



To the Chairman of the Scientific
Jury determined by Order
No. 251/12.06.2023
of the Director of the NCIPD

STATEMENT

Written by Prof. Todor Kantarjiev, MD, Dsc

member of a scientific jury,
determined by the order of the Director of the NCIPD, No. 251/12.06.2023

by competition for the academic position "Associate Professor"

in the field of higher education 4. Natural sciences, mathematics and informatics, professional direction: 4.3. Biological sciences, scientific specialty Immunology, for the needs of the Department of Immunology of the National Center of Infectious and Parasitic Diseases - NCIPD, published in the Official Gazette, no. 54, page 43, June 23, 2023.

I declare that I have no co-authored publications and no conflict of interest with the candidate and I am not a related person, in the sense of para 1, item 3 and 5 of the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA).

1. Submitted materials for the competition

One candidate was admitted to the competition - Radoslava Emilova Grozdanova, PhD. The submitted documentation is complete and structured in accordance with the requirements of the 2018 DASRBA and the regulations for its implementation at the NCIPD. The candidate has submitted: administrative documents, incl. certificates and diplomas, a complete list and copies of publications in specialized scientific publications and participation in international and national scientific forums, a list and copies of chapters of monographs, evidence of participation in scientific projects, reference to citations; author reference for the impact factor and scientific contributions of the publications, references for teaching activity as well as evidence of fulfillment of the minimum national requirements and the requirements of the Regulations of the National Center for Infectious and Parasitic Diseases for the implementation of the Development of Academic Staff in the Republic of Bulgaria Act.

2. Analysis of the candidate's professional and academic development

Radoslava Emilova Grozdanova, PhD, was born on 04/01/1978. She graduated in 2003 as a Master of Science in Biology at SU Kliment Ohridski, Sofia. In 2010, she successfully completed a full-time doctorate in Animal and Human Physiology on the topic "Role of mediators of perivascular adipose tissue for the arterial contraction" at the same faculty. Her academic career continued as a Assistant Professor in the Deptment of Immunology at the National Center for Infectious and Parasitic Diseases since 2016, where she currently works. The professional realization of the candidate is entirely in the field of Laboratory diagnostics, successively in a Clinical laboratory at the St. Magdalena Pernik, 2003-2004, Laboratory for Functional Endocrine Diagnostics and Cytogenetic Laboratory at SBALDB - EAD "Professor Ivan Mitev" - Sofia (2005-2013 and 2013 - 2016) and in the Reference Laboratory of Immunology of the National Center for Immunology since 2016. Her professional skills combine mastery of highly specialized immunological, immunochemical, molecular and cytogenetic methods with valuable experience in the field of Laboratory management, work with electronic databases, the introduction and validation of diagnostic methods and the overall quality assurance system of laboratory research. The intensive and targeted post-graduate training in the field of Laboratory Virology, Immunology, Molecular genetics and Medical Statistics, including master's degree at NBU "Regulations and Standards in Medicine" and current specialization in Medical chemistry and Biochemistry at MU-Sofia, which certainly contribute to her high professional level.

3. Evaluation of the candidate's scientific works during the overall academic development.

Radoslava Grozdanova has presented a list of 52 scientific papers published in the period 2003 - 2023, of which seven - before the acquisition of the PhD, three - in connection with the doctoral dissertation and 42 publications, incl. two co-authorships in chapters of collective monographs in Bulgarian - after the successful defense of the PhD. Of the articles participating in the competition, 29 (62%) are in foreign and Bulgarian publications with a certain quartile, according to SJR, and 19 are in publications with an impact factor. The total impact factor of the candidate after the defense of the doctoral dissertation is 31.69. The candidate is the first, second or last author of 23 (44%) of the peer-reviewed publications. The observed citations on the candidate's scientific works (excluding self-citations of all authors) are 164, of which 74 citations for the last five years (2019-2023), all in specialized international publications referenced in Web of Science or SCOPUS. According to Scopus, R. Grozdanova has an H-index of 5. 148 participations in scientific forums after the acquisition of the PhD have been documented, including: 20 – in International scientific events with published abstracts in

journals with a certain quartile (Q) according to Scimago Journal Rank (SJR) referenced in Scopus, 28 – in International scientific events with published abstracts in collections of scientific forums or journals without a specific quartile and 100 – in National scientific events.

4. Contributions from scientific research activity

The scientific research activity of R. Grozdanova, after acquiring the PhD and her participation into work at the NCIPD, is entirely oriented towards the mechanisms and regulation of the immune response, with an emphasis on cytokine production, small signaling molecules involved in intercellular interactions, oxidative stress and iron homeostasis of lymphocyte populations. Her works successfully combine fundamental with practical research, with potential for application in the diagnosis, therapy and monitoring of socially significant diseases such as COVID-19, chronic HIV infection, Tuberculosis infection and Allergies and, therefore, have a well-defined profile in the specialty of the competition.

Among the contributions of the candidate in the study of the immune response and long-term immune memory against SARS-CoV-2 are: the comparison between the dynamics of the post-vaccinal and post-infectious T-cell and humoral immune response against the virus, the establishment of correlations between the severity of COVID -19 and cytokine imbalance (IL-18/IL-10/IL-6), the study of induced Treg (CD39+) and CD38 expression by T lymphocytes in relation to the severity of infection, the cross-reactivity study of non-SARS -CoV-2 alpha- (HKU-1 and 229E) and beta- (OC43 and NL63) coronaviruses, the characterization of SARS-CoV-2-specific stem-like memory CD8 T cells as a stable marker of long-term immune memory against different variants of the inducing virus.

Among the studies of the T-cell immune response against *M. tuberculosis*, the comparison of cytokine profiles (IFN γ , TNF α , IL-1, IL-17 and IL-22) in non-specifically and specifically stimulated samples from individuals with active, latent tuberculosis and healthcare workers in a risk environment, as well as the study of the effects of pro- and anti-inflammatory eicosanoids, PGE2 and LXA4 during the individual stages of MTB infection.

Logically, the most essential part of the candidate's developments is devoted to chronic HIV infection and the current problem of "aging with HIV". Here, the focus is on the search for sensitive markers of immune reconstitution/viral reactivation in the setting of modern successful combined antiretroviral therapy (cART). Noteworthy: impact of HCV co-infection on the cellular immune response of people living with HIV; double-negative (CD4-CD8-) and double-positive (CD4+CD8+) T cell subpopulations as a prognostic marker in HIV+ patients on long-term cART, the relationship between serum hepcidin levels, the distribution of labile-

bound iron in T-lymphocyte subpopulations and HIV activity , the establishment of correlations between residual viral activity, the combined effects of aging,

The study of iron homeostasis and oxidative stress processes in immune cells is a "trademark" of the candidate, who transfers her experience from studies on indicators of iron metabolism from normal to various pathological conditions, and above all - accelerated immunological aging in the conditions of chronic HIV infection.

Part of R. Grozdanova's developments are dedicated to impaired immune homeostasis in patients with allergies. Studies on different T-regulatory subpopulations (nTreg; Tr1 and Th17/Treg cells) in patients with inhalant allergy and their role in specific immunotherapy have a contributing character; the definition of the sIgE/sIgG4 ratio as a marker of the immunological efficacy of SCIT, as well as a pilot study of serum proinflammatory cytokine levels in patients with dental implants.

The quality of R. Grozdanova's scientific activity is evidenced by the fact that in the period 2011 - 2023 she participated in 16 research and one methodological project, financed by the Sofia University Sv. Kl. Ohridski, MU - Sofia and BNSF (including 3 current ones), as she was the head of a project from the session for young scientists of BNSF, which ended with a good evaluation. She is also a leading researcher in the scientific team of Center of the Competence, WP3 "Research of the immune response against microorganisms" (Operational Program Science and Education for Smart Growth, Grant BG05M2OP001-1.002-0001-C04 "Fundamental Translational and Clinical Investigations on Infections and Immunity", 2018-2023.

5. Evaluation of the organizational-methodical and teaching activities of the candidate

A very essential characteristic of the candidate's professionalism is the affinity for continuous methodological enrichment, which is evidenced by the large number of NRLI methods actually implemented in practice, as well as their validation for the purposes of in vitro diagnostics: a method for determining anti-CCP antibodies and RF in the crevicular fluid in patients with rheumatoid arthritis (RA) and periodontitis; Determination of immunoglobulins in saliva; Chemiluminescence method for determining antimicrobial peptides in feces, Flow cytometric determination of ROS in the cytoplasm of lymphocytes, Spectrophotometric determination of SOD in plasma and cell lysate from peripheral mononuclear cells, Flow cytometric determination of intracellular labile bound iron, membrane ferroportin, etc. In

support of the candidate's methodological qualification is the excellent long-term performance of the functions of the quality manager of the NRL in Immunology and the organizer of the national schemes for External Quality Control in flow cytometry. Within the framework of the National Program for the Prevention of HIV and STIs, Grozdanova has a significant role in maintaining the electronic database for immunological monitoring of people living with HIV in the Republic of Bulgaria, preparing annual analyzes and providing methodical assistance and control to the other monitoring laboratories in the country.

R. Grozdanova has been actively engaged in teaching activities since 2012, including: - a full cycle of exercises in " Human and Animals Physiology" with undergraduate students at the Sofia University "St. Kliment Ohridski" - horarium 105 hours (2012 - 2013); exercises and seminars from the Post-graduated Programme of the "Immunology" Department, NCIPD - 107 hours (2016-2023); a full cycle of exercises in "Medical Genetics" in the University "Prof. Dr. Asen Zlatarov" - 70 hours. She was the second academic supervisor of a Master graduate student, defended with excellent success in March 2013.

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

According to the presented reference-declaration, supported by original evidence, R. Grozdanova exceeds the minimum national requirements and the requirements of the National Center of Infectious and Parasitic Diseases for the academic position "Associate Professor" according to the individual groups of indicators, as follows: Dissertation paper for awarding educational and scientific degree "Doctor" **50** /50, C. Habilitation work – science publications in editions referenced and indexed in world renowned databases with scientific information (Web of Science и Scopus) **100**/100; D. Science publication in editions referenced and indexed in world renowned databases with scientific information (Web of Science and Scopus), outside the habilitation paper - **369**/200, D. Citations in science editions - **328** /50 and indicators from group E - **194**. Thus, the total assessment of the scientific and teaching activity of the candidate amounts to **1041** points out of the required **400**.

CONCLUSION

The evaluation of Radoslava Emilova Grozdanova's overall career development, scientific research, organizational-methodical and teaching activities shows that the candidate fully meets the criteria of the National Center for Education infectious and parasitic diseases for the academic position " Associate Professor" in the scientific specialty "Immunology". Her

professional path is an example of consistent, purposeful and thorough development in an extremely relevant and promising field of Laboratory medicine. My opinion is that Assistant Professor Grozdanova is a established scientist, with a clearly defined profile of scientific interests and original contributions, supported by many years of methodological experience, both in the field of scientific research, as well as in laboratory diagnostics, screening tests and monitoring. The qualitative training, the high scientometric indicators, the experience in project activity and above all - the aspiration for continuous professional development and methodological enrichment give me reason to believe that the candidate has all the necessary qualities for future independent research and supervision of doctoral students.

I am pleased to suggest to the esteemed jury to support Assistant professor Radoslava Emilova Grozdanova, PhD for the academic position of "Associate Professor" in "Immunology" for the needs of the Department of Immunology, NCIPD.

Date 10.10.23

signature:



Prof. Todor Kantarjiev, MD, Dsc