

OPINION

by **Professor Genoveva Atanasova Nacheva** PhD, Institute of Molecular Biology – Bulgarian Academy of Sciences

Regarding: the competition for the academic position of **Professor** in the professional field 4.3. Biological Sciences, specialty "Immunology", announced for the needs of the Department "Immunology, Laboratory of Experimental Immunotherapy" at the Stephan Angeloff Institute of Microbiology at the Bulgarian Academy of Sciences

Associate Professor Dr. Anatas Dimitrov Pashov is the only candidate in the competition, announced in the State Gazette 6p. 84/10.10.2025. The documents have been prepared in accordance with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and its Implementing Regulations.

Brief Biographical Data

Anastas Pashov defended his Doctoral thesis in 1995 at the National Centre of Infectious and Parasitic Diseases (NCIPD), Sofia on the topic "Identification and quantitative characterization of the expression of two pan-leukocyte antigens recognized by newly obtained monoclonal antibodies CAF7 and 7E12", after which he worked for 8 years as a research associate and senior research associate at IBIR, BAS. Since 2010 to the present he has been working as an associate professor in the Department of Immunology of the Stephan Angeloff Institute of Microbiology, BAS, and since 2015 as the head of the "Laboratory of Experimental Immunotherapy" at the same institute. In the meantime, for a total of 10 years he specialized as a post-doctoral fellow at INSERM, Paris, France.

Scientometric Indicators, Research Areas, and Contributions

Associate Professor Pashov participates in the competition with 49 publications, 2 chapters of monographs and 1 patent, which are beyond the publications included in the abstract of his Doctoral thesis and habilitation. Of these, 45 have been published in journals indexed in JCR (or SJR). The impact factor of Assoc. Prof. Pashov's works totals **283**. They have been cited **1490** times in international publications referenced in Web of Science and/or Scopus. In 30 of the works with which Pashov participated in the competition, he is the first or corresponding author, which is evidence of his leading role.

To date, Assoc. Prof. Pashov has published a total of 94 publications, and his h-index is 20, as reported in Scopus. Since 2012, the results of his research have been reported in posters, oral communications and lectures at 20 national and international scientific forums.

In terms of thematic scope, the publications of Associate Professor Pashov fully correspond to the specialty *Immunology* of the present competition. His research has been conducted at IBIR, Institute of Microbiology, and two prestigious laboratories in France and the USA, and it develops within a clearly defined scientific direction. The central idea of his current scientific work is the critical re-evaluation of the traditional concept of antibody specificity, emphasizing the role of polyreactivity as an evolutionarily significant function of the immune system.

Within this research direction, the following **major original scientific contributions** can be distinguished:

1. The candidate contributes to the development of tumour vaccines based on carbohydrate mimotopes and formulates concepts for polyspecific epitope vaccines and threshold tolerance in tumour-associated antigens.
2. Another significant contribution is the creation of a bioinformatic approach for analysing the antibody repertoire using Igome libraries and peptide microarrays, demonstrating the potential of natural IgM antibodies as biomarkers in non-infectious diseases. The method has been applied to glioblastoma, antiphospholipid syndrome, and neurodegenerative diseases, and in all cases characteristic losses of normal IgM reactivities and specific patterns in the IgG repertoire are observed.
3. Particularly important is the established link between the loss of natural IgM reactivities and idiotypic homeostasis, highlighting the role of immune balance.

The research of Assoc. Prof. Pashov also leads to certain **theoretical conclusions** that await future resolution, both by the authors themselves and by the scientific community. The candidate and his co-authors propose the concept of antibody specificity as a continuum rather than a fixed monospecificity, emphasizing the role of polyreactivity and structural flexibility. Specificity is viewed as a distribution of affinities toward multiple structures, which explains phenomena such as idiotypic connectivity. The studies show that idiotypic interactions are not an epiphenomenon but a real physiological mechanism related to immune functions and pathology.

Project Activity

In addition to extensive experience in experimental and research work, the candidate also has extensive experience in project activities. Associate Professor Pashov has led two international research projects and two national ones, funded by the National Science Fund (NSF). He has been a participant in two international and five national research projects. With his project activities, Associate Professor Pashov has attracted significant financial resources.

Teaching Activity

Associate Professor Pashov has extensive teaching experience. He has supervised two PhD students who successfully defended their dissertations, one of them under joint supervision. He has supervised three Master's theses, taught the course "Tumor Cell/Tumor Immunology" in the Master's program at Sofia University "St. Kliment Ohridski," as well as the course "Challenges of Tumor Immunology" within a project under the Operational Programme "Human Resources Development."

Compliance with the Law on the Development of the Academic Staff in the Republic of Bulgaria and its Implementing Regulations

The table below presents the alignment of Associate Professor Pashov's performance across indicator groups A through E with the national minimum requirements, adjusted for the Bulgarian Academy of Sciences for indicators C and D. As shown in the table, the candidate's

total number of points exceeds the required minimum **sevenfold**. This is due to the overall scientific, applied research, and project-related activity of the candidate.

Group of Indicators	Minimum Required Points	Candidate's Points
A	50	50
B	100	717
C	200 (220 for BAS)	307
D	100 (120 for BAS)	2980
E	150	454
Total	640	4508

Conclusion

The submitted documents and the conducted analysis clearly show that the candidate is a leading researcher with extensive scientific experience, recognized within the international scientific community. His achievements significantly exceed the requirements of the Act for the Development of the Academic Staff in the Republic of Bulgaria, as well as the criteria for obtaining the academic position of "Professor" at the Institute of Microbiology of the Bulgarian Academy of Sciences in the professional field 4.3. Biological Sciences, specialty "Immunology". Considering all of this, I will confidently vote in favour of awarding the academic position of "Professor" to Associate Professor Dr. Anastas Dimitrov Pashov.

Sofia, 09.02.2026

Signature:

/Prof. G. Nacheva/