

STATEMENT

by **prof. Maria Nikolova, MD, PhD, DSc**

external member of the scientific jury,
appointed after order **I-82/01.07.2020 of the Director of IMicB-BAS**
regarding a competition for the academic position „Professor“
professional field 4.3. Biological sciences (Immunology),
announced in State Gazette issue N 47 / 22.05.2020 for the needs of
laboratory “Experimental Immunology”, Department of Immunology

I declare co-authorship in six of the publications presented by assoc. prof. Andrey Tchorbanov for this competition. I have no conflict of interest within the meaning of the additional provisions of the Law for Academic Staff Promotion in Bulgaria (LASPB).

Assoc. prof. Andrey Ivanov Tchorbanov, PhD is the only candidate in this competition. The documents submitted by the applicant are exhaustive, and ordered in accordance with the requirements of the 2018 LASPB and the Rules of IMicB-BAS. The required administrative documents, a general list of scientific publications and the publications after the last habilitation, citations list, a reference to the project activity, an author's reference for scientific contributions, a declaration for fulfilment of the minimal national requirements and those of IMicB-BAS for participation in the competition, the theses defended under the scientific direction of the applicant as well as the publications for the competition in full text have been presented.

1. Analysis of the professional development of the applicant.

Ass. prof. A. Tchorbanov graduated from Sofia University “Kliment Ohridski” as a biotechnologist, profile "Gene and cellular engineering in prokaryotes and eckaryotes" in 1992. During the period 1992 – 1998 he has worked in the Department for Applied Immunology and Biotechnology, laboratory "Bacterial vaccines" of the National Center of Infectious and Parasitic Diseases. The major part of his professional career (29 years 8 months 29 days) is associated with the Institute of Microbiology at the Bulgarian Academy of Sciences (IMicB-BAN). Since 1999, the applicant has been consecutively a research assistant, associate professor, head of the Laboratory "Experimental Immunology" and Head of the Immunology Department. There, in 2002 A.Tchorbanov became a PhD in immunology after having successfully defended the thesis "Engineered and genetically engineered chimeric molecules serving as antigens". His research career has been enriched by a number of trainings and

specializations abroad (Utrecht-Netherlands, Taipei-Taiwan, Prague-Czech Republic, Sinaia-Romania).

2. Evaluation of the applicant's scientific research during the overall academic development.

Ass. prof. A. Tchorbanov is the author of 67 scientific works published between 1996 and 2020, including: an abstract of the PhD thesis, 64 research articles published in refereed scientific journals, 21 of which - with rank Q1, 20 – Q2, 5 - Q3 and 5 - Q4, and 48 with impact factor (**total IF=141.754**), as well as participation in two monographies - in Bulgarian and English language. After the nomination for associate professor, the candidate has published 33 articles with impact factor, and in 23 of these (70%) he is the first or corresponding author. The candidate has also presented over 150 participations in 117 scientific forums in Bulgaria and abroad, 74 of which – after the last habilitation. A. Tchorbanov is the co-author of two scientific patents.

In the present competition, A. Tchorbanov participates with 16 research articles (as a substitute of monography) published between 2009 and 2019. As an equivalent of habilitation work, according to the requirements of the LASPB, five articles indexed in world-famous scientific information databases are presented, with a total IF = 24.2. The remaining 11 publications have a total IF=37. Importantly, the scientific activity of the candidate has an upward development, and in 2020 alone he has published four articles with a total IF of 9.75.

3. Research contributions

The research activity of A. Tchorbanov has a well-defined profile in the field of the competition - experimental and applied immunology. The applicant works almost exclusively on the *development of genetically engineered molecules as immunotherapeutic and immunoprophylactic agents* with significantly improved characteristics. The most important achievements are related to the construction and testing of *chimeric molecules for selective modulation of the pathologically altered immune response* in the course of autoimmune diseases such as SLE (*publications No 3, 6, 10, 11, 12, 16, 32* from the list after the last habilitation) or diabetes mellitus type one (**No. 27, 28**), allergy (**15**) and malignant proliferations (*No. 18, 19, 22, 31*). An integral part of this work is the testing of the newly created molecules using original *in vitro* and *in vivo* animal models. Unique for Bulgaria are the mouse and humanized models of different immunopathological conditions including metabolic syndrome, autoimmune diabetes, collagenase-induced arthritis, lupus, asthma, colorectal cancer, glioblastoma and melanoma (*Nos. 4, 5, 9, 24, 30*) employed for the preclinical studies on the effects of the experimental therapeutic molecules.

An original *contribution to the field of immunoprevention* is the development of *vaccinal constructs against influenza virus type A with built-in adjuvanticity*, i.e. DNA vaccine encoding simultaneously T- and B-specific viral epitops, and fragments of an antibody against an activating B Ly surface receptor, with a final effect – significantly improved effectiveness of immunization (*No. 17, 26*). Some important works are devoted to studies on hemocyanins - natural molecules with adjuvant and antitumor effects (*Nos. 19, 20, 31*).

A separate scope of applicant's research is the development of *reagents* and methods serving the *in vitro characterisation of immune response*. An important contribution to this field is the synthesis and characterization of new monomethine cyanine dyes and their application for the evaluation of apoptosis and cell cycle (*Nos. 13, 21, 23, 25*).

I have known for a long time, and have followed closely the research activities of Dr. A. Tchorbanov and I can confidently claim that all presented publications are a result of his original ideas and personal participation.

4. Dissemination of scientific achievements and authority among the scientific community.

The scientific value of the publications submitted by the applicant is supported by the impressive number of documented citations (Scopus). According to the author's report, 39 documents have been quoted 479 times, with 204 of the citations being on articles published after the last habilitation. According to Scopus, the applicant has an **H-index 12**.

Another evidence for the quality of applicant's research activities is the impressive number of scientific projects with his participation: 46, including 29 national and 17 international, with 33 successfully completed and 13 continuing. A. Tchorbanov is the research leader of 25 completed and 8 ongoing projects, with more than 200,000 BGN attracted through international funding. Currently, the applicant is the coordinator for IMicB-BAS in the project BG05M20P001-1.002 for establishment of a Center of competence "Fundamental, translational and clinical research in the field of infections and infectious immunology" 2018-2023, funded by OP "Science and Education for Smart Growth".

A. Tchorbanov is the co-chair of the Bulgarian Immunology Society and a member of EFIS. He has prestigious scientific awards, including the Pythagoras Awards for Biomedical Sciences 2012 and 2017 and the Diploma of Excellence of the BSU - 2013. His authority as an expert is confirmed by his appointments in a number of program committees and commissions at the Ministry of Science and Education, and The Program for Scientific research and Innovations Horizon 2020.

5. Comprehensive assessment of the applicant's teaching activities

A. Tchorbanov has important teaching activities, and has declared over 1 050 training hours in Bulgarian and foreign universities and scientific institutes since 2012. He has been a lecturer at the New Bulgarian University, at the Faculty of Biology of Sofia university "K. Ohridski" , at the Sofia University of Mining and Geology – specialty of genetics, guest lecturer at The University of Nish, Serbia, and has delivered postgraduate courses at NCIPD. Dr. Tchorbanov has been the scientific director of four successful PhD students and 21 graduates: 11 with bachelor and 10 - with master degree. As associate professor and head of the Laboratory of Experimental Immunology, he has founded a genuine school for young scientists attracted by applied research, and has an ever growing and renewing team. Currently, the working group of A.Tchorbanov is composed of three senior assistants, two assistants, five full-time PhD students, two of whom starting from Jan 2021, eight graduates and trainees. A special recognition should be attributed to the "Black Sea" School of Immunology, funded by EFIS, whose initiator and main driving force for six consecutive years has been Dr. A. Tchorbanov. Over 100 young Bulgarian and foreign immunologists have appreciated this attractive form of training and communication with prominent Bulgarian and international researchers.

6. General assessment of the applicant's compliance with the mandatory requirements of the LASPB.

According to the submitted statement, supported by original evidence, A. Tchorbanov covers or significantly exceeds the minimum national requirements and the requirements of IMIB-BAS for the academic position "Professor" according to the individual groups of indicators as follows: A (PhD thesis) **50/50** ; C (Scientific publications, as a substitute for habilitation work, in scientific journals with impact factor) **120/100**; D (Publications and reports in scientific journals, different from the habilitation work) **250/200**, E. (Citations or reviews in refereed scientific journals - a total of 466) **over 500/100**, and indicators from group F. **465.376 /100** (whithout taking into account the teaching hours)

CONCLUSION

The assessment of the overall career development, the research, training and expert activities of assoc. prof. Andrey Ivanov Chorbanov shows that the candidate fully meets the criteria of LASPB and IMicB-BAS for the academic position "Professor" in the scientific specialty "Immunology". His professional career is an example for consistent development, and contains all the mandatory elements for academic growth. I would define the candidate as

an extremely original and creative person, a completed researcher with his own profile, international authority and undeniable contributions in one of the most ambitious and promising fields of the modern applied immunology. He possesses the necessary professional competencies for conducting experimental work, considerable experience as a project team leader, and has gained a solid experience as a lecturer and scientific director in his field. Most importantly, he is a fascinating example of a successful researcher and teacher who will leave behind his own adepts. Based on the above, I am convinced that the honorable jury should approve the application of ass. prof. Andrey Ivanov Chorbanov, PhD for the academic position "Professor" in Immunology in the Immunology Department of IMicB - BAS.

25.08.2020 г.

Signature: