

STATEMENT

by Assoc. Prof. Milena Tihomirova Nikolova, PhD
Institute of Biodiversity and Ecosystem Research, BAS

member of a scientific jury for the holding of a competition for the academic position "Associate Professor" by professional field 4. Natural Sciences, Mathematics and Informatics, professional direction 4.3. Biological sciences, scientific specialty "Plant Physiology", for the needs of the laboratory "Regulators of plant growth and development" laboratory at the Institute of Plant Physiology and Genetics, BAS

Assistant Professor Zornitsa Ivanova Katerova-Landzhova, PhD, from the Institute of Plant Physiology and Genetics, BAS is the only candidate for the competition for "Associate Professor", announced in the State Gazette, no. 22 / from 15.03.2024 and on the website of IPPG, BAS. Dr. Katerova obtained a master's degree in Biotechnological Processes, specialization Industrial Biotechnologies, at the Sofia University "St. Kliment Ohridski", as well as the educational and scientific doctoral degree in the scientific specialty "Plant Physiology" with a dissertation on the topic "Physiological-biochemical changes in pea plants irradiated with UV-B and UV-C". The professional experience of the candidate is carried out mainly at IPPG-BAS. Dr. Katerova has completed 4 specializations to increase her qualifications: 1 at the Royal University of Ghent, Belgium; 1 at the University of Antwerp, Antwerp, Belgium and two long-term specializations at the National Agriculture and Food Research Organization, Sapporo and Tsukuba, Japan. In his scientific career, Dr. Katerova has submitted a list of 43 scientific papers. The candidate's Hirsch-index (h-Index) according to Scopus is 10 (without self-citations).

The submitted materials for the competition have been prepared following the current legal documents: the Law on the Development of the Academic Staff in the Republic of Bulgaria and relevant Regulations for its application at a national level, BAS and the Regulation for the specific conditions and procedure for acquiring scientific degrees and holding academic positions at IPPG- BA.

Doctoral thesis and six publications accompanying it are related to the acquisition of the educational and scientific degree "Doctor" and refer to Group "A" indicators (50 points). In the present competition for the academic position of "Associate Professor", the candidate participated with 21 scientific papers. Six publications (4 x Q2; 2 x Q3) are equivalent to a habilitation thesis (Group of indicators "B") with a total numerical value of 110 points (out of

the required 100). The candidate is the first author of two of the publications. 12 scientific articles (3 in Q1, 3 in Q2, 5 in Q3, 1 in Q4) and 3 book chapters, with a total numerical value of 260 points (with a required 220). The scientific works of which the candidate is the first or corresponding author makeup 185 points of the total number of points for this group of indicators, which fulfills the specific requirement of IPPG. The publications (JCR IF: 22.225) are in high-rating journals, which confirms the importance of scientific research. A list of 173 established citations in scientific publications, referenced and indexed in Web of Science and Scopus for the last 5 years with a total numerical value of 346 points (with a required 70) is included in the group of indicators "D". The high citation rate of scientific works shows the importance and relevance of research. In indicator group "E" is presented a list of participations in international and national projects that cover the required points in this group. This indicator is specific to IPPG. The individual contribution of the Candidate to the work performed is emphasized in the scientific report.

Dr. Katerova's research activities and achievements are aimed at studying the physiological effect of ultraviolet radiation and other abiotic factors (drought, waterlogging, herbicides) in important cultural plants, as well as the possibilities of overcoming the negative effects of these stress factors through exogenous application of growth regulators. Important results are reported in these scientific areas. Research on the physiological effect of ultraviolet radiation is a logical continuation of the candidate's doctoral dissertation. An interesting innovative approach is the use of daily low-intensity UV-C irradiation of plants for an extended period to track emerging defense mechanisms. Important results have been reported in the study of the protective role of various growth regulators – polyamines, auxin-like compounds, β -monomethyl ester of itaconic acid (MEIC), the preparation Biomin, against UV-B and UV-C irradiation in economically important crops. Data on the mechanisms by which this protective effect occurs are presented.

In addition to the physiological state of plants and their protection from UV radiation, part of the research is aimed at tracking the effect of other abiotic factors such as drought, waterlogging, and herbicides on economically important crops. In this direction, the physiological response of wheat and triticale to combined impact with the selective herbicide and water stress has been investigated for the first time. A wide range of phenotypic, biometric and biochemical analyses have been performed in this study. The effect of the brassinosteroid 24-epibrassinolide on herbicide-treated wheat has been investigated and promising results were obtained.

The presented scientific works clearly outline the scientific research profile of the candidate, which fully corresponds to the topic of the announced position. Thematically, the Candidate's research is up-to-date and promising, especially in the context of the climate changes that have been observed in recent years, alternating periods of drought with such abundant rainfall and floods. The outlined intentions for future research make a good impression.

In conclusion, the presented scientific works on scientometric indicators and the contributions contained in them cover the national requirements for occupying the academic position "Associate Professor" in the relevant professional field, determined by the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Rules for its Implementation , as well as the relevant Rules of the IPPG / BAS. This, together with the undoubted professional qualification of Dr. Katerova, gives me reason to confidently express a **positive assessment** and to recommend to the Scientific Jury to prepare a report-proposal to the Scientific Council of IPPG-BAS for the election of **Assist. Prof. Zornitsa Ivanova Katerova-Landzhova, PhD**, in the academic position of 'associate professor' at IPPG-BAS in professional direction 4.2. Biological Sciences, scientific specialty "Plant Physiology"

19.06.2024

Prepared the statement:

Sofia

(Assoc. Dr. Milena Nikolova)