Neshovska, H. (2024). Study of the influence of HPP - processing on the quality and safety of raw dog food. Sofia, 124 p., ISBN - 978-619-279-063-9, COBISS.BG-ID - 69484296 - **40** points. It presents studies of the influence of HPP processing on the quality, digestibility and safety of raw dog food, in order to maintain good health of the dog. The results show that HPP processing

does not affect the quality of the food, extends the shelf life and its application is recommended due to the reduction of the risk of infection with pathogens for both dogs and their owners.

- ♦ Articles and reports published in scientific issues, refereed and indexed in world-renowned databases with scientific information - **11 papers - 170 points**.

- ♦ Articles and reports published in non-refereed journals with scientific review or in edited collective volumes – **7 papers – 24.15 points**.

- According to indicators from **group D**, the candidate received **80 points** out of 50 required, of which **75 points** from 5 citations of 2 articles in scientific issues, refereed and indexed in world-renowned databases with scientific information or in monographs and collective volumes (15 points for each); **5 points** from 1 citation of a publication in a non-refereed journal with scientific review.

- On the indicators from **group E** – **0 points** out of 0 required.

The total number of points received by Dr. Neshovska on all indicators (**464.15**) significantly **exceeds the minimum required** to fulfill the minimum national and additional requirements for the professional field, set by the Regulations for the Implementation of the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations for the Development of Academic Staff of UF for the appointment of AP "Associate Professor" in the field of higher education 6. Agrarian Sciences and Veterinary Medicine.

In addition, Chief Asst. Prof. Dr. Neshovska has participated in the development of **4 curricula** in Bulgarian and English according to the current curriculum (CC), which has been in force since June 2021 for full-time education in the specialty "Veterinary Medicine", ED "Master", in the disciplines: • "Nutrition and Agronomy", CC code VM 216, II year, III semester; • "Veterinary Hygiene and Technologies in Animal Husbandry", CC code VM 224., II year, III semester; • "Ecology", CC code VM 214, I year, II semester and • "Quality and Safety of Animal Feed", CC code VM 260., II year, IV semester.

She has participated in three International Scientific Conferences of FVM - UF "Tradition and Modernity in Veterinary Medicine", held in 2020, 2021 and 2023, with **9 scientific works**, presented with 4 reports and 5 posters.

She is also a member of the organizing committee of the following two International scientific conferences: • "Tradition and modernity in veterinary medicine". 28–30.04.2023, Yundola, Bulgaria and • "Tradition and modernity in veterinary medicine". 26–28.04.2024, Yundola, Bulgaria. At the Faculty of Veterinary Medicine, Chief Assist. Prof. Dr. Hr. Neshovska is also a member of: • The General Assembly of the Faculty of Veterinary Medicine at the University of Forestry; • The Commission for Animal Welfare, for the period from 2022 to 2025; • The Commission on Ethics, Suggestions and Complaints from Students and PhD Students, for the period from 2022 to 2025.

Dr. Neshovska has participated in a **training course** for improving professional qualifications in "Protection and humane treatment of experimental animals used for scientific or educational purposes" (Certificate No. 076166 of 20.12.2023, UF - Sofia, Center for Continuing Education), as well as in **mobility** under the „ERASMUS+“ program at the University of Sassari, Italy for the period 20 - 24.11. 2023.

She is the winner of an **award** for a presented poster at the International Scientific Conference "Tradition and Modernity in Veterinary Medicine", held on 26–28.04.2024 in Yundola, Bulgaria, in the section "Non-infectious Pathology".

Characteristics of published scientific results

• The scientific publications submitted by Chief Assistant Professor Dr. Hr. Neshovska for participation in the competition for Associate Professor position are **20** in total. They include a habilitation thesis - **a monograph, a book** based on a defended dissertation thesis for the award of the ESD "Doctor" and **18** articles, **11** of which are published in Bulgarian scientific issues, refereed and indexed in world-renowned databases of scientific information and **7** - in non-refereed journals with scientific review. One of the articles is published in Bulgarian, and the rest - in a foreign language. The large number of articles in refereed scientific journals is evidence of the significance of her scientific research and publication activities.

Reflection of the candidate's scientific activity in the literature (citability).

Data are presented for **2** scientific papers with the participation of Dr. Neshovska, **cited in 6 publications**. Five of the citations are in articles in foreign issues, refereed and indexed in world-renowned databases of scientific information (Web of Science or Scopus). The total **SJR** of the publications in which these citations are found is **4.985**. One of these articles with her participation is also cited in a publication in a Bulgarian non-refereed journal with scientific review. These results are a good indicator of **the significance of her scientific production** internationally and in our country.

Contributions of the candidate's works (scientific, science-applied, applied).

The contributions resulting from the scientific research work of Dr. Neshovska are **original and innovative for our country**. They can be divided into three groups:

Scientific:

For the first time in our country, an in-depth study of raw dog food that has undergone high pressure processing (HPP) has been conducted. It has been proven that this processing extends the shelf life of the food up to 30 days when stored at 0 - 4 °C, without changing the quality indicators, which guarantees its safety and the health of consumers. HPP of raw dog food does not change the organoleptic indicators, with the exception of color (G 6.1).

When feeding dogs for a period of 45 days with raw food that has undergone HPP, no statistically significant changes are observed in the hematology of the dogs' blood, but statistically significant changes are found in the values of Urea, ALB, TP, Chol and ALP (G 6.1).

The nutritional value of innovative feed raw materials (citrus waste products) has been determined in order to replace the main ingredients of feed for farm animals. The content of cadmium and lead in citrus pomace has been studied in relation to their safety in their application as feed raw material (G 7.1, G 7.3).

The legislation related to the application of various types of technologies in the production of pet food has been analyzed (G 8.5).

Scientific-applied:

The levels of heavy metals in Black Sea hydrobionts have been studied, on the basis of which the potential risk to human health when consuming them is determined. It is recommended to study samples of seawater, sediment, algae and various types of fish for bioaccumulation of heavy metals in order to monitor pollution of the Bulgarian Black Sea coast. Biomonitoring of regulated (lead, cadmium and mercury) and non-regulated heavy metals in various aquacultures, benthos and water obtained from the Bulgarian Black Sea area has been carried out for the period

2020 – 2021. The studied various commercially important fish species from the Bulgarian part of the Black Sea showed low content of heavy metals in the majority of the tested samples. However, some of these metals are found in higher values, which could be a prerequisite for future regulation in legislative acts (G 7.1, G 7.2, G 7.4 - 7.10, G 8.1, G 8.3, G 8.4, G 8.6).

An analysis of the current Bulgarian and European legislation related to heavy metal contamination of marine aquaculture is presented. The regulatory documents determine maximum permissible concentrations for only three heavy elements – lead, cadmium and mercury (G 7.2, G 7.9, G 8.6).

A review of regulatory documents related to the use of various types of insects as food and/or feed has been made. No criteria for safety and technological hygiene are found in the receiving of products/raw materials obtained from insects intended for human consumption (G 8.2).

Applied:

The application of the HPP technology in the production of raw dog and cat food is recommended (G 6.1).

The main and waste products obtained from the cultivation of Black Soldier Fly in Bulgaria, as well as their application, are studied. They are characterized by excellent nutritional qualities, as well as a high level of safety for end consumers. The obtained raw materials are characterized by a high content of essential nutrients and could successfully replace the main protein and lipid sources in animal nutrition, without affecting their health status and their productivity. This type of animal husbandry is ecological and has no negative impact on the environment (B 3.1, G 8.2).

It has been proven that citrus waste products could successfully replace the main feed raw materials. Their use has environmental and economic significance, as it reduces the amount of tons of organic waste generated worldwide (G 7.1, G 7.3).

These contributions are important from a scientific and practical point of view for our country. They bring a valuable share to science and practice in these areas in our country, contributing to the introduction and development of new technologies, environmental protection and improvement of legislation, which is valuable and innovative in a scientific and applied aspect.

Assessment of the personal contribution of the candidate

The personal contribution of Chief Asst. Dr. Hr. Neshovska in the presented scientific research production is undeniable. She is an independent author of a monograph, a book and three of the articles, in 7 of the others she is a leading author, in 4 she is in second place and in the remaining 3 - in third place in the author's teams. One of the articles with her participation has one co-author, 12 have two and 1 - three co-authors. These data are an indicator of her significant personal participation in the development and publication of the scientific works and present her as an established and promising scientist with an interest in the latest technologies. Her experience and capabilities for independent research and publication activity are unquestionable.

Critical notes and recommendations

The book based on the defended dissertation for the award of the ESD "Doctor" is not attached to the documents provided to me for evaluation, neither in electronic nor in paper format. Only a brief summary of the book is available.

Some of the presented articles should be combined into a smaller number of publications. For example, the results published in articles G 7.1 and G 7.3 are for an one common article, as well as those in papers G 7.4, G 7.5, G 7.6, G 7.7 and G 7.8 should also be published in one or at most two articles. This recommendation should be taken into account in the future publication activities.

Personal impressions

I have known Hr. Neshovska since she joined the Faculty of Veterinary Medicine as an Assistant Professor. Her dedication and responsibility to teaching and research work are undeniable, as is her interest in the study and introduction of promising new technologies. Her high competence, organization and consistency in the work also contribute to the successes achieved. Particularly worthy of respect and admiration is the successful combination of the most important thing - motherhood, with teaching and research activities!

Conclusion

From the submitted materials for participation in the competition for AP "Associate Professor" it is clear that Chief Asst. Prof. Dr. Hr. Neshovska is an well-established scientist with over 6 years of teaching and research experience. Her scientific publications for participation in the competition are 20 in number, with more than half of them being printed in journals, refereed and indexed in world-renowned databases with scientific information. The contributions of her works are current and valuable for our country. The citations are sufficient in number and also testify to the significance of the candidate's scientific production. The total number of points received by her in the groups of indicators for AP "Associate Professor" is **464.15** and exceeds the minimum national requirements of 400 points. She meets all the necessary indicators, and exceeds these requirements in some. Also, Chief Asst. Prof. Dr. Hr. Neshovska has a sufficiently long teaching experience in conducting classes in five disciplines: "Nutrition and Agronomy", "Quality and Safety of Animal Feed", "Veterinary Hygiene and Technologies in Animal Husbandry", "Public Veterinary Affairs and Legislation" and "Ecology", fulfilling and exceeding the mandatory teaching workload. Teaching the same disciplines in English further enriches this experience. **According to Art. 2a, (1) of the Regulations for Academic staff development at UF, the candidate not only meets the minimum national requirements for scientific and teaching activities, set out in the Regulations for Application of the Law on the Development of Academic Staff in the Republic of Bulgaria in the professional field of the competition, but also significantly exceeds them.** All this gives me reason to confidently propose **Chief Asst. Prof. DVM Hristina Stalinova Neshovska to occupy the academic position of "Associate Professor"** in the field of higher education 6. "Agrarian Sciences and Veterinary Medicine", professional field 6.4. "Veterinary Medicine", scientific specialty "Animal Hygiene and Organization of Veterinary Services", in the discipline "Nutrition and Agronomy" at the Department of "Anatomy, Physiology and Animal Sciences" at the Faculty of Veterinary Medicine, University of Forestry, Sofia.

10.07.2025.

Prepared the opinion:

Sofia

(Prof. D.Sc. T. Popova)