

БЪЛГАРСКА АКАДЕМИЯ НА НАУКИТЕ  
И-Т ПО ЕКСПЕРИМЕНТАЛНА МОРФОЛОГИЯ,  
ПАТОЛОГИЯ И АНТРОПОЛОГИЯ С МУЗЕЙ  
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СОФИЯ

To the Chairlady of the Scientific Jury,  
determined by Order № РД-09-07/07.02.2022  
of the Director of IEMPAM-BAS

### Opinion presentation

In a competition for the academic position of "Associate Professor"

In the professional field 6.4. Veterinary Medicine, specialty 04.03.06 "Animal Pathology"

announced in the SG - issue 107 of 16.12.2021, for the needs of the section "Pathology" of IEMPAM-BAS

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## OPINION

by Prof. Dr. Vasil Kostadinov Manov, UF, Department "Internal Noninfectious Diseases, Pathology and Pharmacology", determined by Order № ПД-09-07/07.02.2022 of the Director of IEMPAM-BAS Prof. Dr. Svetlozara Petkova

### I Career profile analysis:

Ch. Assistant Professor Katerina Stanimirova Dimitrova is the only candidate in the competition. She is a veterinarian with 16 years of experience in IEMPAM-BAS, "Pathology" section (part of them in the structure of IEPP-BAS) and professional experience in the field of cell biology, morphology and clinical and experimental pathology. Ch. Assistant Professor Dr. Dimitrova received PhD degree in the scientific specialty "Animal Pathology", code 04.03.06, professional field 6.4. Veterinary medicine, after successful defense of a dissertation in 2015. The topic of the dissertation was "Pathomorphological and immunological studies in chickens experimentally treated with fumonisin B<sub>1</sub>".

### II Description of the competition materials:

Dr. Dimitrova provides detailed and proper documentation to an active scientist with clear professional perspectives. The indicators required for academic growth are indisputable and are presented in the relevant sections of the competition documentation, both on paper and electronically and are in accordance with the requirements of the Law for Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the Regulations for the Development of the Academic Staff of IEMPAM-BAS and exceed the minimum requirements of IEMPAM-BAS for the relevant higher education and professional field.

The total number of publications of Ch. Assistant Professor Katerina Dimitrova, PhD, is 61, of which she is the first and main author of 15 of them, and 3 of them are related to her dissertation. She had published her work in scientific journals such as Bulletin of the Journal of Veterinary

Research (Q2, IF: 0.829), European Polymer Journal (Q1, IF: 3.621), Open Life Sciences (Q3, IF: 0.504), Biomedicines (Q1, IF: 4.717), Viruses (Q1, IF: 3.816), Acta Biomaterialia (Q1, IF: 8.947) and many others. The total number of citations, without auto-citations of the candidate is 44, and the H-index is currently 3. The candidate has provided links to profiles in RESEARCH GATE and SCOPUS to track the publication activity. There are more than 20 participations in research projects, in some of which she is a leader, main contractor or coordinator.

Lists with the number of her publications for the current competition, the citations noticed so far and the participations in scientific forums in the country and abroad (a total of 51 participations) are presented.

The scientometric analysis is clearly presented with document 11\_COMPOSITION FOR COMPLIANCE WITH THE MINIMUM REQUIREMENTS, which includes 53 articles:

10 articles in section B are presented, point 4. Habilitation work - scientific publications (not less than 10) in publications that are referenced and indexed in world-famous databases of scientific information, from which she collects 100.5 points;

43 articles in section D are available, points: 7. Articles and reports published in scientific journals, referenced and indexed in world-famous databases of scientific information and 8. Articles and reports published in non-refereed journals with scientific review or published in edited collective volumes, where she collects 231 points;

Section E presents some of the citations by points: 13. Citations or reviews in scientific journals, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes - 15 vols., 14. Citations in monographs and collective volumes with scientific reviews - 10 volumes and 15. unrefereed journals with scientific review - 5 points. Of these, she collects 80 points.

The total number of all points of the scientometric indicators presented at the competition is 461.5, compared to the required 400.

### III Assessment of works and overall academic development

The main data are presented in document 10\_ REFERENCE OF SCIENTIFIC CONTRIBUTIONS. The research activity of Ch. Assistant Professor Dr. Katerina Dimitrova has a clear profile in the field of research of pathological and clinical aspects of infectious and non-infectious diseases, including developments in the field of cytopathology, experimental oncology and implantology. Both *in vitro* and *in vivo* approaches to the study of the biological activity and safety of newly synthesized, nanostructured materials or natural products for clinical and preclinical studies are used. The performed biomedical research was aimed not only at clarifying

the factors and mechanisms responsible for the initiation and development of disease processes, but also aimed at developing new approaches and strategies for treatment.

Ch. assist. prof. Dimitrova used a wide range of validated experimental models (cellular - different types of tumor and normal cell lines and animal model systems) to assess the biological activity and mechanism of action of the studied substances. The methods used include: cytological, histological, immunological, hematological, clinical and statistical studies, etc. In this sense, most of the research is interdisciplinary in nature, and in connection with this competition are presented contributions of fundamental and scientific-applied importance:

- Contributions related to the biological activity of natural and synthetic products:
  - The effects of a number of plant extracts and hemolymph products of invertebrates in *in vitro* and *in vivo* conditions (anticancer, bactericidal, immunomodulatory, antiparasitic) have been studied.
  - Studies of the effects of a number of synthetic products *in vitro* and *in vivo* (nutritional, anticancer, bactericidal, immunomodulatory, antiparasitic effects, etc.).
- Contributions related to studies of pathological and clinical aspects of diseases in humans and animals of infectious and non-infectious nature, as well as studies of a fundamental character.

The last point marks a diverse research work with a wide range of molecular biological, biochemical, immunological, cellular biological, virological, histopathological and morphological methods for the study of experimental or clinical cases, from macroscopic findings to the level of ultrastructure and nanoparticles. animal husbandry, game, human and animal health and food safety.

Most of the research is funded by the National Research Fund, the OP for Human Resources Development, the COST program, contracts with national and foreign companies and universities. The obtained original scientific results have been published in renowned international journals, and the contributions are fundamental and scientifically applied. Participates in the development of patents.

Ch. Assistant Professor Dr. Katerina Dimitrova has specialized in Latvia, Germany and Italy. Actively participates in the training of graduates, young scientists, doctoral students from Bulgaria and abroad.

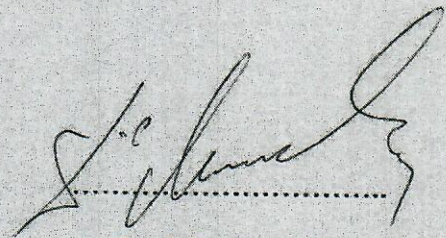
The document presenting a certificate of identity issued by the municipality of residence, concerning the changed surnames is provided.

## Conclusion

Ch. Assistant Professor Dimitrova has presented all necessary materials for the competition and from the reading I believe that she is a prominent and promising scientist in the field of animal pathology, with a broad outlook on areas of research interests and activities. On the basis of her works, original contributions of fundamental and applied significance have been obtained. The candidate develops interdisciplinarity in research, which is in line with modern requirements and trends in science, but also embedded in the traditions of IEMPAM-BAS.

It fully meets the requirements of the legislation in the Republic of Bulgaria and the Regulations on the Minimum Requirements of IEMPAM-BAS for the conditions and procedure for acquiring scientific degrees and holding academic positions in the competition for academic position "Associate Professor" in professional field 6.4. Veterinary medicine, scientific specialty 04.03.06 "Animal Pathology", published in the State Gazette - issue 107 of 16.12.2021. I recommend Chief Assistant Dr. Katerina Stanimirova Dimitrova to be elected "Associate Professor" in the scientific specialty 04.03.06 "Animal Pathology".

Date: 21.03.2022



/Prof. Dr. Vasil Manov/