REVIEW

on the materials for participation in a competition for the occupation of the academic position "Associate Professor", field of higher education 6. Agricultural sciences and veterinary medicine, PN 6.4. Veterinary medicine, scientific specialty "Animal Pathology", in the discipline "Biochemistry", announced by the University of Forestry in SG no. 24/25.3.2022, procedure code ELA-AsP-0322-81.

Candidates for participation in the competition are:

1. Ch. Assistant Professor Metodi Hristov Petrichev, Ph.D

Reviewer: Ph.D, Rumen Georgiev Binev, Professor of PN 6.4. Veterinary Medicine from Trakia University.

1. Brief biographical data about the candidate.

Metodi Petrichev was born on January 30, 1974. in the city of Ruse. In 2001 graduated from higher education with a master's degree in veterinary medicine at the University of Forestry, Faculty of Veterinary Medicine, Sofia. From 2001 to 2002 was a private practice veterinarian in the municipality of Dragoman, and until July 2002 was a teacher of microbiology and anatomy of domestic and productive animals at Professional High School of Veterinary Medicine and Agriculture "St. Georgi Pobedonosets" – Kostinbrod. In 2006, he successfully defended a dissertation and received the educational and scientific degree "Doctor of Veterinary Medicine" (PhD). Since then, he has been working at the Bulgarian Food Safety Agency – NDNIVMI – Sofia, and for 5 years he was chief assistant at the National Reference Laboratory of Mycotoxicology and Ecotoxicology, and 4 years and its head. During the same period, he was also working as a veterinarian at Sudahim EOOD – Sofia. From 2016 to 2017 was the head of a laboratory in Ruse. In 2017 was selected as an assistant, and in 2019 for the main assistant in the discipline of biochemistry in the

Department of "Plant Pathology and Chemistry", at the Faculty of "Ecology and Landscape Architecture", Forestry University – Sofia.

2. Conformity of the applicant's submitted documents and materials with those required according to the Regulations for RAS at LTU;

The documents and materials submitted by the candidate conform to the requirements, according to the Regulations for RAS at Forestry University – Sofia.

Note: The submitted reference for the applicant's academic employment is personal information and has not been confirmed by the "Educational Department" of the relevant faculty, as there are no administrative attributes (signatures and seals) certifying the veracity of the information submitted.

3. Evaluation of the candidate's educational and teaching activities

Dr. Metodi Hristov Petrichev is an assistant since 09.2017 in the Department of "Plant Pathology and Chemistry", University of Forestry – Sofia, and from 09. 2019 is the chief assistant in Biochemistry at the same department, i.e. he has nearly 5 years of teaching experience.

From the reference made on the candidate's educational employment, it is established that he delivers lecture and practical study material in the discipline "Biochemistry", in the specialty "Veterinary medicine" with a total annual employment for the last year of 650.5 hours.

Of these, 354 hours are in the classroom and 31.5 hours are non-auditory employment. A significant part of the teaching activity of Dr. Metodi Hristov Petrichev is occupied by the English language training of foreign students with 260 hours of classroom employment.

In addition to this, he carries out teaching activities with students from the bachelor's degree "Ecology and Environmental Protection". Throughout his

educational and teaching activities, the candidate conducts lectures, exercises, seminars and teaching practices. Prepares study materials, participates in conducting semester exams, performs course assignments and student projects, participates in updating the study programs and providing the material base necessary for conducting training with the students.

4. Evaluation of the scientific, applied scientific and publication activity of the candidate

4.1. Participation in scientific, scientific-applied and educational projects

The candidate presents 3 participations in scientific projects of the National Diagnostic Research Veterinary Medical Institute, Sofia. Respectively: III 5.2/2005 "Possibilities of using copper methionate for the prevention of micronutrient deficiencies in laboratory animals, pigs and lambs", Sh 5.16/2005 "Study of feed contamination with xenobiotics and possibilities of toxicological risks in the animals" and Sh 5.17/2006 "Investigation of FOS and CS intoxications in wild mammals and birds".

Of particular contribution to Petrichev's project activity are his two participations in contractual projects of National Diagnostic Research Veterinary Medical Institute with external departments and companies – "Research of the veterinary medicinal products „Feridil - 200" and „Fervetrin - 200" in laboratory animals and pigs and "Preclinical and clinical studies of two iron dextran complexes („Ferodextran - 100" and „Feridil - 100")".

In the general scientific activity of the candidate, both his additional qualifications obtained from the European Association of Veterinary Pharmacology and Toxicology, 2003, Lisbon, Portugal and the European Commission DG Health and Food Safety, 2010, Pisa, Italy and 2011, can be counted. Naples, Italy.

4.2. Characteristics of published scientific results

In the competition announced for the occupation of the academic position "Associate Professor" in "Animal Pathology", Ch. assistant professor Dr. Metodi Petrichev presents 30 scientific works, of which one monograph and 29 publications and reports published in refereed and non-refereed Bulgarian and foreign journals.

- 14 articles in scientific journals in full text, published in refereed and indexed in world-famous databases with scientific information (indicator D7). Of these, 2 are in Scopus (SJR), 1 in Web of Science (IF) and the remaining 11 in CABI. In 4 of them, the candidate is an independent author.

- 15 articles in scientific journals and proceedings of congresses or conferences in full text, published in non-refereed journals with scientific review (indicator D8). In 6 of them, the candidate is the first author, and in 4 – the second author.

The scientific works of Ch. Assistant Professor Dr. Metodi Petrichev are complemented by 1 monograph – "Mycotoxicoses in productive animals and basic methods for the analysis of mycotoxins" (2021).

H-index (by Scopus) of the applicant = 2.

Notes:

1. Publications 6 and 7 of G7 are not indexed in Scopus, but in CABI.

2. Publications 1 and 3 of G8 are essentially repeated, as №3 is a conference report subsequently published in Folia Veterinaria. Since both scientific works are used in the Dissertation (item 3 of publications and item 2 of reports), they should be dropped from the list and accordingly the indicated 225.92 points should be reduced by 10 (with 5 for both).

3. The self-assessment report "Oral bioavailability of iron methionine sulfate complex in 32-day-old pigs", presented at the 10th International Congress for Veterinary Pharmacology and Toxicology, 17th - 22nd September, 2006, Torino, can be accepted as a supplement. of the candidate's scientific activity.

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

The total number of citations after the first habilitation, which Ch. Assistant Professor Dr. Metodi Petrichev presents 15 of which:

- citations in scientific publications, referenced and indexed in world-famous databases with scientific information – 5 (indicator "D 11").

- citations in monographs and peer-reviewed collective volumes – 1 (indicator "D 12").

- citations in non-refereed journals with scientific review – 9 (indicator "D 13").

To the presented materials Ch. Assistant Professor Petrichev participated in the competition for "Associate Professor" and with an independent Monograph on the topic "Mycotoxicoses in productive animals and basic methods for the analysis of mycotoxins" (2021), which has a marked scientific and applied orientation. Based on his own research and data from other authors, the candidate describes in detail the possibilities, causes, clinical signs and prevention of feed contamination with mycotoxins. Substantial attention is devoted to laboratory analysis methods proving the presence of mycotoxins.

To the general assessment of the scientific activity of Ch. Assistant Professor Petrichev can also be credited with his membership in the editorial boards of 4 foreign scientific journals – "Global Journal of Agriculture and Soil Science", "Journal of Biogeneric Science and Research", "Journal of Pharmaceutical Research and Development" and "International Journal of Zoology and Animal Biology"

Ch. Assistant Professor Dr. Petrichev meets the minimum national requirements regarding the candidate's research activity, according to the following group of indicators – "A" (successfully defended dissertation for the award of the

Doctorate of the National Academy of Sciences) – 50 points, "B" (monograph) – 100 items, "D" – 215.92 items with 200 required, "D" – 220 items with 50 required.

In summary of the scientific, scientific-applied and publication activity of the candidate in the competition for "Associate Professor" Dr. M. Petrichev, it can be assumed that he fully meets the minimum requirements concerning area 6 "Agrarian Sciences and Veterinary Medicine", professionally direction 6.4. "Veterinary Medicine", in accordance with the Law for the Development of the Academic Staff in Bulgaria and the minimum requirements for scientific and teaching activity in the FVM of the Forestry University, Sofia.

4.4. Contributions to the candidate's works (scientific, scientific-applied, applied).

I accept the self-assessment of the contributions of the candidate for "Associate Professor" in the mentioned scientific works, in which 5 groups of thematic directions are outlined – Pharmacology, Toxicology, Ecotoxicology, Mycotoxicology and risk assessment of feed raw materials and feeds. In each of them, contributions of a scientific, scientific-applied and applied nature are available at the same time.

1. In the field of "Pharmacology" (with 9 publications), the scientific direction mainly concerns pharmacokinetic studies of some antiparasitic (nitroxynil) and antibiotic (ciprofloxacin) agents, as well as some inorganic and organic copper, zinc (zinc methionate and zinc sulfate) and iron (ferrous methionate) compounds.

2. In the "Toxicology" direction, 6 publications are indicated, which mainly concern studies on the toxicity of iron- and copper-containing organic compounds, as well as chemotherapeutic (tilmicosin phosphate) and pesticide (carbofuran) preparations.

3. Contributions in the field of "Ecotoxicology" are related to the conduct of chemical toxicological analyzes of samples of dead bees, wild animals and birds for

the presence of anticholinesterase pesticides (OFC and OCC) – 3 publications. The data obtained after studying the effect of activated waters on plants after adverse chemical effects imitating acid rain are also indicated in this section.

4. In the "Mycotoxicology" section, the main information is from the Monograph "Mycotoxicoses in productive animals and basic methods for the analysis of mycotoxins", as well as from 1 publication. The causes of occurrence and the effects of aflatoxins, ochratoxins and fusariotoxins on the animal organism are described in detail. From the data on age and species sensitivity to aflatoxins, it was found that monogastric and young animals are more sensitive, compared to polygastric and old animals. It has been observed that at high levels of proteins, lipids and carotenoids in the wounded forage, the toxicity of aflatoxins is reduced. The registered changes in the levels of some of the biochemical parameters in the blood: increased enzyme activity of ALP, AST, ALT, SDG, LDH, GGT; decreased content of total serum protein, protein fractions (alpha-, beta- and gamma-globulins), fibrinogen; increasing the concentration of glycocholic and glycodeoxycholic acids can be indicative of aflatoxicosis. The data of a number of studies have confirmed that the main grain fodder (wheat and corn) most often contain several mycotoxins at the same time and in significant quantities – DON, Zearalenone, Ochratoxin, and only in rare cases T-2 toxin. The results of ochratoxicosis studies show that the production of ochratoxin A usually occurs during the storage of grain feed. In addition to the above data, a high mortality rate was also recorded in snails, which classifies them as a very sensitive type of ochratoxicosis. The inhibitory effect of Zearalenone on the secretion of follicle-stimulating hormone and its luteolytic effect, as well as the immunosuppressive effect of fumonisinotoxicosis (FB_1), has been confirmed.

5. Contributions related to the risk assessment of feed materials and feed are the subject of 1 publication, which reports that 21% of compound feed and 35% of

grain feed are contaminated with anticholinesterase pesticides and pose a serious toxicological risk.

All contributions are presented in a justified and precisely worded manner, based on good information and competence in all areas.

5. Evaluation of the candidate's personal contribution

In all scientific directions it is evident that Ch. Assistant Professor Dr. Petrichev has made a significant personal contribution. This is mostly evident from the data on the methods used to prove the presence and effect of a wide range of xenobiotics – antiparasitic and antibiotic preparations, organic and inorganic compounds of heavy metals, anticholinesterase pesticides, etc. The scientific production and personal participation in it of Ch. Assistant Professor Metodi Petrichev defines him as a well-rounded specialist with extensive experience in the field of laboratory diagnostics.

6. Critical notes and recommendations

1. In the assessment of the candidate's educational and teaching activity, the lack of a teaching aid in the taught discipline can be indicated as a shortcoming.

2. There are some technical errors (in press publications are listed and they are from more than 10 years ago) and omissions (numerical data for IF and SJR are missing).

7. Personal impressions

I do not know the candidate and therefore have no personal impressions.

8. Conclusion

The scientific production presented to me by the candidate for "Associate Professor" Ch. Assistant Professor Metodi Hristov Petrichev, Ph.D., fully meets the minimum national requirements and those of the FVM at University of Forestry – Sofia.

The overall assessment of the candidate's research and teaching activities convincingly shows that he is an established and established researcher and teacher.

In this regard, I propose Ch. Assistant Professor Metodi Hristov Petrichev, PhD, to be elected to the academic position of "**Associate Professor**", in the professional field of "Veterinary Medicine", specialty "Animal Pathology".

Reviewer Signature:

The review was submitted on: 21/15/2022