

# OPINION

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**SUBJECT:** competition for the academic position "**Associate professor**" in a Professional Field 4.3. Biological Sciences, scientific specialty "Microbiology", announced in the State Gazette, no. 56 dated 30.06.2023, for the needs of the Faculty of Medicine, Sofia University "St. Kliment Ohridski".

In the announced competition for "Associate Professor", documents for participation, within the legally regulated period, were submitted by the only candidate **Chief Assistant Professor Dr. Lubomira Dimitrova Yocheva**. The documents submitted by the candidate for the academic position "Associate Professor" have been prepared in accordance with the Act on Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Regulations on its Implementation, and the Regulations on the Terms and Conditions for Acquiring Scientific Degrees and Holding Academic Positions in Sofia University "St. Kliment Ohridski" (RTCASDHAP).

## Biographical Data

Lyubomira Yocheva graduated with a master's degree in Molecular and Functional Biology at the Faculty of Biology of Sofia University "St. Kliment Ohridski" in 1986. In 1997, she successfully defended her doctoral dissertation in Microbiology (code: 01.06.12) on the topic "Biological characterization of a strain of *Streptomyces galbus* (F) subsp. *achromogenes* 695, chemical nature of antibiotic 695 and optimization of the conditions for its biosynthesis", supervised by Prof. Dr. Lyubomir Kominkov. After defending her doctoral dissertation, Dr. Yocheva worked at the Institute of Cereals and Feed Industry at the Agricultural Academy, at the National Bank for Industrial Microorganisms and Cell Cultures, and at the Institute of Cryobiology and Food Technologies at the National Center for Agrarian Sciences. With the beginning of the educational process in the restored Faculty of Medicine at the Sofia University, Lyubomira Yocheva was appointed as an Assistant Professor in 2006 and in 2007 as a Chief Assistant Professor in microbiology in the Department of Biology, Medical Genetics and Microbiology, and in 2017 she acquired a medical specialty in Microbiology (for microbiologists and biologists).

## Scientific Activity

The scientific works of Ch. Ass. Prof. Yocheva are entirely in the scientific field of the competition and cover a wide range of applications in medicine, biotechnology, water protection, as well as in the field of nanotechnology. To date, the candidate has a total of 55 publications in scientific editions, of which 26 in journals with an impact factor/impact rank, cited more than 130 times according to Scopus and Web of Science. Dr. Yocheva is also a co-author of 4 study aids. The results of her scientific research have been presented at 45 conferences and scientific forums, and she has participated in or been the leader of scientific projects funded by the Ministry of Education or of SU "St. Kliment Ohridski".

In the current competition, Lyubomira Yocheva participates with a total of 49 scientific publications and study aids, 23 of which are in journals with an impact factor/impact rank, apart from the publications included in the PhD thesis, with a total and individual IF of 16.108 and 1.89,

respectively. Of the mentioned publications, one is with quartile Q1, two with Q2, 13 with Q3, and 7 with Q4. The certificate submitted by the applicant for the fulfillment of the minimum national requirements (MNR) under Art. 2b of ADASRB for professional field 4.3. Biological Sciences is prepared precisely and systematized. According to the requirements of ADASRB, the Regulations on its Implementation and the Regulations of Sofia University for occupying the academic position "Associate Professor", the minimum required total number of points from the indicators for groups A-E is 400 points. According to the report prepared by Dr. Yocheva, the total number of points is 529 points, of which 57 points for group of indicators E are not required for the academic position "Associate professor", and the remaining 472 points exceed the minimum required total number of points.

### **Assessment of scientific and educational contributions**

The scientific works presented by Lyubomira Yocheva can be systematized in the following main scientific and scientific-applied directions:

**1. Antimicrobial activity of naturally produced biologically active substances and nanomaterials:**

The scientific activity of Ch. Ass. Prof. Yocheva in this direction concerns the extremely modern topic of the development of antibiotic resistance due to the excessive use of antibiotics in the last few decades and the search for new substances with antimicrobial activity isolated from natural sources, such as medicinal plants (St. John's Wort, catnip, and woundwort), microalgae (*Coelastrrella sp.* BGV and cyanobacteria), and microorganisms (lactic acid bacteria: lactobacilli, streptococci and pediococci, and bifidobacteria), and nanomaterials.

**2. Isolation and characterization of bacteria of importance in food technology and biotechnology:**

The contributions of the research conducted by Lyubomira Yocheva in this area are innovative and of a scientific-applied nature and concern the microbiological composition of chickpea yeast, which is widely used in the chemical, food, pharmaceutical and fuel industries, the microflora of Bulgarian rye sourdough starters from different geographical regions of the country, which could serve for the development of dietary cereals, suitable for people with lactose intolerance and allergies to dairy products, as well as the microbiological composition of Bulgarian raw-dried sausage in the process of ripening the product.

**3. Sanitary-microbiological assessment of water for drinking and domestic needs:** The candidate's contributions in this area are of markedly applied nature. For the first time, the sanitary-microbiological evaluation of Bulgarian bottled mineral water of three brands for different periods of storage, of mineral water with public access from the springs in Bankya, Gorna Banya and Kom, as well as well and borehole waters in private properties and small settlements fed by nearby rivers is made.

**4. Prevalence of some bacterial and viral infections in Bulgaria and their relationship with inflammatory, allergic or autoimmune diseases:** In medical practice, certain viral and bacterial infections are associated with the development of inflammatory, allergic or autoimmune diseases, but their role in the pathogenesis of these diseases still remains unclear. The main contributions of Dr. Yocheva in this direction refer to: (1) a study on the serological prevalence of *Helicobacter pylori* in asymptomatic children; (2) searching for a relationship between *H. pylori* seropositivity and the development of psoriasis; (3) relationship of colonization with *Staphylococcus aureus* in skin lesions in Bulgarian children with atopic dermatitis; (4) role of *Herpes simplex virus 1* and *Epstein-Barr virus* in patients with autoimmune bullous dermatoses.

**5. Contributions to academic education:** Together with the team of the discipline "Microbiology" from the Faculty of Medicine of the SU "St. Kliment Ohridski", the candidate participated in the development and publication of study materials in Bulgarian and English, prepared in accordance

with the established microbiology training program for students of the faculty. The candidate is also co-author of a textbook on Food Microbiology - Microbiology of Fresh Foods, intended for students, specialists and doctoral students in microbiology at the Faculty of Biology of the Sofia University.

### **Academic activity**

Lyubomira Yocheva's teaching activity started in 2002 as a part-time Assistant Professor in the Department of General and Industrial Microbiology at the Faculty of Biology, Sofia University "St. Kliment Ohridski".

Chief. Ass. Prof. Yocheva was among the first teachers at the Faculty of Medicine of Sofia University "St. Kliment Ohridski". Since the beginning of microbiology training in the academic year 2008/2009 as an Assistant Professor and afterwards as a Chief Assistant Professor, the applicant has conducted over 6500 hours of microbiology practicals to students from the specialties "Medicine" and "Medicine in English", as well as virology practicals to students from the specialty "Nurse" at the Faculty of Medicine of the SU. Simultaneously with this, she has conducted a significant number of classes with students from the Faculty of Biology of Sofia University "St. Kliment Ohridski" from various specialties and even develops and leads a new course for students in the master's program "Biochemistry" in the Faculty of Biology. In addition, Dr. Yocheva leads microbiology practicals for students from the specialty "Optometry" from the Faculty of Physics of SU. Lyubomira Yocheva was also the co-supervisor of three diploma theses.

### **Personal impressions**

I have known Lyubomira Yocheva since the beginning of the study process at the Faculty of Medicine of SU "St. Kliment Ohridski" in 2007. My personal impressions of her are that she is a loyal, responsive, positive, dedicated teacher, respected by her colleagues and students. Her high professionalism, hard work and achievements in the scientific and educational sphere define her as a candidate who meets the requirements for the academic position "Associate Professor" in the Faculty of Medicine of the Sofia University.

### **Conclusion**

The scientific works and materials submitted for the competition from Lyubomira Yocheva, are in full compliance with and exceed the minimum requirements for the position of "Associate Professor" according to the ADASRB, the Regulations on its Implementation, and the Regulations on the Terms and Conditions for Acquiring Scientific Degrees and Holding Academic Positions in Sofia University "St. Kliment Ohridski".

Based on all of the above, I give my positive assessment and confidently recommend to the respected members of the scientific jury and to the members of the esteemed Faculty Council of the Faculty of Medicine of the Sofia University to vote positively for the awarding of the academic position "Associate Professor" to Chief Assistant Professor Dr. Lyubomira Dimitrova Yocheva in professional field 4.3. Biological sciences, scientific specialty "Microbiology".

30.10.2023 г.

PREPARED THE OPINION:

/Assoc. Prof. Asya Tsanova, PhD/