

# REPORT

regarding the materials submitted for participation in the competition announced in the State Gazette no. 29/12/04/2022 for occupying the academic position "**Associate Professor**", in a scientific direction 4.3. Biological sciences (Microbiology - new functional foods) for the needs of the Department "General Microbiology", Laboratory "Microbial genetics", Institute of Microbiology "Stephan Angeloff", BAS

Candidate: **Assist. Prof. Dr. Galina Dinkova Smoyancheva**

Report prepared by **Prof. Margarita Kamburova, DSc**,  
"Stefan Angelov" Institute of Microbiology, BAS

## **1. An information about the contest**

I am included in the scientific jury for the selection of an "Associate Professor" for the needs of the Institute of Microbiology (IMicB), BAS by order No. 70/30.05.2022 of the Director of the IMicB, BAS. Dr. Galina Dinkova Smoyancheva participates as the only candidate in the competition. Currently she is an Assistant Professor in the Laboratory of Microbial Genetics, Department of General Microbiology. As a member of the scientific jury, I declare that we have no common publications with the candidate.

The documents presented by Dr. Stoyancheva are in accordance with the requirements of the Law for the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB) and the Regulations for its implementation, as well as the Regulations for the Development of the Academic Staff in IMicB, BAS.

Assist. Prof. Stoyancheva is the author of 30 scientific papers, 28 of which are not included in the dissertation for awarding the scientific and educational degree of doctor. A subject of the current report for participation in this competition are 20 works published in the period 2003-2022.

## **2. Brief information about the candidate in the competition**

Assist. Prof. Stoyancheva completed his master's degree at the University "St. Kliment Ohridski", Faculty of Biology, specialty Biotechnological processes, Gene and Cell engineering in 1997. In 2006, she received the scientific and educational degree "doctor" in the scientific specialty "Microbiology", based on a dissertation: "Combined approach for molecular-taxonomic characterization of lactobacilli" at IMicB. Since 2007 the candidate works as an Assist. Prof. in Microbiology at IMicB. In the period 2007-

2008, she carried out a 3-month specialization at the Laboratory of General and Food Microbiology, University of Verona, Italy. In 2018, she participated in the training of students in the national "Student Practices" program. The quality of her work, along with the publications in prestigious journals, has also been evaluated through the annual award of the "Stefan Angeloff" Foundation for the best work of a young microbiologist for 2007, the FEMS Scholarship - 2007 and the Certificate from Union of Bulgarian Scientists, Higher Attestation Committee and Fund Scientific Investigations for scientific achievements of doctoral students who defended in 2006.

### **3. Fulfillment of the requirements for occupying the academic position "Associate Professor"**

#### **3.1. Requirements under ZRASRB**

When comparing the scientometric indicators of Assist. Prof. Stoyancheva with the Minimum national criteria for the scientific degree "Associate Professor" according to ZRASRB, the following number of points are established:

- Criterion "A" - Successfully defended dissertation for the award of "Doctor" - 50 points (required 50)
- Criterion "B" - Habilitation work or scientific publications referenced and indexed in WoS/Scopus: - 109 points (required 100). In this criterion, 6 publications are included, of which one with Q1, three with Q2 and two with Q4.
- Criterion "D" - 221 points (required 220)
  - Seven articles (7-13) in a journal with Q2
  - Two articles (14 and 15) in journals with Q3
  - Three articles (16-18) in journals with Q4
  - Book Chapter (19)
- Criterion "D" - The presented list of citations includes 303 titles, 45 of which are in dissertations. Citations in scientific publications, referenced and indexed in WoS/Scopus or in monographs and collective volumes are 258; total 516 points (60 required).
- Criterion "E" - although there is no required minimum number of points for this criterion, the applicant's active project activity is impressive. She leads one international and three national projects and is a participant in four international and nine national projects. The total number of points for indicator E is 270.

**As can be seen from the presented results, the candidate's indicators on all criteria exceed those required by the RSARD. With 405 points required by ZRASRB for all criteria, the total number for Dr. Stoyancheva is 1116.**

Impressive is the fact that among the 19 publications included in the reference list for the fulfillment of the minimum requirements under the ZRASRB, only one is not in a journal with SJR/JCR. Her works

have found a place in a number of prestigious international journals such as Archives of Microbiology (IF 2.552), Geomicrobiology Journal (IF 2.308), Polar Biology (IF 2.310), Engineering in Life Sciences (IF 1.936), Antonie van Leeuwenhoek (IF 1.806), Starch-Starke (IF 1.22) and others. The IF of the publications included in the competition for docent is 19.46 (The total IF of all publications is 27.49), and the h-index is 7. Although she works in large teams, then Dr. Stoyancheva is the first author in one third of the publications, which testifies to her serious contribution to scientific research.

### 3.2. Additional requirements for "Associate Professor" of IMicB

All indicators of Dr. Stoyancheva exceed the specific requirements of IMicB as can be seen in the table below.

| Academic degree              | Number of publications in IF journals, monographs, chapters of monographs, proceedings of international forums published in full text, patents | Citations* | IF*   | H- index* | Additional requirements**                             |
|------------------------------|--|------------|-------|-----------|---|
| Associated Professor         | 20 (without included in doctor degree)<br>First or corresponding author in five of them  | 100        | 20    | 5         | Participation in 3 projects                           |
| Assist. Prof. G. Stoyancheva | A total of 28 publications (without those for „doctor“).<br>First or corresponding author in seven of them.                                    | 303        | 27.49 | 7         | Participation in 17 projects, leader for four of them |

The presented list of citations includes more than three times the number required, and the number of completed projects is more than six times greater. Her scientific work has been presented at 30 conferences, 18 of which are international.

### 4. Brief description of the presented scientific works

Dr. Stoyancheva during the years works in three main directions, in which she formulates a number of important scientific and scientific-applied contributions, some of which are original and others - confirmatory. In my opinion, the most important among them are the following:

- Lactic acid bacteria - identification of different types of vaginal lactobacilli, producers of bacteriocins with microbial activity against human pathogenic microorganisms. In this direction, important original contributions are:
  - New specific primers for the bacteriocin operon "gasericin A" were designed. The operon for this bacteriocin has been identified in the genome of *Lactobacillus crispatus*.
  - New specific primers were designed to detect the bacteriocin "helveticin" gene. The gene has been used with success as a phylogenetic marker to distinguish species of the genus *Lactobacillus*.
- Phylogenetic characterization of microorganisms inhabiting different ecosystems. The possibility of their biotechnological and ecological application was sought. Original Contributions:

- A bacterial strain, *Microbacterium* sp. LB1 that inhibits algal growth was isolated. It can be successfully used as a bio-agent against algal blooms in polluted waters.

- For the first time, the phylogenetic diversity of fungi destroying historical and cultural monuments in Egypt and Magurata, Bulgaria, was studied. Knowing them would allow the development of effective conservation methods.

➤ Sequencing and expression of enzyme genes with a stress on catalase genes in filamentous fungi.

- For the first time, the influence of temperature as a factor in the regulation of the catalase genes expression in filamentous fungi was investigated.

- The complete sequencing and characterization of catalase genes from the Antarctic strain *Penicillium griseofulvum* P29 was performed for the first time in this species. This knowledge could contribute to the temperature-sensitive catalase production.

## CONCLUSION

Based on the submitted materials for the competition and the analysis of their significance, I believe that the scientific-metric indicators of Assist. Prof. Stoyancheva exceed the quantitative criteria for occupying the academic position "Associate Professor", laid down in the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB) and the Regulations thereto, as well as the Additional Requirements of the Institute of Microbiology, BAS. She is a recognized expert in the field of isolation, taxonomy and identification of bacteria and eukaryotic unicellular fungi, identification, sequencing and expression of genes in prokaryotic and eukaryotic hosts, and bioinformatic analyzes of bacterial and prokaryotic genomes, and phylogenetics. Publication predominantly in respected international journals and the large number of citations are a clear proof of her international recognition. My long-standing personal impressions of her are for an ambitious and capable scientist, with a good knowledge of classical and modern methods in the field of microbiology, molecular biology and bioinformatics. Her good professional training and her willingness to share her knowledge with colleagues determines her invitations in a number of productive collaborations with colleagues from IMicB and other scientific organizations. On the basis of the above, I confidently support her candidacy and recommend the scientific jury to propose to the Scientific Committee of the IMicB, BAS, to choose Assist. Prof. Stoyancheva for "Associate professor" in professional direction 4.3. Biological Sciences, specialty Microbiology.

01.08.2022

Signature:

(Prof. M. Kamburova, DSc)