

REPORT

by Prof. Svetlana Temelkova Bancheva (Nikolova), from IBER – BAS and Botanical Garden-BAS, Member of the Scientific Jury on the materials presented

**for participation in the competition for the academic position “Associate Professor”,
professional field 4.3. Biological Sciences, scientific specialty „Genetics“**

for the needs of the “Genome dynamics and stability” laboratory of IPPG - BAS

Candidate: Chief Assist. Prof. Georgi Nikolaev Bonchev, Ph.D

1. General information about the applicant and the materials for the procedure

The only participant in the competition for “Associate Professor” in professional field 4.3. Biological sciences, scientific specialty “Genetics” for the needs of the “Genome dynamics and stability” laboratory at the Institute of Plant Physiology and Genetics (IPPG) - BAS, announced in SG no. 24 of 17.03.2023 is Chief Assist. Prof. Georgi Nikolaev Bonchev, Ph.D. He holds a master's degree in “Biotechnological processes and devices”, specialization: “Genetic and cellular engineering”, acquired at Sofia University “St. Kl. Ohridski”, Faculty of Biology in 1995, as well as the educational and scientific degree “Doctor” in the scientific specialty “Genetics” from IPPG-BAS in 2011. In 1999 he was appointed as a biologist at the Institute of Genetics-BAS (transformed through merging into IPPG), where he still works today as chief assistant. To improve his qualifications, Dr. Bonchev has conducted 3 long-term specializations in Bratislava, Slovakia, 1 postdoctoral program in Neuchâtel, Switzerland and 1 specialization in Brighton, UK.

All materials for the competition have been prepared in accordance with the current regulatory documents, such as the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Rules for its application, Rules for the terms and conditions for acquiring scientific degrees and holding academic positions at BAS and IPPG. All documents are carefully prepared, neat and informative.

I am pleasantly impressed by the good scientific output and the active work of Dr. Bonchev to establish scientific contacts and a network of collaborations for the use of DNA barcoding technology in Bulgaria, to attract young scientists, as well as to increase the visibility and capacity of IPPG on nationally and international level.

From the attached report it is clear that the candidate is a co-author in 23 publications, 2 of which are related to the acquisition of the Ph.D degree, with a total impact factor of 47.248. A good impression is made by the fact that in 11 of them he is the first or corresponding author.

For participation in the competition, a list of 16 scientific works is presented, grouped according to the guidelines for “covering” the minimum national requirements under Professional field 4.3. Biological Sciences. Of them, 5 are publications equivalent to a habilitation thesis (Group “B”) with a total numerical value of the respective quartiles of 100 points (with a required 100). One of them is in a scientific journal with Q1, 3 are in Q2 and 1 in Q3. Group “G” includes 11 scientific publications (7 in Q1, 1 in Q2, 1 in Q3 and 2 in Q4) with a total numerical value of the respective quartiles of 234 points (out of the required 220). In 6 of the publications, Dr. Bonchev is the first or corresponding author. The total IF /JCR is 43.489 (20.39 for the articles in which G. Bonchev is the first and/or corresponding author). Group “D” includes a list of 66 established citations in scientific publications, referenced and indexed in WEB of SCIENCE and SCOPUS with a total numerical value of 132 points (out of the required 60). For group “E”, which is not mandatory for this position, according to the minimum national requirements for the field, but is an additional requirement according to the IPPG-BAS criteria, a list of 8 participations in scientific or educational projects is presented, of which 3 international and 5 national ones. He is also a mentor to two students of the “Student Practices” Project under the Operational Program “Development of Human Resources”. G. Bonchev is the head of one of the projects, and the attracted funds from him are in the amount of BGN 956,925 (191 points). From the attached reference, it is clear that the candidate not only “meets”, but also in some indicators exceeds the minimum national requirements for occupying the academic position “Associate Professor” in the relevant professional field.

2. Evaluation of scientific research activity

Dr. Bonchev's main scientific interests are related to studying the structural dynamics of the plant genome in natural and stress-induced conditions. His contributions are summarized in the “Research Contribution Statement”, and can be attributed to the following two areas:

1. Development of DNA markers for genotyping and assessment of natural and mutant genetic diversity in plants.

A significant part of Dr. Bonchev's contributions are related to the study of mobile genetic elements or transposons, structural dynamics, development and application of transposon-based marker methods. Data on them are presented in 11 scientific publications.

Another prospective and very promising direction in which the candidate has shown scientific interest and published in the last few years are taxonomic studies of some groups of plants by applying the marker methodology of DNA barcoding. Within the framework of the BULCode project, with the basic organization IPPG-BAS, the method has been optimized and applied for the taxonomic identification of various biological objects - plants, fungi, algae, by identification by chloroplast DNA barcode regions such as genes *rbcL*, *trnH-psbA*, *matK* and ribosomal areas (ITS). Five of the author's latest publications are related to this topic.

2. Genomic selection in cereals

This area of research is touched upon in one of Bonchev's publications. Within the framework of a short-term specialization at the Comenius University, Bratislava, (Slovakia), the candidate took part in an experiment on the infection of plants of *Triticum turgidum* subsp. *dicoccum* and its phenotypic characterization with respect to powdery mildew resistance.

It makes an excellent impression that the colleague uses appropriate methods in his studies that allow him to obtain reliable results. The obtained results are original, and some of them are of a confirmatory nature, while others represent new data for science. The analytical part in the publications submitted for review is thorough and comprehensive. The areas in which Dr. Bonchev works are extremely promising. Proof of the importance of the research conducted with his participation are the publications in renowned journals with an impact factor, as well as the many positive citations.

I find it a very correct approach on the part of the candidate to include in the reference a section on his future scientific and research plans, which is another proof that Dr. Bonchev is a well-rounded and promising scientist who has a clear vision not only for his own career development, but also for the development of the areas in which he works and increasing the visibility of the institution to which he belongs.

Critical notes

I have no critical notes. I would only recommend that the candidate reflect his participation in the "Student Practice" Project as a mentor and not as a Project manager.

Conclusion

From the attached report it is clear that the candidate, Dr. G. Bonchev, not only "meets", but in some indicators exceeds the minimum national requirements for occupying the academic position of "Associate Professor" in the relevant professional field. The colleague is excellently

prepared, motivated and consistent in his scientific work, with clear and significant scientific results and contributions. His research profile fully meets the expectations of the advertised position. The direction in which he works is of great scientific and applied interest.

On the basis of the above, I strongly recommend the members of the Scientific Jury to support the selection of Chief Assist. Prof., Dr. Georgi Nikolaev Bonchev, for the academic position “Associate Professor” in Professional field 4.3. Biological sciences, scientific specialty “Genetics” for the needs of the “Genome Dynamics and Stability” laboratory of IPPG-BAS.

01.07.2023 год.

Изготвил становището:

София

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