



STANDPOINT

On materials for participation in a competition for the academic rank “Associate Professor”, higher education field 6. Agrarian Sciences and Veterinary Medicine, professional direction 6.4. Veterinary Medicine, scientific specialty "Epizootology, infectious diseases and prevention of infectious diseases in animals", in the discipline "Pathology (Pathological Physiology)", announced in the State Gazette issue № 18 of January 3, 2024 by the University of Forestry, procedure code VM-P-0224-122.

Applicant in the competition:

Only candidate in the competition is Associate Professor Krasimira Ivanova Genova, Ph D.

Standpoint author: Professor Dimitrichka Yordanova Dimitrova, DVM, PhD, pensioner at the Faculty of Veterinary Medicine to the University of Forestry, Sofia, higher education field 6.0 „Agrarian Sciences and Veterinary Medicine“, professional field 6.4 „Veterinary Medicine“, scientific speciality “Animal Pathology”.

The competition was announced for the needs of the Department of "Anatomy, Physiology and Animal Breeding Sciences" at the Faculty of Veterinary Medicine to the University of Forestry - Sofia.

I am appointed as a member of the Scientific Jury for this competition in line with Order ЗПЦ – 197/ 15.04.2024 г. of the Rector at the University of Forestry. As such, I declare that I have no common research publications with the applicant.

1. Short biography of the candidate

Associate Professor Krasimira Ivanova Genova, DVM, PhD was born on September 13, 1964. In 1987, she completed her higher education at the Moscow Veterinary Academy "K. I. Scriabin" in Moscow, of the Russian Federation and received a diploma for Master of Veterinary Medicine and Doctor of Veterinary Medicine. For a short period of time (26.11.1987 - 04.05.1999) Associate Professor Krasimira Genova was a Research Associate III-I degree and she was a laboratory manager at the Research Veterinary Medical Institute of Immunology - Sofia. She defended a dissertation in 1994 for the acquisition of the educational and scientific degree "PhD", which was awarded by the Specialized Scientific Council in Veterinary Medicine, under code 03.04.12 Epizootology, infectious diseases and prevention of infectious diseases in animals, as a result of a

successfully defended doctoral dissertation at the Central Research Veterinary Medical Institute in the city of Sofia.

From 04.05.1999 to 04.01.2000, the candidate in the competition for professor was a Research Associate 1st degree and biotechnologist in the Department of "Virus Biopreparations" at the Veterinary Medical Institute of Immunology "Bioproduct" in Sofia. For a short time (from 04.01.2000 to 01.11.2001) she was also the Head of the same department at the Veterinary Medical Institute of Immunology "Bioproduct" in the city of Sofia.

From November 1, 2001, Associate Professor Krasimira Genova started working as a Chief Assistant Professor at the Faculty of Veterinary Medicine of the University of Forestry in Sofia. Since the end of March 2008, she has been an Associate Professor at the same Faculty of the University of Forestry, where she is currently.

After her habilitation, she served two terms (from 04.06. 2008 to 13.01. 2011 and from 30.03.2018 to 05.03-2020) as Deputy Dean for academic work at the Faculty of Veterinary Medicine, and from 05.03.2020 until now she is the Dean of the same faculty.

Associate Professor Krasimira Genova's scientific and professional interests are mainly in the field of infectious pathology in various animal species.

Based on a thorough review of the submitted documents and materials for the competition, as well as the reference declaration prepared by the applicant in the competition, I have established that the minimum national requirements have been met for occupying an academic position "Professor" in the field of higher education 6. Agrarian sciences and Veterinary Medicine" and professional direction 6.4. Veterinary Medicine, according to the Law on Development of the Academic Staff in the Republic of Bulgaria, as well as the additional requirements of the Regulations for Development of the Academic Staff at the University of Forestry.

2.Compliance of the candidate's submitted documents and materials with the requirements, according to the Regulations for the Development of the Academic Staff at the University of Forestry

In her application to the Rector, according to the current Regulations for the development of the academic staff at the University of Forestry, the candidate in the current competition submits all the necessary documents, including: Curriculum vitae according to the European model; Notarized copy of Diploma of completed higher education Educational qualification degree "Master"; Notarized copy of Diploma for the Educational and Scientific Degree "PhD"; Document for occupied academic position; Document for occupied academic position; Medical certificate; Certificate of conviction; Reference-self-assessment for the fulfillment of the minimum national

requirements for the academic position "Professor", according to Article 2b of the Law on the Development of the Academic Staff in the Republic of Bulgaria and Article 2a, Paragraph 1 of the Regulations for the Development of the Academic Staff of University of Forestry; List of publications, inventions and other scientific and applied results; Classification of publications; The summaries of the publications and works in Bulgarian and English; Reference for citations; Reference to the scientific contributions; Reference to inventions, rationalizations and other scientific and applied results; Certificate of participation in research and educational projects; Certificate of participation in scientific conferences; Reference for the scientific, teaching and expert activity; Declaration under Article 313 of the Criminal Code for the reliability and originality of the information presented; Information card – in Bulgarian and English, and Advertisement in the State Gazette, issue № 18 of 01.03.2024, page 102.

All documents and attachments are arranged correctly, are authentic, contain the required signatures, stamps and comply with the requirements set by the Regulations for the Development of the Academic Staff at the University of Forestry, Sofia.

In order to participate in the announced competition, Associate Professor Krasimira Ivanova Genova, PhD, submitted the relevant documents and evidentiary material, from which it is clear that she has fulfilled the criteria for occupying the academic position "Professor" specified in the Regulations for the Development of the Academic Staff at the University of Forestry.

Minimum national requirements (MNR) by groups of parameters for conferral of the academic rank “ Professor” in higher education field 6.0 „Agrarian Sciences and Veterinary Medicine“, professional field 6.4 „Veterinary Medicine“

Group of parameters	Content	MNR and points for the academic rank “Professor”	Points declared by the applicant	Real points of the applicant according to MNR
A	Parameter 1	50	50	50
B	Parameter 2	–	–	–
C	Sum of parameter 3 – 4	100	100	100
D	Sum of parameters 5 – 12	200	417.31	422.31
E	Sum of parameters 13 – 15	100	580	520
F	Sum of parameters 16 to the end	100	305	305
Sum of points for parameter groups		550	1452.31	1392.31

3. Evaluation of teaching and learning activity of the applicant

From the materials provided for the competition, it is clear that as of the date of submission of the documents for participation, Associate Professor K. Genova has 22 years, 5 months and 24 days of experience at University of Forestry. They present a detailed report on the candidate's classroom

employment for the last 5 academic years, from which it is evident that she actively participated in the educational process by giving lectures and exercises in Bulgarian and English. During this period, Associate Professor Genova led classes (lectures and exercises) in the disciplines "Pathological Physiology"; "Immunology"; "Molecular Biology"; "Working with laboratory animals. Organization of the experiment and humane treatment of animals", and in the period 2017-2021 she led and part of the lecture course on "Biochemistry".

Associate Professor Krasimira Genova also giving lectures:

8 hours of lectures in English to students, doctoral students, specialists and teachers at the Veterinary Faculty of Università Degli Studi di Sassari, in the city of Sassari, Italy, from 25 to 29.05.2015 (Appendix 19.12);

8 hours of lectures in English to students, doctoral students, specialists and teachers at the Faculty of Veterinary Medicine of the University of Zagreb, Croatia, from 21 to 25 May 2018 (Appendix 19.13);

8 hours of lectures in English to students, doctoral students, specialists and teachers of the Faculty of Veterinary Medicine at UniLaSalle Polytechnic University, Rouen, France, in the period 12-16.02.2024 (Appendix 19.14).

The candidate in the announced competition for Professor of Pathology (Pathological Physiology) has conducted a short-term specialization at the University of Agronomic Sciences and Veterinary Medicine in Bucharest, Romania with 8 hours of lectures in the field of Pathological Physiology - from 03 to 16.06.2023 (Appendix 21.26.).

She also conducted a short-term specialization in the Faculty of Veterinary Medicine at the University of Córdoba, Spain delivering of 8 hours of lectures in the field of Pathological Physiology - from 17 to 30.09.2023 (Appendix 21.27.).

Associate Professor Krasimira Ivanova Genova is the author of several teaching curricula on the mandatory disciplines "Pathological Physiology"; "Immunology"; "Molecular Biology"; and to the freely chosen discipline "Working with laboratory animals. Organization of the experiment and animal welfare", learning by students of full-time studies in Bulgarian, and English, from the specialty "Veterinary Medicine", Educational and Qualification Degree "Master" at the Faculty of Veterinary Medicine.

She was the supervisor of 2 PhD students, who successfully defended their dissertations:

Roman Pepovich Petkov, doctoral student in independent study, defended a dissertation for the award of the Educational and Scientific Degree "PhD" on October 12, 2015 on the topic: "Distribution, diagnosis and control measures of enzootic pneumonia in the conditions of industrial pig farming";

Iliyan Manev Manev, doctoral student in independent study, defended a dissertation for the award of the Educational and Scientific Degree "Ph D " on June 22, 2017 on the topic: "Studies on some factors of immunity and immunoprophylaxis in myxomatosis in rabbits", which is evident from the available detailed Reference for scientific and teaching activities No. 21 in the documents for the announced competition.

4. Evaluation of the candidate's scientific, applied scientific and publication activities:

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

According to Reference № 19 and Appendices №№ 19.1., and 19.2., from the documentation provided for the competition for "Professor" it is clear that the candidate is an active participant in the implementation of 29 projects, 25 of which are scientific research and 4 educational, provided with financial funds for its implementation from international programs of the European Union.

The participation of Associate Professor Krasimira Genova in 25 scientific research projects is important, 11 of which were financed by the Forestry University, Sofia; 9 projects – financed by Veterinary Medical Institute of Immunology "Bioproduct-OOD", Sofia; 2 – from the Faculty of Dental Medicine of the Medical University, Sofia; 1 – from the Agricultural Academy, Sofia; 1 – from the Scientific Research Fund of the Ministry of Education and Science, Sofia and 1 – financed by the Central Diagnostic Research Veterinary Medical Institute "Professor G. Pavlov", Sofia.

Scientific research projects towards the University of Forestry:

1. "Studies on prevalence and some problems of immunoprophylaxis of myxomatosis in rabbits";
2. "Study on the distribution, etiological agents and their relative share in the respiratory disease complex in pigs";
3. "Influence of organic and inorganic zinc on the immunological status of adolescent pigs";
4. Clinical hematological, immunological and electrocardiographic studies in dogs fed with granular food "Rebel Plus";
5. Research on the epidemiology, diagnostics and the possibilities for effective treatment of atopic dermatitis in dogs;
6. Bartonellosis in cats - first seroepidemiological and molecular biological study in Bulgaria;
7. Study of the protective mechanisms of the mammary gland and the spread of mastitis in sheep;
8. Derivatives of 2(3H)-benzoxa(thia)zalone – synthesis and biological activity;
9. Synthesis and isolation of biologically active substances in order to study cytotoxic and antioxidant activity;

10. Pharmacokinetic and toxicological studies of ferrous methionate compared with ferrous sulfate ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$);
11. Diagnosis and fight against leptospirosis in dogs.

Research projects towards the Veterinary Medicine Institute of Immunology "Bioproduct-OOD, Sofia:

1. Cultivation of leptospira different serovars on domestic animals with synthetic nutrient medium;
2. Obtaining an inactivated vaccine against infectious bronchitis in birds and studying its harmlessness and immunogenicity;
3. Obtaining and improving associated and immunoprophylactic agents against respiratory and intestinal virus infections in cattle;
4. Studies on mixed bacterial and viral infections in cattle;
5. Development of a combined vaccine against coli and rotavirus infections;
6. Studies on the immunogenicity of strains of mucosal disease-viral diarrhea (MB-VD) and infectious bovine rhinotracheitis;
7. Obtaining diagnostics for some viral infections – parvovirus and hepatitis in dogs, mucosal disease-viral diarrhea (MB-VD), respiratory syncytial virus (RSV) – infection in cattle and Gumboro in birds;
8. Receiving a polyvalent vaccine against parvovirus, canine hepatitis, leptospirosis and rabies;
9. Obtaining an inactivated vaccine against fowl pest (fowl plague), infectious bronchitis and infectious bursitis in birds and studying its harmlessness and immunogenicity.

Research projects to other organizations, institutes, and universities:

1. To the Ministry of Education and Science: Development of DNA markers (CAST, MSTN) for fattening ability and meat quality in a synthetic population of Bulgarian dairy, Karakachan and Shumen sheep breeds;
2. To the Faculty of Dental Medicine of the Medical University, Sofia: Apical sealing of root canals with the help of adhesive filling materials;
3. To the Faculty of Dental Medicine of the Medical University, Sofia: Tissue response to pulp coating agents with biological activity in experimental research;
4. To the Central Diagnostic Research Veterinary Medical Institute "Professor G. Pavlov", Sofia: Preclinical and clinical tests of zinc methionate on laboratory animals and pigs;
5. To the Agricultural Academy, Sofia: Breed improvement of cattle from the Bulgarian Simmental breed in a combined direction.

4.2. Characteristics of published scientific results

In the competition for the academic position "Professor", the candidate participated with a total of 64 publications in Bulgarian or in English. Of these, 3 issues were published in English in magazines abroad (№№ 1, 2, 5) and 3 in English in magazines published in the Republic of Bulgaria (№№ 3, 4, 6), of which respectively 1 issue was with Impact factor (IF) (№ 5), and 5 – with Impact Rank (SJR) (№№ 1-4, 6).

In the current competition, Associate Professor Krasimira Genova, PhD, participated with 10 publications in Bulgarian in scientific journals (№№ 21-31) and 17 reports in Proceedings of Scientific Conferences (№№ 7-18, 32-34, 38, 62).

The overall impact factor (IF) of the scientific publications included in the competition is equal to 0.661, of which the individual IF for the candidate is 0.165. The overall Impact Rank (SJR) of the scientific publications included in the competition is 0.874, of which the individual SJR for the candidate is 0.211.

The candidate participated in the announced competition with 28 scientific publications (№№ 7-34) in a scientific publication, referenced and indexed in world-famous databases (Scopus, Web of Science) without impact factor or impact rank, of which 15 are in English (№№ 20-34) and 13 in Bulgarian (№№ 7-19). She also has 12 publications in non-refereed peer-reviewed journals or published in edited collective volumes in Bulgarian (№№ 52-63).

In the current competition, Associate Professor Krasimira Genova also fulfilled point G5 of the Minimum National Requirements with the included monographic work. The monograph "Respiratory disease process in cattle, Intel Entrans, Sofia, 2024 is with ISBN: 978-619-7703-61-0 (publication № 64) is in Bulgarian, in a volume of 136 pages and with only 1 author included.

In her scientific production, included for participation in the competition, Associate Professor Krasimira Genova is 5 times an independent author of publications in scientific journals or collections, in reports from scientific conferences, books and monographs (№№ 25, 26, 28, 35 and 64), of which 4 are in English (№ 25, 26, 28 and 35) and 1 in Bulgarian (№ 64).

In 13 scientific publications she is the lead author, of which 4 issues (№№ 1, 3, 36 and 41) in English and 9 issues (№№ 7, 10, 11, 12, 14, 15, 52, 56 and 62) in Bulgarian.

In another 19 publications, she is co-author of the second place (№№ 5, 8, 9, 16, 18, 20, 21, 27, 32, 34, 44-47, 53-55, 57 and 58) of which 10 issues (№№ 5, 20, 21, 27, 32, 34, 44-47, 53-55, 57 and 58) in English and 9 issues (№№ 8, 9, 16, 18, 53, 54, 55 and 57) in Bulgarian.

Associate Professor Genova is co-author of third place in 8 publications (№№ 13, 23, 30, 31, 33, 49, 59 and 60), of which 5 in English (№№ 23, 30, 31, 33 and 49) and 3 issue (№№ 13, 59 and 60) in Bulgarian.

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

The importance of the research and the results reflected in them speak for the large number of citations (17) of publications from her scientific production, mostly by foreign authors in reputable foreign periodicals, with an overall impact factor (IF) = 11.608 or an overall impact rank (SJR) = 1.394.

The candidate in the competition has citations of her publications in scientific publications, referenced and indexed in world-famous databases with scientific information (Scopus or Web of Science), as well as in non-refereed peer-reviewed journals.

The citations of publications of Associate Professor Krasimira Genova in the competition in specialized scientific periodicals with an Impact Factor (IF) are number 9, published in journals: *Vaccines; Infrared Physics & Technology; Animal Science & Biotechnology; Microorganisms; Kuwait Journal of Science; Journal of Hellenic Veterinary Medical Society; Nigerian Journal of Clinical Practice; Bulgarian Journal of Agricultural Science*, and these – with SJR are in issue 8, in journals: *Global Veterinaria; Veterinarski Glasnik; International Journal of Veterinary Medicine; Revista de Investigaciones Veterinarias del Perú*.

In journals without IF or SJR, Associate Professor Krasimira Genova has 15 citations in scientific periodicals, such as journals: *Veterinary Pathology – 1; Scientific Papers Animal Science and Biotechnology – 1; Agrobiological Records – 1; Veterinary Research & Biological Products – 1; PUBVET Medicina Veterinaria e Zootechnia – 3 and Tradition and Modernity in Veterinary Medicine – 8*.

From the included № 12 "Self-assessment report for the fulfillment of the minimum national requirements" and № 17 "Citations" in the competition documentation, it is clear that Associate Professor Krasimira Genova, Ph D, has 19 citations in defended dissertations (of 6 doctoral students from abroad and 4 – from Bulgaria).

The candidate in the competition for "Professor" also has 2 citations in a monographic work by M. Petrichev, 2021. *Mycotoxicoses in productive animals and basic methods for the analysis of mycotoxins*. ISBN 978-619-91033-3-3.

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

Associate Professor Krasimira Genova's scientific interests are mainly oriented towards infectious pathology in animals and are related to solving theoretical and practical problems. This was achieved through the use of complex and modern research methods and after a thorough analysis of the results obtained from them.

After my acquaintance with the scientific publications included in the documentation of the "Professor" competition, I would say that the scientific contributions can be grouped into the following 13 directions:

- I. Contributions to the field of swine infectious pathology;
- II. Contributions to the field of ruminant infectious pathology;
- III. Contributions to the field of infectious pathology in rabbits;
- IV. Atopy in dogs;
- V. Application of methods for rapid diagnosis of viral diseases;
- VI. Organic and inorganic zinc, iron and lead compounds;
- VII. Role of mycotoxins in immune reactivity;
- VIII. Influence of sex, breeds, season and age on the immune status of birds and animals;
- IX. Cell-borne tumor of chickens – hepatoma induced by the myelocytomatous strain MC-29;
- X. The carcinogenic influence of various toxic substances;
- XI. Genetic markers;
- XII. Substitutes of nutritional antibiotics in animal husbandry;
- XIII. Problems in Dental Medicine.

The contributions in the field of infectious pathology in pigs are numerous – 5 in number. These are expressed in clinical studies in industrial pig farms to evaluate the effectiveness of vaccination against enzootic pneumonia in pigs. The results of them show that vaccination has a positive prophylactic effect. This effect is expressed in the improvement of the health condition of the animals and the reduction of the damage in the lungs of pigs and better production is achieved results (Publications №№ 2 and 19). Dynamics of antibodies after vaccination against enzootic pneumonia in pigs during different technological periods have been demonstrated (Publication № 17). The extent and severity of pathomorphological lesions in the lungs of pigs, naturally infected with *Mycoplasma hyopneumoniae* were analyzed. It was established that lung lesions are of moderate severity in 52% of cases, and in 30% the organ is severely affected (Publication № 4). Bacterial pathogens have been identified and their importance in swine respiratory disease complex has been determined. On this basis, effective and adequate control measures have been identified

(Publications № 6 and 43). A comparative study of the therapeutic potential of enrofloxacin and florfenicol was conducted in pigs infected with *Mycoplasma hyopneumoniae* in industrial pig farms in Bulgaria (Publication № 42).

Contributions to the field of ruminant infectious pathology include:

1. Modern reading of epidemiology, clinic and prevention of the respiratory disease complex in cattle. The risk factors and some major etiological pathogens of Bovine Respiratory Disease Complex (BRDC) were analyzed (Publication № 64);
2. The interferon-inducing activity of the Bulgarian vaccine strain of the bovine respiratory syncytial virus (RBV) was established and the absence of the allergic reaction characteristic of the human respiratory syncytial virus (RBV) upon re-injection of animals was proven (Publication № 26);
3. A stronger T-cell immune response was demonstrated in lambs administered tracheally with a vaccine strain of bovine respiratory syncytial virus (BRSV) compared to subcutaneous vaccination (Publication № 28).

Contributions to the field of infectious pathology in rabbits include:

1. Analysis of the prevalence of myxomatosis in rabbits and the need for vaccination is substantiated (Publication № 18).
2. Tracking the dynamics of the serological response after a different method of administration of a live attenuated vaccine against *myxomatosis*, and has been proposed method of application, depending on the breed (Publications №№ 5 and 20);
3. Influence dynamics were followed and the harmlessness of an attenuated vaccine strain of myxoma virus on the concentration, motility and speed of rabbit spermatozoa was proven (Publication № 21);
4. The macroscopic and pathohistological changes on the skin and in the internal organs after experimentally induced infection with field isolate of rabbit *myxomatosis* virus (Publication № 8).

Contributions of Application of methods for rapid diagnosis of viral diseases include:

1. Development of a specific and sensitive latex-agglutination test for the detection of rabbit hemorrhagic disease virus (Publication № 52);
2. Development of a specific and sensitive coagglutination test for the detection of parvovirus in dogs (Publication № 36).

Contributions in the field of Atopy in dogs are expressed in:

1. Carrying out a comparative analysis of different methods for the treatment of atopic otitis in dogs, after correct given a diagnosis. Treatment is based on reactive therapy followed by proactive therapy such as long-term management of the process is an important part of good strategy (Publication № 30);
2. It has been proven that allergen-specific immunotherapy (ASIT) is a modern method, which can affect the course of atopic dermatitis, not just suppress the symptoms. ASIT did not induce harmful hematological and biochemical effects in dogs, in contrast of long-term systemic glucocorticoids (Publication № 31).

The candidate in the competition for "Professor" Associate Professor Krasimira Genova has also contributions in the area of "Organic and inorganic zinc, iron and lead compounds". For the first time, the effect of Bulgarian zinc methionate in comparison with zinc sulfate (ZnSO₄) on some hematological parameters and natural immunity factors in rats and pigs was studied (Publications №№ 11 and 15). Bulgarian zinc methionate has an immunoregulatory effect in rats and pigs, which is expressed by a suppressive effect on the migratory activity of blood and spleen cells in vitro and a stimulating effect on blast transformation to various mitogens (Publications №№ 9 and 14). A comparative analysis of the influence of Bulgarian zinc methionate and zinc sulfate (ZnSO₄) on the functional activity of pseudoeosinophils and monocytes in the blood of broiler chickens was performed. Low doses of organic zinc have been shown to increase phagocyte reactivity, and at a dose of 600 ppm in feed, they suppress macrophage phagocytosis and suppress oxidative burst generation (Publication № 62). The effects of different doses of organic and inorganic iron on the functional activity of polymorphonuclear leukocytes were also studied. Decreased bactericidal activity of macrophages has been demonstrated (Publication № 41). The influence of total lead content on the mechanisms of non-specific immunity in birds has also been studied (Publication № 27).

Associate Professor Krasimira Genova, PhD, in some of her scientific publications, has contributions related to the study of the role of mycotoxins in immune reactivity. In 4 scientific publications (№№ 7, 32, 56 and 57) she investigated fumonisin-induced immunotoxicity on lymphocyte blastogenesis, cytotoxic activity of peripheral blood lymphocytes and cytotoxic activity of splenic lymphocytes of chickens, lymphocytes of broiler chickens fed with feed, containing fumonisin B1. Pronounced suppression was demonstrated, which is fumonisin B1 dose-dependent (Publications №№ 7 and 56). The effect of fumonisin B1 on the humoral immune response was studied in broiler chickens that received different concentrations of the toxin. It was found that the concentration of total protein and albumin decreased, and the primary antibody response was suppressed (Publication № 57). She has also studied the cytotoxic activity of fumonisin B1 against mononuclear cells of different origins. This indicator is dose- and time-dependent. The highest stability was demonstrated in bovine lymphocytes and in blood type "0". The results support the hypothesis that mycotoxins are a serious health problem for humans and animals and a factor in immunosuppression (Publication № 32).

Contributions to scientific publications investigating the influence of sex, breed, season and age on the immune status of birds and animals. For this purpose, research was carried out with rams from the Karakachanska and Mednochervna Shumenska breeds, with the aim of determining the non-specific immune parameters, the phagocytic activity of leukocytes, the bactericidal activity

(oxygen-dependent and oxygen-independent) of the phagocytic systems and the general level of plasma proteins. The results show that rams from the two local Bulgarian breeds have high activity of innate immune reactions (Publication № 1). Significant differences were also found in the proliferative activity of the lymphocytes of rams of the Karakachanska and Mednochervna Shumenska breeds. The obtained immune parameters for the two local breeds of sheep can serve as a basis for further studies of the systemic immune response of lambs, depending on the breed (Publication № 25). The immunocytoadherence technique in the study of lymphocytes from the peripheral blood of pheasants shows that there is no difference in the absolute number of T- (E-ROK) according to sex, as well as according to lymphocyte subpopulations. They have been proven significantly higher B-lymphocyte values in male versus female pheasants. Established is that the number of B-lymphocytes (EAC-rosettes) and helper cells increases with age and is seasonal (Publication № 34).

Contributions to scientific publications investigating cell-transmitted tumor of chickens – a hepatoma induced by the myelocytomatous strain MC-29. For this purpose, transplantation resistance against cell-transmitted hepatoma MC-29 of chickens was investigated after: spontaneous tumor regression; immunization with a subtumorigenic dose of tumor cells; immunization with hepatoma cell extract; immunization with MS-29 virus. The results show that hepatoma MC-29 cells contain specific transplantation antigen(s) (Publication № 16). Histological studies of the cell populations infiltrating the MC29 chicken transplantable hepatoma during progression and regression were also performed. The most characteristic changes are found in the thymus and spleen in progressively developing tumors, and in regression the thymus and spleen have a well-defined structure rich in lymphocytes (Publication № 53).

In two publications (№№ 22 and 40) the carcinogenic influence of various toxic substances was studied. Hypoproteinemia, hypoalbuminemia, and hypoglycemia were found in turkeys, hatched from embryonic eggs, which were inoculated with the proven hepatocarcinogen N-nitroso diethylamine (Publication № 40). Preneoplastic liver lesions induced by N-nitroso dimethylamine in guinea pigs were also investigated. Thrombocytopenia and elevated levels of major liver enzymes, findings associated with hepatocarcinogenesis, have been demonstrated (Publication № 22).

Contributions of scientific publications investigating Genetic Markers. A detailed analysis of the genetic structure of sheep breeds was made in relation to their genetic improvement from the point of view of the diagnosis of many diseases (Publication № 61). The frequency of MSTN gene alleles in the Askan Merino and Caucasian Merino breeds was determined. Exon 3 of the MSTN ovine gene has been shown to be monomorphic for the two studied herds of the merino breeds - Askan

and Caucasian sheep (Publication № 50). Research and identification of the polymorphism in the ABCG2 gene, which is related to milk production in three breeds bred in Bulgaria - Askani Merino, Caucasian Merino and Carnobat Merino, was carried out. Genomic DNA was extracted and genotypes were assessed by PCR amplification using a specific set of two primers (Publication № 51).

The candidate in the competition for "Professor" has contributions related to some substitutes for nutritional antibiotics in animal husbandry. The effect of herbal plants on productive indicators and quality of meat in fresh and frozen state, and during cooking was studied. Experiments with male lambs of the Awasi breed, with different percentages of chamomile and thyme flour, indicated the best effect with the participation of chamomile (2%) and thyme (4%) flour (Publications №№ 44 and 45). The potential of using thyme, peppermint and their combination as natural growth promoters in broiler chickens has been demonstrated (Publication № 46). In studies with 200 broiler chickens, it was shown that 1% chamomile and 1% rosemary to the feed can be considered as potential growth promoters in birds (Publication № 47). The role of probiotic products and preparations in improving the health and productivity of animals and birds has been proven. The modulating role of probiotics on their immune system has been established (Publications №№ 3, 12 and 55). The positive effects of *Tribulus terrestris* plant extract on the weight and health status of Simmental calves during the lactation period have been proven (Publication № 48).

Contributions to Dental Medicine. An *in vitro* study of the most suitable parameters for hard tissue preparation with the QSP mode of dental lasers was performed. The method has been compared with classical tools such as the high-speed drill and the proven gold standard for Er:YAG laser enamel preparation and the MSP mode (Publication № 37). The sensitivity of cariesogenic microorganisms to three-, two- and one-step adhesive systems was investigated, using the total etch and self-etch approaches. The sensitivity of the studied microorganisms (*Streptococcus mutans* and *Lactobacillus acidophilus*) is strongest to total etch and self etch primer systems (highest value for Optibond TM FL Prime). In general, the sensitivity of *Lactobacillus acidophilus* to the adhesive systems tested was lower than that of *Streptococcus mutans* (Publication № 54). A comparative *in vitro* study of the cytotoxicity of different 7 adhesive systems was carried out, representatives of the 4th, 5th, 6th and 7th generations, respectively – OptiBond FL, OptiBond Solo Plus, XENO III, Adper Prompt L Pop, i Bond, Optibond All in One. A cytotoxic effect was demonstrated, with the 24-hour extracts being less cytotoxic than the direct application (Publication № 58). The degree of apical penetration in root canals obturated with adhesive canal-filling agents was established. Results were compared with gutta-percha and AN26 sealer (Publication № 59). The reaction of the

pulp to different materials was also monitored, as well as the quality of the reparative dentin hard tissue that resulted from the stimulated dentinogenesis (Publication № 60).

5. Evaluation of the personal contribution of the candidate

The candidate in the announced competition, with her teaching and research activities at the Faculty of Veterinary Medicine in the University of Forestry, has made a personal contribution to the development of these institutions. She meets all the recommended criteria of the University of Forestry, has a defended dissertation for the acquisition of the Educational and Scientific Degree "Ph D "; published monograph and scientific works in journals with impact factor, impact rank and without such; a horary of lecture hours in several disciplines with Bulgarian students and those with English-language training. She has 2 doctoral students who have successfully defended their dissertations and another part-time doctoral student who is at the end of his doctoral studies and after 1 month he has to defend his dissertation work. Associate Professor Krasimira Genova participated in the creation of a laboratory of immunology, and in numerous scientific projects). All this is a reason for her to hold the academic position "Professor".

Summarizing the data from the materials submitted by the applicant, I find that they far exceed the recommended evaluation criteria.

6. Critical notes and recommendations

My critical notes are:

1. In **document 12. Reference-self-assessment for scientific, teaching and expert activity**, at the end of page 11 and at the beginning of page 12, in section D13 "Citations or reviews in scientific publications, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes", to publication 8. Nakev, G., Genova K., et al. Growth and development of skeletal muscle in connection with the expression of the myostatin gene (mstn). Proceedings of the 10th International Symposium Modern Trends in Livestock Production, October 2-4, 2013, 640-647, there is 1 self-citation of the candidate, which should be removed and the number of points adjusted from 90 to 75.
2. In **document 12. Reference-self-assessment for scientific, teaching and expert activity**, on page 10, in section D13 "Citations or reviews in scientific publications, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes", to publication R. Pepovich, B. Nikolov, K. Hristov, K. Genova, 2017. Pathological observation in pigs naturally infected with *Mycoplasma hyopneumoniae*, *Bulgarian Journal of Veterinary Medicine*,

2017, 20, Suppl. 1, 338–344. There is a duplicate citation of Lopez *et al.*, 2021 – Once in Spanish in *Revisão. Pubvet* journal and a second time in English translation. The English translation should be removed and the points adjusted from 30 to 15.

3. In **document 12. Reference-self-assessment for scientific, teaching and expert activity**, at the end of page 10, in section D13 "Citations or reviews in scientific publications, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes ", to publication Pepovich R., Nikolov B., Sirakov I., Genova K., Hristov K., Nikolova E., Hajiolova R., Beltova R. (2015). Clinical testing of combined vaccine against enzootic pneumonia in industrial pig farming in Bulgaria. *Macedonian Veterinary Review*, 38 (2), 195–201. There is a duplicate citation of Lopez *et al.*, 2021 – Once in Spanish in *Revisão. Pubvet* journal and a second time in English translation. The English translation should be removed and the points adjusted from 60 to 45.

4. In **document 12. Reference-self-assessment for scientific, teaching and expert activity**, on page 12, in section D13 "Citations or reviews in scientific publications, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes". to publication Genova, Krassimira. Influence of infectious bursal disease virus strains on the avian immune system system. *Exp. Pathol. Parasitol.* April, 2000, 27-29, there is a duplicate citation of Alzamora, V., del Rosário, K. from 2006. One of them should be removed and the points adjusted from 75 to 60.

5. In the **folder "Appendix 13. Scientific works"** a scanned copy of publication No. 59 from the list of scientific works of Associate Professor Krasimira Genova is missing.

These remarks, in no case, can be considered as essential and determining in the overall scientific and pedagogical activity of Associate Professor Krasimira Genova, Ph.D. They refer to several identified errors of a technical nature in the competition documentation, the cause of which is probably the great administrative commitment of the candidate as Dean of the Faculty of Veterinary Medicine.

Summarizing the data from the submitted documents by the candidate for the competition, I find that they far exceed the recommended evaluation criteria.

7. Personal impressions

An established academic teacher, with great scientific capabilities, extremely hardworking, and quite involved in many administrative activities.

8. Conclusion

Based on the above analysis, **I give my positive assessment** of the scientific production and teaching activity of the candidate in the competition for "Professor" and consider that she meets all the requirements of the Law on the Development of the Academic Staff in Bulgaria and the Regulations for the development of the academic staff in the University of Forestry.

This gives me reason to recommend the members of the Scientific Jury to give their positive assessment of the overall research and teaching activity of Associate Professor Krasimira Ivanova Genova, PhD, as well as to propose to the Faculty Council of the Faculty of Veterinary Medicine at the University of Forestry - Sofia to elect her for the academic position "Professor". Bearing in mind the scientific achievements and the high evaluation of the overall scientific activity, with conviction **I recommend to the honorable members of the specialized Scientific Jury to choose Associate Professor Krasimira Ivanova Genova, PhD, to occupy the academic position of "Professor".**

Stara Zagora

May 20, 2024

Prepared the opinion

(Professor Dimitrichka Dimirova)