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STATEMENT

by Associate Professor Mihaela Nikolova Nedyalkova, Institute of Biodiversity and Ecosystem Research - BAS

on the materials submitted for participation in the competition for the academic position of Associate Professor for the needs of the Environmental Mutagenesis Section, EERKB department at IBER - BAS

field of higher education 4.3. Biological sciences, professional field "Genetics" in a competition announced in the State Gazette, SG 110 of 31.12.2024

By Order No. 18/28.02.2025 of the Director of IBER-BAS I have been appointed as a member of the scientific jury of the competition for the academic position "Associate Professor" in the field of higher education 4.3. Biological sciences, professional field "Genetics".

The submitted by prof. as. Dr. Petya Parvanova's set of materials is in accordance with the Regulations for the Development of Academic Staff of the Bulgarian Academy of Sciences, the regulations of the Bulgarian Academy of Sciences and the IBER-BAS and includes all the necessary documents.

The candidate prof. as. Dr. Petya Parvanova has enclosed a total of 43 scientific papers and 2 book chapters beyond those on the basis of which the doctoral dissertation was defended. According to the correspondence sheet submitted by the candidate, 21 scientific papers and 2 book chapters are accepted for review. References and documents on conducting exercises, supervision of graduate students, participation in a number of scientific projects, expert activity, etc. are submitted.

Dr. Petya Parvanova graduated with a Master's Degree in Ecology at Sofia University "St. Kl. Ohridski". In 2011 she obtained her Ph.D. degree at the Institute of Biodiversity and Ecosystem Research - BAS and since then she has been working as a senior assistant in the Environmental Mutagenesis Section at the Department of Ecosystem Research, Ecological Risk and Conservation Biology, IBER-BAS.

In terms of scientific activity, the candidate has attached 21 publications and 2 book chapters. They are distributed as follows: under indicator C - 8 issues of which 3 in Q2, 4 in Q3 and 1 in Q4; under

indicator D - 3 in Q1, 6 in Q2, 3 in Q3 and 1 in Q4, as well as 2 book chapters. In both indicators, Dr. Parvanova meets and even exceeds the requirements of the LDASRB, as well as those of BAS and IBER-BAS. There are also 52 citations in journals with IF and SJR, which bring the total to 104 points, thus the candidate meets the requirements for this indicator as well.

The scientific papers submitted for the competition are both scientific and applied. The candidate's contributions are grouped into four main areas.

The first direction covers the prevention of induced mutagenesis (antimutagenesis) by exogenous application of natural products. It has been shown that, depending on their mode of administration, the response of cells to oxidative stress can be significantly modulated. The results obtained have a contributory character to the mechanisms of antimutagenesis and the elucidation of the role of experimental design. The second strand is related to the assessment of the genotoxic potential of environmental xenobiotics by using a complex of in vivo assays and criteria with different resolutions. Contributing to green technologies are results that demonstrate that the leaf extract of Narcissus cv. Hawera and the essential oil of Origanum vulgare subsp. hirtum have a well-defined genotoxic and DNA damaging capacity in the model subject Chlamydomonas reinhardtii, but do not possess mutagenic potential. A third scientific area in which contributing results have been obtained investigates mechanisms of genotypic resistance. The results of these studies have undoubtedly contributed to basic research related to the role of physiological state, mitotic cycle phases and reparative potential of cells in the elaboration of the stress response and genotypic resistance to chemical inducers of oxidative stress. The scientific contributions related to the assessment of anthropogenic pollutants and environmental factors by means of a vascular plant test system in relation to ecotoxicology and agriculture are the fourth direction of the candidate's research. Based on a vascular experiment conducted with Fraxinus excelsior L. saplings in urban and mountain environments by applying a set of physiological and biochemical parameters, it was found that the increase in antioxidant enzyme activity can be used as an indicator to assess the effect of an atmospheric pollutant. The results have a distinct contribution to ecotoxicological research in the field.

As a senior assistant professor at IBEI-BAS, the candidate Petya Parvanova has a remarkable additional employment of lecture courses with over 400 hours of undergraduate exercises,

supervision of graduate and postgraduate students, as well as participation in 25 scientific projects and a number of expert opinions.

CONCLUSION

In conclusion, I would like to express my satisfaction with the candidate's work so far in an extremely interesting and topical area of science. Many of the results of her research are of a contributory nature, some of them of fundamental importance. All this gives me reason to think that Dr Petya Parvanova is an established and well-established specialist in her field and I believe with conviction that she is fully prepared and deserves to take up the academic post of Associate Professor.

The documents and materials presented by Dr. Petya Parvanova meet all the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria and its Implementing Regulations, the Regulations of the Bulgarian Academy of Sciences and IBER-BAS.

The candidate has submitted a sufficient number of scientific works published after the materials used in the defence of the PhD. The candidate's works contain original scientific and applied contributions that have received international recognition, a representative number of which have been published in journals published by refereed and indexed international academic publishers with IF and SJR. All this speaks in favor of the fact that the scientific qualification of Dr. Petya Parvanova is unquestionable.

After reading the materials and scientific works presented in the competition, analyzing their significance and scientific, scientific and applied contributions contained in them, I find it justified to give my positive assessment and to recommend the Scientific Jury to propose to the Honorable Scientific Council of IBEI-BAS to elect Dr. Petya Parvanova for the academic position of Associate Professor in the field of higher education 4.3 Biological Sciences, professional field "Genetics".

24. 04. 2025.

Assoc. Prof. Mihaela Nedyalkova