

To

The Chairperson of Scientific Jury determined by order № I-82/01.07.2020 of the Director of Institute of Microbiology “Stefan Angelov” - BAS

R E V I E W

By: Prof. Radostina Ivaylova Alexandrova, PhD, Leader of a work group in Pathology Department, Institute of Experimental Morphology, Pathology and Anthropology with Museum – Bulgarian Academy of Sciences, Part time lecturer in Sofia University “St. Kliment Ohridski”, Faculty of Biology; Lecturer in PhD School of Bulgarian Academy of Sciences; Member of the Scientific Jury by order № I – 82/01.07.2020 by the Director of Institute of Microbiology “Stefan Angelov” – Bulgarian academy of Sciences (IMICB-BAS).

Regarding: competition for the for the occupation of the Academic position “Professor” in the Immunology Department, Institute of Microbiology-BAS, in the field of “Natural Sciences, Mathematics and Informatics”, Professional field 4.3 “Biological sciences”, specialty “Immunology”.

General presentation of the documents in the contest

In the competition announced in the State Gazette No. 47 of 22.05.2020 for the academic position of "Professor" for the needs of the Department of Immunology at IMICB-BAS, only one candidate submitted documents - Assoc. Prof. Dr. Andrey Ivanov Chorbanov from the same department. The set of all necessary documents precisely prepared by the candidate was provided to me in electronic variant.

Biographical data about the candidate

Andrey Chorbanov was born on June 1, 1967 in the city of Sofia. In 1992 he graduated from the Faculty of Biology at Sofia University "St. Kliment Ohridski" - specialty “Biotechnology”, profile “Genetic and cellular engineering of prokaryotes and eukaryotes”. In

2002 he obtained PhD in "Immunology" on the basis of a defended dissertation entitled: "Engineering and genetically engineered chimeric molecules as antigens" with supervisors Prof. Chavdar Vassilev, MD, PhD, DSc, and Prof. Peter Ya.A. Capel, PhD. From 1992 to 1998 he worked in the laboratory "Bacterial vaccines" at the section "Applied Immunology and Biotechnology" at National Centre of Infectious and Parasitic Diseases (NCIPD) in Sofia. In 1999 he was appointed as a Research Associate I degree in the Section "Immunology" of the Institute of Microbiology "Stefan Angelov" - BAS, where in 2009 he was elected Associate Professor. Since 2016 A. Chorbanov has been the Head of the Department of Immunology at IMICB-BAS.

In 1996-1997 A. Chorbanov was a guest researcher in the Laboratory of Experimental Immunology at the University of Utrecht, the Netherlands, and in 2003 at the National University of Taiwan in Taipei. Since 2011 he has been a visiting professor of immunology at the University of Nis, Serbia. Since 2014, Assoc. Prof. Chorbanov has been co-chair of the Society of Immunology at the Union of Scientists in Bulgaria. He is a member of the European Federation of Immunological Societies (EFIS) and the European Diabetes Research Association (EDRA).

Project activity

Assoc. Prof. A. Chorbanov is a leader (principal investigator) / participant in 46 projects, of which 33 have been completed and 13 are ongoing. The completed projects are funded by the National Science Fund (NSF) at the Ministry of Education and Science in Bulgaria, agreements for bilateral cooperation between BAS and related organizations abroad, contracts with the Military Medical Academy - Sofia, with the medical universities in Sofia and Pleven etc. A. Chorbanov is a participant in 8 of them, a Group leader from IMICB-BAS in 14 and a leader of 11 projects.

Currently, Assoc. Prof. Chorbanov is a principal investigator of two projects funded by NSF and the international network of institutes "Pastor", he is the leader of the team of IMICB-BAS in 9 projects - contracts with NSF, bilateral cooperation agreements between BAS and related organizations abroad (Serbia, Slovakia, Azerbaijan), Operational Program "Innovation and Competitiveness", Repro Inova EOOD; is a participant in a project funded by the NSF. He is the coordinator of IMICB-BAS of an infrastructure project under the Operational Program "Science and Education for Smart Growth".

Teaching / Educational activity

Assoc. Prof. Andrey Chorbanov is the supervisor of four successfully defended PhD students - three of them in the professional field 4.3 Biological Sciences (scientific specialty "Immunology" - defended in 2015 and two in 2019). The fourth PhD thesis was prepared under the joint guidance with Assoc. Prof. Krassimira Idakieva from the Institute of Organic Chemistry with Center for Phytochemistry - BAS – it is in professional field 4.2. Chemical sciences (specialty "Bioorganic chemistry, chemistry of natural and physiologically active substances" - defended in 2014). In addition, Assoc. Prof. A. Chorbanov has been a lecturer at the Faculty of Biology at Sofia University "St. Kl. Ohridski" and New Bulgarian University, supervisor of MSc students, mentor of students - participants in the program "Student Internships" of the Ministry of Education and Science in Bulgaria, initiator and organizer (together with Prof. Maria Nikolova from NCIPD), as well as lecturer at the "Black Sea" International School of Immunology which has been held annually since 2014 in Bulgaria with the assistance of the European Federation of Immunological Societies (EFIS). So far, Assoc. Prof. A. Chorbanov has presented over 1050 teaching hours at universities and institutes in Bulgaria and abroad.

Publishing activity, patents

Assoc. Prof. A. Chorbanov is the author/co-author of 64 publications, 51 of which in scientific journals with impact factor / Q. 33 of them (all with impact factor) have been published after holding the academic position of "Associate Professor", and in 23 of them he is a leader author. He is a co-author of two monographs - one in Bulgarian (by Marin Drinov Academic Publishing House, 2002) and one in English (Nova Science Publishers, Inc, 2011). The articles are cited more than 450 times, the total impact factor of the applicant is 141,754, and his H factor is 12. Assoc. Prof. Chorbanov is a co-author of two patents.

Expert activity. Professional awards

Proof of the high professionalism of Assoc. Prof. Andrey Chorbanov and the authority he has gained in the national and international scientific space is his participation as a representative of Bulgaria in program committees of research and innovation programs of the European Union "Horizon 2020" since 2013. He has twice been awarded the prize for high scientific

achievements of the Union of Scientists in Bulgaria (in 2011 and 2013), twice he has won the Pythagorean prize as an established scientist for biomedical sciences (in 2012 and 2017), he also received the special award of the Kosovo Association of Allergology and Immunology in 2017.

Compliance of the candidate with the minimum national requirements and additional criteria of the Institute of Microbiology –BAS for occupation of the academic position “Professor”

The analysis of the materials submitted by the candidate Assoc. Prof. Andrey Chorbanov shows that he not only covers but significantly exceeds the national criteria for holding the academic position "Professor" as well as specific requirements of the Stefan Angelov Institute of Microbiology - BAS. The data are summarized in Tables 1 and 2.

Table 1. Minimum national requirements for **occupation of the academic position “Professor”**

Groups of indicators	Indicators	Required points	Results (Points) achieved by A. Chorbanov
A	1.PhD Thesis	50	50
B	-	-	-
C	Habilitation work - scientific publications in peer reviewed journals indexed in world-famous databases with scientific information (Web of Science and Scopus)	100	120 (5 publications in total: 4 in Q1 and 1 in Q2 journals)
D	Scientific publications in peer reviewed journals indexed in world-famous databases with scientific information (Web of Science and Scopus).	200	250 (11 publications in total: 6 in Q1 journals and 5 in Q2 journals)
E	11. Citations in	100	> 204

	scientific publications, monographs, collective volumes and patents, referenced and indexed in world-famous databases with scientific information (Web of Science and Scopus).		List of 466 citations, of which at least 102 are on the publications mentioned in the reference for the professor competition - the citations are in journals included in the Web of Science and / or Scopus)
F		150	465.376
	13. Mentorship to a successfully defended PhD student		175 (4 successfully defended PhD students , one of them is with two mentors)
	17. Leader of a Bulgarian team in an international scientific or educational project		250 (Principal investigator / Leader of 5 projects)
	18. Raised funds for projects managed by the applicant		40.376 (Total sum 103 000 Euro = 201 880 BGN.)

Table. 2. Additional requirements / criteria for occupation of scientific position "Professor" at the Institute of Microbiology "Stefan Angelov" – BAS

Scientific degree or academic position	Number of publications in journals with IF, monographs, chapters of monographs, proceedings of international forums, full-text publications, patents.	Citations*	IF*	H-factor*	Additional requirements /criteria
Requirements	20 (after	400	40	10	Leadership of

for Professor	becoming an Associate Professor), in 16 of them first or corresponding author.				3 projects and mentorship of 2 successfully defended PhD students
Indicators of Assoc. Prof. Andrey Chorbanov	33 articles with IF (after associate professor), first or corresponding author in 23 of them- 16- Q1, 11 - Q2, 4 - Q3 and 2 - Q4; Co-author of a monograph in English.	478	141.754	12	Leadership /Participation of 46 projects, as follows: leader of 14, leader of a group from IMICB - BAS - 23, participant in 9 projects; supervisor of 4 successfully defended PhD students

***for the entire scientific career**

Main scientific directions and contributions

The scientific results and achievements of Assoc. Prof. Andrey Chorbanov and his research team are in the field of experimental and applied immunology, the establishment of model systems for in vitro (in cell cultures) and in vivo (animal models) studies of diseases, ranking among the leading biomedical and societal challenges of our time (autoimmunity, allergies, infections, cancer) and the development of innovative approaches for their treatment.

The publications presented in the Information for fulfillment of the requirements for holding the academic position “Professor” according to ZRASRB are 16 in total (all in foreign / international journals with impact factor / Q) and reflect the contributions of Andrey Chorbanov and his team in 3 main fundamental and scientific-applied directions:

1. Development of new types of DNA and protein-engineered vaccines and adjuvants;
2. Application of newly synthesized cyanine dyes for analysis of various cellular processes;
3. Selective suppression of the pathological response by chimeric molecules in mouse and human autoimmunity models.

The main contributions of Andrney Chorbanov are:

- Construction of various chimeric protein and genetic (DNA) prototype molecules to suppress the pathological immune response in models of a number of immune system diseases such as systemic lupus erythematosus, autoimmune diabetes, allergy and asthma, infections (including influenza A virus), malignant tumors (colon cancer). For each of them, appropriate models for conducting preclinical studies have been developed and introduced, protocols for performing in vitro and in vivo tests have been optimized, and the results of the precisely performed experimental therapy have been analyzed in detail. The development of new types of DNA and protein-engineered vaccines is extremely important because they have a number of advantages over the classic strategies for the preparation of inactivated and attenuated vaccines, including faster and cheaper production, the ability to modulate the immune response in the desired direction - characteristics that are extremely important especially in critical situations, such as epidemics and pandemics caused by emerging viruses.
- Original data on the ability of haemocyanins (isolated from marine gastropods *Rapana thomasiana* and *Megathura crenulata*, land snail *Helix pomatia*) to be used as innovative bioadjuvants in vaccines and as potential antitumor agents (in colon cancer).
- For the first time, the ability of newly synthesized cyan dyes to be used in the study of various cell processes - cell viability, cell cycle, identification of cell death (apoptosis / necrosis) has been proven.

Personal impressions from the candidate

I have known Andrey Chorbanov since our student years at the Faculty of Biology at Sofia University "St. Kliment Ohridski". We have been working in two neighboring institutes of BAS for more than 20 years. Since 2014 we are members of the Governing body of the Society of Immunology at the Union of Scientists in Bulgaria. We have participated together in the organization of scientific forums and in the training of students and PhD students. Andrey has always impressed me with his extremely high professionalism and inexhaustible energy, with his fresh and original ideas, with his excellent organizational qualities and his ability to find opportunities where most people see only problems. In the years when science in our country seems to have lost its appeal, with its knowledge, experience, charisma and charm, Andrey Chorbanov is like a magnet for young people (BSc and MSc students, PhD students), for whom he is not only a mentor but also a friend. and an example. The wonderful youth team built by Andrey Chorbanov is the best proof of his leadership qualities, of his ability to work in a team.

These skills are confirmed by his fruitful collaboration with a number of leading researchers and groups at home and abroad.

Along with his achievements in the field of biomedicine, Andrey is also a keen photographer (he has organized five solo exhibitions), as well as the author of three books of poetry and short stories, illustrating his artistic and freedom-loving spirit, his talent to discover beauty with his heart and touch the soul.

Conclusion

The materials presented by Assoc. Prof. Andrey Chorbanov in connection with the competition show that it fully meets and significantly exceeds the mandatory and specific conditions and scientometric criteria for holding the academic position "Professor".

With its high professionalism, with its expert, teaching and organizational skills, with its ability to attract and inspire young scientists and to disseminate and promote knowledge, with its authoritative presence in the national and international scientific space, with its valuable scientific achievements, Assoc. Prof. Dr Andrey Chorbanov is a treasure not only for Bulgarian, but also for European and world science.

This gives me reason to convincingly propose to the Scientific Jury and the esteemed Scientific Council of the Institute of Microbiology "Stefan Angelov" at BAS to choose Assoc. Prof. Dr. Andrey Ivanov Chorbanov as PROFESSOR in the professional field 4.3 Biological Sciences (specialty "Immunology"), announced for the needs of the Department of Immunology at the same institute.

27.08.2020.

Sofia

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Prof. Radostina Alexandrova, PhD