

To the honorable members of the Scientific Jury
Designated by Order No. 134/29.05.2020
of the Director of the National Center
of Infectious and Parasitic Diseases
Prof. Todor Kantardjiev, MD, DSc

REVIEW

**From an academician VASIL G. GOLEMANSKI DSc
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Regarding: The materials submitted for participation in the competition for occupation of the academic position "Professor" in the scientific specialty "Parasitology and Helminthology" for the needs of the Department of Parasitology and Tropical Medicine (DPTM) at the NCIPD. The competition is regularly announced in the State Gazette, issue no. 24 / 17.03.2020. The only candidate for the competition is Assoc. prof. Iskra Georgieva Raynova, MD, PhD, Deputy Director of the National Center of Infectious and Parasitic Diseases (NCIPD), Sofia and Chief Coordinator of the Expert Council on Medical Parasitology at the Ministry of Health.

Brief biographical data and career development of the candidate:

Iskra Raynova holds a Master's Degree in Medicine from the Sofia Medical University since 1982, holds a PhD in Parasitology and Helminthology since 2006 and a DSc degree since February 7th, 2020. She has acquired two medical specialties, namely in Medical parasitology in 1992 and Clinical Immunology in 1996. Dr. Raynova has gained 33 years of experience in the field of medical parasitology, walking the path from a doctor in the Laboratory for Experimental and Applied Parasitology to Associate Professor and Head of the Department for Parasitology and Tropical Medicine at the NCIPD and Chief Coordinator of the Expert Council on Medical Parasitology at the Ministry of Health. Since 2016, Assoc. Prof. Dr. Raynova also performs the functions of Deputy Director of NCIPD

General information about the submitted materials and documents under the competition

For participation in the announced competition, the candidate Assoc. Prof. Iskra Raynova has submitted a respective Application for participation in the competition with Entr. № 944 / 14.05.2020 and the diplomas, documents and references required on paper and on electronic media, as well as book and electronic copies (originals and photocopies) of the scientific works of the candidate (journal scientific articles, reports on scientific events, etc.) according to the profile of the announced competition. The correct and precise preparation and arrangement of the materials for the competition makes a very good impression.

The list of scientific and scientific-applied publications of Assoc. Prof. I. Raynova includes a total of 255 titles and it is composed of journal scientific articles, printed reports in scientific journals, abstracts of reports and posters, participation in textbooks and manuals and more. All of them were published after her habilitation as an associate professor in 2010. In

particular, they can be categorized as follows: Author's abstract of a dissertation for the scientific degree "Doctor of Science" on "Helminthozomoses (trichinellosis, toxocarosis and echinococcosis) in humans - epidemiological indicators, prevalence, diagnosis and treatment" (2020); Independent and collective sections in 2 medical monographs and manuals, published in 2012 and 2016 - 20 titles;

Scientific articles and scientific reports published in full in national scientific journals and collections - a total of 44 issues, of which 10 were published in congress languages;

Journal scientific articles published in English in foreign scientific journals - 12, 9 of which are in authoritative specialized journals with IF such as "*Parasite immunology*", "*American J. Trop. Med. & Hygiene*", "*J of Public Health*", "*Prasitology Research*", "*Helminthologia*" and others.

A significant number of the candidate's scientific articles (over 40) have been published in specialized scientific journals in Bulgaria: "*Information Journal of NCIPD*", "*Veterinary Collection*", "*Infectology*", "*Bulgarian Surgery*", "*Pediatrics*", etc., which are benefit from a large number of researchers and specialists from the healthcare system in Bulgaria;

In addition to these scientific papers candidate has submitted a list of reports and summaries of reports, including over 119 titles, presented on a number of scientific forums (congresses, conferences, symposia, etc.) in Bulgaria and abroad on various issues of parasitic human and animal diseases. Inside them are reported mainly scientific results published in scientific articles and reports from Section I of the presented list.

The analysis of the scientific production and the publishing activity of Assoc. Prof. I. Raynova after her habilitation as in 2010 shows that she is an active and productive researcher and leader. The main part of her research is in the field of parasitology and in particular helminthology and covers problems related to the diagnosis, distribution and epidemiology of a large number of local and tropical helminthiases (toxocarosis, trichinellosis, echinococcosis, etc.). Some of them are dedicated to problems of a methodological nature or are related to the immunology and therapy of various other parasitoses (malaria, blastocystosis, leishmaniasis, cryptosporidiasis) and others. The fact that in recent years the candidate has published his scientific papers mainly in congress languages and in well-known specialized scientific journals at home and abroad makes a positive impression. A positive side in the scientific and organizational activity of Dr. Raynova as a head of the Department of Parasitology at NCIPD is that she works in a team and a significant part of her scientific publications and participation in scientific meetings are co-authored with associates in the department and with medical parasitologists in the country.

Evaluation of the scientific contributions and achievements of the candidate

The main scientific contributions and achievements of the candidate can be grouped in the following main areas:

A. Studies on the etiology, epidemiology, diagnosis and therapy of local and imported parasitoses of great medical importance;

B. Preparation, studies and characterization of antigens from widespread parasites in humans and animals;

C. Epidemiological surveillance and control of local and introduced parasitoses in the country

These main areas are closely related to the tasks and activities of the "Department of Parasitology and Tropical Medicine" at NCIPD, which is the responsible state center for control of these diseases. The more significant scientific and scientifically applied contributions in these areas are detailed in the attached voluminous "Information on the contributions from the research activity" of the candidate and in the following points of the review I will try to summarize the main ones:

Many years of research have been performed on the etiology, distribution, clinic, diagnosis and treatment of important and widespread helminthiases in our country (echinococcosis, trichinellosis, toxocarosis, enterobiasis, etc.), as well as significant protozooses (toxoplasmosis, malaria, visceral leishmaniasis, cryptosporidiosis, etc.) and a number of modern methods for their diagnosis have been introduced;

In co-authorship with colleagues from the parasitological network in our country, new serological methods for the diagnosis of trichinellosis in diseased and asymptomatic individuals have been introduced and the immune response in trichinellosis patients has been analyzed;

Studies have been performed on the antigenic composition of echinococcal fluid in those infected with echinococcosis and a diagnostic Western Blot confirmatory test for the disease has been developed, which is successfully applied in medical parasitological practice in our country. The subjects of a research of the candidate are also the prevalence and endemic nature of a number of intestinal parasitoses in Bulgaria (ascariasis, trichuriasis, enterobiasis, hymenolepiasis, etc.) and modern data on their dynamics and extent have been obtained, with special attention to the dynamics of these parasites in children collectives and social homes for children and adults;

The prevalence and pathology of some opportunistic protozooses (blastocystosis and cryptosporidiosis) have been studied and found to be particularly common in immunosuppressed patients;

As a result of the research on pneumocystosis in the country, especially common in people with AIDS, the candidate and co-authors have implemented in our country modern diagnostic methods with Real time PCR;

Assoc. Prof. I. Raynova has made a significant contribution to the study of the morbidity, prevalence and epidemiological characteristics of both forms of leishmaniasis in Bulgaria (visceral and cutaneous), as well as to the development and implementation in the parasitological practice of PCR method for rapid detection of DNA from the causative agents of the disease in our country;

An important scientific and practical contribution of the candidate, as a direct participant and leader, is the active participation in the epidemiological surveillance and control of parasitoses (local and imported) in our country, which are carried out and analyzed in the Department of

Parasitology and Tropical Medicine headed by Assoc. prof. Dr. Raynova and are provided for use by the Ministry of Health in the country, European Center for Disease Control (ECDC) and WHO.

Personal contribution of the candidate in the indicated scientific results

Due to the nature of the activity of NCIPD and DPTM, a significant part of the journal scientific articles of Assoc. Prof. Dr. Raynova are co-authored with a different number of Bulgarian and foreign specialists from the institute and the country. They are developed independently and as the first author 20 sections in 2 collective monographs, as well as some reports, scientific communications and presentations at scientific forums in Bulgaria and abroad. Therefore, I consider it necessary to emphasize my impression and conviction after my acquaintance with her scientific production that she is completely equivalent, and in many cases the initiator and leading author in joint scientific papers and publications.

Evaluation and recognition of the candidate's scientific contributions in the special literature

After the habilitation for “Associate Professor” (2010), the scientific contributions and achievements of the candidate have received positive evaluation and recognition from a large number of Bulgarian and foreign scientists and experts in the field of parasitology and tropical medicine. From the presented “Reference for the citations of the publications” it can be seen that 6 of the works of the candidate have been cited during this period more than 50 times by Bulgarian and mainly by foreign scientists. A positive impression is the fact that most of the citations are from foreign authors and groups in magazines with Impact Factor, e.g. *Acta Parasitologica*, *Advances in Parasitology*, *Front Immunology* and others. The analysis of the candidate's citations in this case shows that mainly scientific articles published in foreign languages and in international scientific journals are cited, which gives me reason to recommend Assoc. Prof. Dr. Raynova in the future to publish more actively his scientific results in similar renowned international editions.

Educational activity and staff training

Assoc. Prof. I. Raynova has actively participated in recent years in the training of young parasitologists from NCIPD and from the country. The attached “Official Note” to the documents shows that only in the period from 2015 to 2019 she has a total workload of 850 hours with doctoral students, postgraduates and graduates in various courses for postgraduate training, as well as for consulting, methodological, experimental and organizational activity of specialists, graduates and employees not only from the Department and NCIPD, but also from the medical network in the country. The activity of Assoc. Prof. Dr. Raynova as a research supervisor of 5 doctoral students enrolled in the institute since 2012, two of whom are from NCIPD, 2 from Medical University - Varna and 1 - from Kardzhali. Together with associates and colleagues from the Department she was the scientific supervisor of 3 graduates from the Biology Faculty of Sofia University, who developed their diploma theses on problems related to the use of modern immunological and molecular biological methods for the diagnosis of human parasitoses (toxocosis, toxoplasmosis and giardiasis).

Participation in national and international research projects

As an associate, and later as the head of DPTM at NCIPD, Assoc. Prof. Dr. Raynova has actively participated as a contractor and leader in a total of 11 research projects funded by Bulgarian and foreign research funds. He is currently a deputy Head of a complex project in the field of infections and infectious immunology (2018-2023), funded by the Operational Program "Science and Education for Smart Growth" by the European Council. She has participated in 2 important national research programs (2004-2008 and 2014-2018) for prevention and control of echinococcosis and other communicable diseases in Bulgaria, as well as in 2 international research projects developed jointly with the Institute of Parasitology in Bern (Switzerland), with which NCIPD has a long-standing cooperation. It is necessary to note the participation of the candidate in 6 research projects in the field of parasitology, funded by the National Science Fund at the Ministry of Education and Science.

CONCLUSION

After my acquaintance with the documents, scientific papers and references submitted for this competition about the scientific, teaching, organizational, expert and implementation activities of Assoc. prof. Dr. Raynova position as well as with the criteria of NCIPD for holding academic positions, I believe that her candidacy for the academic position "Professor" in "Parasitology and Helminthology" fully meets the requirements of the „Law for development of the academic staff in Republic of Bulgaria“ for holding this prestigious position. After her habilitation for the academic position of Associate Professor in 2010, she has presented a significant scientific production of over 200 scientific publications, some of which are in authoritative journals with Impact Factor. I highly appreciate her activity as an author and co-author in two medical monographs. The scientific publications and achievements of the candidate contain original scientific contributions and are cited over 50 times by Bulgarian and foreign scientists, incl. in scientific publications with IF. Assoc. Prof. I. Raynova actively participates as a leader and co-executor of research projects funded by Bulgarian and foreign organizations and funds, as well as a leader and consultant of doctoral students and graduates from the NCIPD and Sofia University. She also successfully performs her managerial functions as head of department and deputy Director of NCIPD.

Due to all the above, I strongly support the candidacy of Assoc. Prof. Iskra Georgieva RAYNOVA in the announced competition and recommend to the Scientific Jury and the Scientific Council at NCIPD that she should be unanimously elected and appointed to the academic position "Professor" in the scientific specialty “Parasitology and Helminthology”.

Reviewer:



(Academician V. Golemanski, DSc)

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