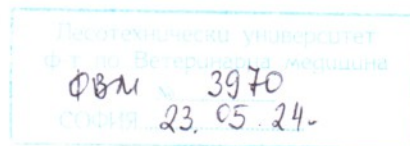


## REVIEW



on the materials for participation in a competition for borrowing academic position "**Professor**", field of higher education 6. Agricultural sciences and veterinary medicine, professional field 6.4. Veterinary medicine, scientific specialty "Epizootiology, infectious diseases and prevention of contagious animal diseases", in the discipline "Pathology (Pathological Physiology)", at the Department of Anatomy, Physiology and Livestock Sciences at the University of Forestry for the needs of the Faculty of Veterinary Medicine and procedure code: VM-P-0224-122 in the State Gazette issue 18/01.03.2024.

**Candidate for participation in the competition:** Assoc. Prof. Krasimira Ivanova Genova, DVM, PhD

**Prepared the opinion:** Prof. Bogdan Yanev Aminkov, DVM, PhD, DSc, Professor of Professional Field 6.4. Veterinary Medicine from the University of Forestry, Faculty of Veterinary Medicine

### 1. Brief biographical details of the candidate.

Assoc. Prof. Krasimira Ivanova Genova was born on September 13, 1964, in Sofia. She received her primary education in Sofia and completed her secondary education with honors and a medal from the Ministry of Education at the 35th High School "M.I. Kalinin" in Sofia. In 1987, she graduated with a Master's degree in Veterinary Medicine from the Moscow Veterinary Academy "K.I. Scriabin" in Moscow.

After completing her higher education, she began working at the Veterinary Institute of Immunology as a Research Assistant III-I level (1987-1999). Then she was working as a Biotechnology Research Assistant in the "Viral Biopreparations" department at Veterinary Institute of Immunology "Bioproduct" Ltd., Sofia (May 4, 1999 - January 4, 2000). From January 4, 2000, to November 1, 2001, she served as the Head of the "Viral Biopreparations" department at the Veterinary Institute of Immunology, "Bioproduct" Ltd., Sofia.

On November 1, 2001, she joined the Faculty of Veterinary Medicine, University of Forestry, Sofia, as a chief assistant, following which she progressed through the following ranks and academic positions: Assoc.Prof., Ph.D., at the FVM, LTU, Sofia (March 31, 2006 - June 4, 2008). Assoc.Prof., Ph.D., Vice-Dean for Education at FVM (June 4, 2008 - January 13, 2011), Assoc.Prof., Ph.D., Vice-Dean at FVM (March 30, 2018 - March 5, 2020), and since March 5, 2020, Assoc.Prof., Ph.D., Dean of FVM.

In 1994, she successfully defended her dissertation on the topic "Studies on the Diagnosis of Certain Immunity Factors and Immunoprophylaxis of Respiratory Syncytial Virus Infection in Cattle," and was awarded the academic degree of "PhD" by the Scientific Council on Veterinary Medicine, code 04.03.12 Epizootiology, Infectious Diseases, and Prevention of Contagious Animal Diseases, at the Central Research Veterinary Institute in Sofia.

She is proficient in English (writing B2, reading B2), Russian (writing C2, reading C2), and French (writing A2, reading A1).

She is a member of the Faculty Council of the Faculty of Veterinary Medicine (FVM) at the University of Forestry (LTU), a member of the General Assembly of FVM, a member of the Academic Council of LTU, a member of the General Assembly of LTU, a member of FUNIS, and a member of the Expert Commission of the Bulgarian Food Safety Agency (BFSA) for the recognition of professional qualification "Veterinarian".

She also serves on various faculty committees, including the Quality of the Educational Process Committee and the Scientific Work Committee, and is the chair of the Faculty's Teacher Certification Committee.

Assoc. Prof. Genova participates in scientific councils, scientific juries, and examination committees. She is a member of the Bulgarian Veterinary Union, the Bulgarian Association of Homeopathic Veterinary Physicians (BAVHP), the Union of Scientists in Bulgaria (USB), and the Union of Veterinarians in Bulgaria (UVB). She has received nominations from the American Biographical Institute (ABI).

## **2. Assessment of the applicant's teaching activities**

Assoc.Prof. Genova has a total of 22 years and 6 months of academic experience at the University of Forestry. She has developed 5 programmes of the curriculum, written 2 reviews, and provided 13 opinions under the Higher Education Act of Bulgaria.

Assoc.Prof. Krasimira Genova is the lead instructor for the following courses in the FVM curriculum: Pathology (Pathological Physiology), Immunology, Molecular Biology, and Work with Laboratory Animals, Welfare and Organization of the Experiment. She teaches these courses in both Bulgarian and English. During the 2017-2018 and 2020-2021 academic years, she also taught part of the lecture course in Biochemistry in both languages. She is the author of the curricula for Pathology (Pathological Physiology), Immunology, Molecular Biology, and Work with Laboratory Animals, Welfare, Organization of the Experiment

Assoc.Prof. Genova is a reviewer of the curricula for Animal Physiology, Pathology (General Pathomorphology), and Pathology (Special Pathological Anatomy).

**3. Evaluation of the scientific, scientific, applied and publication activities of the candidate.**

For the announced competition, Assoc. Prof. Genova has submitted sixty-five scientific works, including 63 publications, one monograph (Genova, K. Respiratory Disease Complex in Cattle., 2024), and a textbook on Pathophysiology - submitted to reviewers - in preparation for publication.

Assoc. Prof. Genova has submitted 35 publications in scientific journals. Among them, 6 are published in journals with an impact factor or SJR; 7 in foreign refereed journals outside of Web of Science and Scopus; 14 in Bulgarian refereed journals in Web of Science and Scopus; and 8 in Bulgarian refereed journals outside of Web of Science and Scopus. She has also listed 28 publications in conference proceedings. Assoc.Prof. Genova has delivered a plenary lecture - "Cell death - a new interpretation," which has not been published.

The scientific works have been published in 13 international journals and 22 national journals. Among the submitted publications, she is the sole author of three, has one co-author in thirteen, two co-authors in eleven, and three or more co-authors in thirty-six.

The scientific works are the result of research conducted mainly in the field of infectious pathology of animals, rapid diagnosis of viral diseases, application of substitutes for nutritional antibiotics in animal husbandry, toxicology, immune reactivity, and the immune status of animals, among others.

The scientific works listed have not been previously presented and have not been subject to review by a previous scientific committee for the acquisition of the educational and scientific degree of "Doctor," or for the position of "Associate Professor."

**4. Publications in scientific journals, referenced and indexed in world-famous databases of scientific information (Scopus, Web of Science) with impact factor or impact rank.**

In this section, Assoc. Prof. Genova has presented six scientific papers No. 1-6 from the list of scientific papers after the previous habilitation. All six scientific papers are in English and are published in Mac Vet Rev, 36 (2): (111–115. (SJR:0,101) Elsevier – SCOPUS, Macedonian Veterinary Review, 2015,38(2), 195-201 . (SJR: 0.205) Elsevier – SCOPUS, Bulgarian Journal of Agricultural Science, 22, 1: 140-143, (SJR: 0.223) ISSN 0310-0351– print ISSN 2534-983X – online Web of Science, Bulgarian Journal of Veterinary Medicine, 20, Suppl. 1,338-344, (SJR:0,134) Scopus, "World rabbit science., 26, 2 , 149-154. (IF 0.661), ISSN: 1257-5011

SCOPUS, Bulgarian Journal of Veterinary Medicine, (SJR:0,211) online first ISSN 1311-1477; Web of Science. In two publications Assoc.Prof. Genova is a leading author.

The total **IF is 0.661** and **the SJR is 0.874**

**5. Scientific publications in scientific journals, referenced and indexed in world-famous databases with scientific information (Scopus, Web of Science) without impact factor or impact rank.**

Assoc.Prof. Genova has presented 28 scientific works numbered from 7 to 34. In nine of these, she is the lead author. Thirteen of the scientific works are in Cyrillic and fifteen in Latin script. They have been published in the proceedings of a scientific conference with international participation "Traditions and Modernity in Veterinary Medicine: Proceedings of a Scientific Conference, Web of Science" (13 works), "Trakia Journal of Sciences," No 2, 190-194, Scopus, "Tradition and Modernity in Veterinary Medicine," Web of Science (10 works), "Zhitovnovadni Nauki," 60(1), 58-64 (Bg) Web of Science, "Eighth Junior Conference on Lighting (Lighting)," Sozopol, Bulgaria, 2023 (3 works). In nine publications, Assoc.Prof. Genova is the lead author.

**6. Scientific publications in non-refereed journals with scientific review or published in edited collective volumes in English.**

In this section, Assoc.Prof. Genova lists 17 scientific works - Nos. 35-51. In three publications, she is the lead author. The scientific works are published in the following:

- Experimental Pathology and Parasitology, 9/1, 49-52 ISSN 1311-6851
- J Laser Health Acad, 3, 12-21, ISSN 1855-9913 (print), ISSN 1855-9921 (online)
- Proceedings of the 10th International Symposium Modern Trends in Livestock Production, October 2-4, 2013, 640-647
- Veterinary Medicine, Vol. LX (1), 85-88, 2014
- Veterinary Medicine, Vol. LXI, 2015, 122-127, IF (GIF) - 0.565
- Vet Istanbul Group Congress 2015, Materials of the II International Veterinary Congress Vet Istanbul Group Congress 2015, April 7-9, 2015, Saint Petersburg, Russia, 217-218
- Scientific Works. Series C. Veterinary Medicine, LXII (2), 76-81, ISSN 1222-5304 (print), ISSN-L: 2065-1295, ISSN CD: 2343-9394, ISSN 2067-366 (online)
- Int. J. Curr. Microbiol. App. Sci. 5 (9): 555-561, IF (GIF) - 0.654, ISSN 2319-7706 CABI

- Jahorina, October 4-7, 2018, Bosnia and Herzegovina, Agrosym Symposium Proceedings (5 articles)
- Proceedings of the International Congress on Domestic Animal Breeding, Genetics and Husbandry 2019 (ICABGEH-19), Prague, Czechia, September 11-13, 2019 (ISBN: 978-605-031-805-0), 214-216 (2 articles)

The total IF is 1.219

#### **7. Scientific publications in non-refereed journals with scientific review or published in edited collective volumes in Bulgarian.**

In this section, Assoc.Prof. Genova has listed 12 scientific works. In three of them, she is the lead author. They are published in the following:

- Collection of reports from the scientific conference “Traditions and Modernity in Veterinary Medicine” (4 articles - 2006, 2006, 2008, 2008)
- Dental Review, 2, 89-94, ISSN 0491-0982
- International National Practical Conference, May 21, 2009. “National Diagnostic Scientific Research Veterinary Medical Institute - 108 Years of Public Beneficial Scientific Research and Practical Activities.” Collection of Scientific Reports, 183-188
- Problems of Dental Medicine XXXVII 2010, 1, 24-30
- Science@Technologies Animal Studies@Veterinary Medicine, Volume III, Number 5, 43-50
- Collection of reports from the Scientific Conference with International Participation “Animal Science - Challenges and Innovations.” November 4, 2020, 123-130
- Journal of the Bulgarian Academy of Sciences, 2021, 10-18

#### **8. Published university textbook, university teaching tool or textbook or teaching equipment that is used in the school network**

Assoc.Prof. Genova has presented a monograph (Respiratory Disease Complex in Cattle) and a textbook (Textbook of Pathophysiology), which has been prepared for printing and edited according to the recommendations of the reviewers. The author's team consists of Genova, K and A. Filchev.

#### **9. Reflection of the candidate's scientific activity in the literature (citation)**

From the analysis of the scientific output of the candidate participating in the announced competition for "Professor," the following references can be made regarding the impact of the candidate's scientific activity in the literature:

Assoc.Prof. Genova presents a list of 27 scientific works cited 66 times. Of these, thirty-five citations are in scientific journals, referenced and indexed in world-renowned scientific information databases, or in monographs and collective volumes. Five citations are in peer-reviewed monographs and collective volumes, and one citation or review is in non-referenced peer-reviewed journals.

#### **10. Contributions in the works of the applicant(s) (scientific, scientific-applied, applied).**

Assoc. Prof. Genova's scientific works are mainly related to research in the following areas: infectious pathology in livestock, pigs, and rabbits; application of methods for rapid diagnosis of viral diseases; alternatives to nutritional antibiotics in animal husbandry; organic and inorganic zinc, iron, and lead compounds; the role of mycotoxins in immune reactivity; influence of gender, breed, season, and age on the immune status of birds and animals; atopy in dogs; the carcinogenic influence of various toxic substances; genetic markers and issues in dental medicine.

#### **Infectious Pathology in Ruminants**

Assoc.Prof. Genova demonstrates that the interferon-inducing activity of the Bulgarian vaccine strain of BRSV (Bovine Respiratory Syncytial Virus) does not cause the characteristic allergic reaction observed with human RSV (Respiratory Syncytial Virus) upon reinjection in animals. Additionally, the T-cell immune response is stronger in lambs administered the vaccine strain of BRSV intratracheally compared to subcutaneous vaccination (Original contribution).

#### **Infectious Pathology in Pigs**

Assoc.Prof. Genova and her team demonstrate the dynamics of antibodies following vaccination against enzootic pneumonia in pigs across different technological periods. They analyze the degree and severity of pathomorphological lesions in the lungs of pigs naturally infected with *Mycoplasma hyopneumoniae*, finding that the lesions are of moderate severity in 52% of cases, and in 30% the organ is severely affected (Original contribution). The research team identifies bacterial pathogens and determines their impact on the respiratory disease complex in pigs, proposing effective and adequate control measures (Original contribution).

### **Infectious Pathology in Rabbits**

Assoc.Prof. Genova and her team conduct an extensive analysis of the spread of myxomatosis in rabbits. Based on the results of the dynamics of the serological response following different methods of administering a live attenuated myxomatosis vaccine, they recommend the method of application depending on the breed (Original contribution). They also prove the safety of an attenuated myxoma virus vaccine strain on the concentration, motility, and speed of rabbit spermatozoa (Original contribution).

### **Application of Rapid Diagnostic Methods for Viral Diseases**

Assoc.Prof. Genova developed a specific and sensitive latex agglutination test for the detection of rabbit hemorrhagic disease virus (Original contribution). Additionally, she developed a specific and sensitive coagglutination test for the detection of canine parvovirus (Original contribution).

### **Substitutes for Nutritional Antibiotics in Animal Husbandry**

Assoc.Prof. Genova and her team conducted numerous studies aimed at replacing nutritional antibiotics in animal husbandry, a highly relevant topic in contemporary animal farming. They demonstrated a growth-stimulating effect on broiler chickens when using thyme and mint, both individually and in combination (Original contribution). They provided evidence supporting the growth-stimulating effect of 1% chamomile and 1% rosemary added to feed in poultry (Original contribution). They also established the positive effect of probiotic products and preparations on the health and productivity of animals and birds, as well as their modulatory role on the immune system (Original contribution)

### **Organic and Inorganic Zinc, Iron, and Lead Compounds**

Assoc.Prof. Genova and her team demonstrate that zinc methionate (ZnMeth) at doses of 150 ppm increases the phagocytic index and phagocytic count of neutrophils and stimulates the mechanisms of natural immunity in rats and pigs (Original contribution). They prove that low doses of organic zinc stimulate phagocyte reactivity to a greater extent, while doses of 600 ppm added to feed suppress macrophage phagocytosis and suppress the generation of oxidative burst (Original contribution). Assoc.Prof. Genova and her team establish reduced macrophage activity in broiler chickens treated with high doses of organic and inorganic iron (Original contribution).

### **Role of Mycotoxins in Immune Reactivity**

Assoc.Prof. Genova and her team observe decreased organism resistance to infectious agents and reduced effectiveness of immunoprophylactic measures in broiler chickens fed with feed containing fumonisin B1 (Original contribution). The research team notes a decrease in total protein and albumin concentration, suppression of the primary antibody response in chickens fed with feed containing various concentrations of fumonisin B1 toxin (Original contribution).

### **Influence of Gender, Breed, Season, and Age on Immune Status of Birds and Animals**

Assoc.Prof. Genova and her team identify breed-dependent innate immune parameters. The phagocytic activity of leukocytes in chickens of the Copper-Red Shumen breed is higher compared to the Karakachan breed (Original contribution). The research team finds insignificant differences in the proliferative activity of chickens from the Karakachan and Copper-Red Shumen breeds (Original contribution).

### **Atopy in Dogs**

Assoc.Prof. Genova and her team prove that allergen-specific immunotherapy (ASIT) is a harmless method with no negative side effects in the treatment of atopic dermatitis in dogs. By stimulating T-cell immune response, animals gradually develop resistance to allergens (Original contribution).

### **Cell-Transmissible Chicken Tumor - Hepatoma, Induced by the Myelocytomatosis Strain MC-29**

Histological studies have been conducted on cell populations infiltrating the transplanted MC29 chicken hepatoma during progressive development and regression. The most characteristic changes have been demonstrated in the thymus and spleen during the progression of developing tumors, while during regression, the thymus and spleen exhibit a well-defined structure rich in lymphocytes (Original contribution). Assoc.Prof. Genova and her team prove that the cells of the MC-29 hepatoma contain specific transplantation antigen(s) (Original contribution).

### **11. Participation in Scientific Forums**

Assoc.Prof. Genova has participated in the following forums:

National forums - 4 events.

International forums and forums with international participation - 20 events.

### **12. Participation in Scientific Research and Educational Projects**



Assoc.Prof. Genova has presented a total of 29 projects, including 25 scientific research projects and 4 educational projects. These projects were funded through various sources:

13 funded through the National Science Fund at the University of Forestry- Sofia.

1 funded by the National Fund for Scientific Research of the Ministry of Education and Science.

4 funded through EU programs.

Assoc.Prof. Genova has led five scientific research projects, been a member of the research team in 20 scientific research projects, participated in four educational projects, and contributed to one infrastructure project.

### **13. Supervision of Successfully Defended Doctoral Candidates**

Assoc.Prof. Genova has supervised two successfully defended doctoral candidates and one doctoral candidate from Lebanon, whose defense is scheduled for June 14, 2024.

### **14. Assessment of Candidate's Personal Contribution**

Upon analysis of the candidate's scientific production, their personal contribution is evident, primarily through publications in refereed English-language journals, impact factor (IF), SJR, participation in numerous scientific research and projects, and publication of a monograph.

### **15. Conclusion**

Some inaccuracies and omissions have been identified, such as discrepancies in the number of cited articles and quotes in the list of citations and the self-assessment list of minimum national requirements. In Scientific Works, Volume 2, Article No. 42 (R. Pepovich, Br. Nikolov, K. Hristov, K. Genova, R. Hadjiolova, E. Nikolova (2016) The comparative therapeutic efficacy of antimicrobials in pigs infected with *Mycoplasma hyopneumoniae*. Scientific Works. Series C. Veterinary Medicine), is missing, and in its place, an article by Marinov, G., N. Zlateva-Panayotova, K. Genova. (2018) Comparative study on interleukin 1, interleukin 6 and tumor necrosis factor  $\alpha$  in ovariohysterectomized cats anesthetized with different anesthetic schemes." (2018): 65-70, which is duplicated with Article No. 49, has been included.

In Annex Reference-Self-Assessment E24 Patents, inventions, technologies with n participants, data from the attached list of inventions, rationalizations, and other scientifically applied results are not indicated.

These inaccuracies and omissions are not essential and do not affect the final assessment of the candidate.

From the reference on the fulfillment of the minimum national requirements for the academic position of "Professor" in the field of higher education 6 Agricultural Sciences and Veterinary Medicine, Professional field 6.4 Veterinary Medicine, according to Article 2b of the Law on the Ratification of the Republic of Bulgaria, it is established that Assoc. Prof. Krasimira Genova scores more than the minimum number of points required to participate in the competition.

Assoc. Prof. Genova is an excellent scientific worker. She possesses organizational and managerial qualities. She always finds common ground with students, which allows her to find solutions in critical situations. Assoc. Prof. Genova is a lecturer who actively participates in affirming the faculty in the structures of the University of Forestry.

The above gives me grounds to propose to the respected members of the Scientific Jury to vote positively for Assoc.Prof. KRASIMIRA IVANOVA GENOVA, DVM, PhD to occupy the academic position of "Professor" in the field of higher education 6 Agricultural Sciences and Veterinary Medicine, Professional field 6.4 Veterinary Medicine, scientific specialty "Epizootiology, Infectious Diseases, and Prevention of Infectious Animal Diseases" in the discipline "Pathology (Pathological Physiology)" at the Department of "Anatomy, Physiology and Animal Science" at the University of Forestry for the needs of the Faculty of Veterinary Medicine and procedure code: VM-P-0224-122 in State Gazette No. 18/01.03.2024.

May 20, 2024

Sofia

Reviewer: ...

(Prof. Bogdan Yanev Aminkov, DVM, PhD, DSc)