REVIEW

Competition for the Academic Position of "Professor"
Professional Field: 4.3. Biological Sciences (Cell Biology)

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This review was prepared following the decision of the first meeting of the Scientific Jury, confirmed by order No. RD-38-258/29.5.2024 of the Rector of Sofia University "St. Kliment Ohridski", held on 14.06.2024. It is in compliance with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the relevant regulations, as well as the rules for acquiring scientific degrees and academic positions at Sofia University "St. Kliment Ohridski". The competition for the academic position of "Professor" was announced in the State Gazette, issue No. 32 on 09/04/2024. Only one candidate, Associate Professor Dr. Tanya Ivanova Topuzova-Hristova, applied and was admitted to the competition.

The documents submitted by the candidate fully comply with the legal requirements set by the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB) and the corresponding regulations at Sofia University "St. Kliment Ohridski". According to the submitted documentation, the candidate not only meets but exceeds the minimum national requirements for acquiring the academic position of "Professor" in the professional field of 4.3. Biological Sciences (Cell Biology), as well as the specific requirements set by Sofia University for research and teaching activities for this position.

Candidate Overview

Associate Professor Dr. Tanya Ivanova Topuzova-Hristova graduated from the Faculty of Biology at Sofia University "St. Kl. Ohridski" in 1994, majoring in Biology with a specialization in Cell Biology and Developmental Biology. After spending a year as a secondary school biology teacher, she joined the Faculty of Biology at the same university, where she began her academic and scientific career. In the Department of Cell Biology and Developmental Biology, she progressed from Assistant to Senior Assistant, and in 2008, she defended her doctoral thesis on "The Influence of Halogenated Inhalation Anesthetics on the Integrity and Reparative Abilities of Lung Cells." Since 2004, she has served as a Senior Assistant, and in 2014, she was promoted to Associate Professor.

Teaching Activity

Assoc. Prof. Topuzova-Hristova's teaching activities encompass approximately 416 hours of classroom instruction annually, averaging around 2.6 to 3 hours per day. It is important to note that these figures are approximations, as the documentation provided does not include a detailed breakdown of her teaching assignments across different programs (bachelor's, master's, postgraduate qualifications, etc.). Additionally, the reference material only covers the past three years and does not extend back to the time she was appointed as an Associate Professor. This limits the ability to assess her full teaching workload.

Nevertheless, it can be reasonably assumed that her teaching intensity has remained consistent over the years for which specific information is lacking.

Assoc. Prof. Topuzova-Hristova teaches a range of courses, including General Biology, Cytology, Histology, Embryology, and specialized courses on the control mechanisms of cell proliferation. These lectures are delivered to undergraduate students, future biology teachers, and students in pharmacy programs, as well as those enrolled in master's programs in cell biology, pathology, and medical physics. However, a detailed breakdown of the courses she has taught and the duration of each (in years) is missing from the documentation.

Supervision of Graduates and Doctoral Students
After her habilitation, Assoc. Prof. Topuzova-Hristova supervised two students who successfully defended their bachelor's theses and three who successfully defended their master's theses. She is currently supervising two doctoral students. One of them, Ralitsa Veleva, was a part-time doctoral student who defended her dissertation on "Research of Extracts from Bulgarian Plants for Application in Medicine" in 2022. The other doctoral student is working on a topic titled "Influence of Probiotics and Their Products on the Cell Life Cycle and Functional Parameters of Human Keratinocytes." The provided information does not specify whether this student is full-time or part-time, nor does it clarify whether 2026 is the expected year of defense or completion.

Scientific and Applied Contributions

Publishing Activity
Associate Professor Tanya Topuzova-Hristova has submitted a total of 74 publications, of which 32 were published after 2014, following her appointment as Associate Professor. For this competition, she has submitted 25 publications, with 18 of these being indexed in globally recognized databases like WoS and Scopus. Of these, 9 are in Q1 journals, 6 in Q2, and 3 in Q3, contributing to a combined **Impact Factor of 50.818**. Two of these publications are in journals without an impact factor, and all of them are in English.

In addition to her research publications, Assoc. Prof. Topuzova-Hristova has contributed to 9 study aids, with 8 in Bulgarian and 1 in English.

Participation in Scientific Forums
In Appendix 7, titled "Scientific Contributions of Assoc. Prof. Tania Topuzova-Hristova," a list of 68 conference participations and other scientific forums is included. The titles of the presentations are provided, but many are listed under the vague term "Sectional Report." The document does not specify whether Assoc. Prof. Topuzova-Hristova was the speaker or if someone else presented on behalf of the section. Additionally, the names and locations of these conferences are not provided, making it difficult to assess the significance of these contributions.

Citations
Assoc. Prof. Topuzova-Hristova's work has been cited 238 times across 40 publications, with the majority of citations appearing in internationally recognized databases.

Participation in Scientific Projects
She has participated in 15 research projects, serving as the principal investigator for 2 of them, funded by the Scientific Research Fund. Additionally, she has participated in three projects funded by Sofia University "St. Kliment Ohridski".

Scientific and Applied Developments

Assoc. Prof. Topuzova-Hristova's research is concentrated in two main areas:

Investigation of the effects of plant secondary metabolites on bacteria and eukaryotic cells.
Study of cell penetration and the efficiency of new nanocarriers.
Her work has led to significant findings, including the effects of Bulgarian plant extracts like Haberlea rhodopensis on mitochondrial activity in human keratinocytes, and the development of techniques for fluorescent detection of nanosized particles entering cell membranes.

In applied science, she has contributed to the development of novel nanocomposite materials with broad-spectrum antimicrobial activity and the creation of vector systems for gene transfection.

Scientific Indicators
Assoc. Prof. Topuzova-Hristova is participating in this competition with:

25 scientific publications
Co-authorship of 9 teaching aids
238 citations
Supervision of a successfully defended doctoral student
Participation in 18 scientific and educational projects, with leadership in two
The total impact factor of her publications is **50.818**, with articles distributed as follows: **Q1 – 9 articles, Q2 – 6, and Q3 – 3.**

INDICATORS	Minimal requirements	Fulfilled requirements
Group A	50	50
Group B	100	140
Group G	220	250
Group D	120	332
Group E	150	282
General:	640	1044

Upon review, some inaccuracies were found in the calculation of points by Assoc. Prof. Topuzova-Hristova, which, when corrected, still show that she exceeds the minimum required indicators by nearly 40%. See Table.

Recommendations
Assoc. Prof. Topuzova-Hristova is a well-established educator and researcher. While she has co-authored many studies, it is recommended that she focus on leading more research projects, as evidenced by being the last author on more publications. Additionally, it would be beneficial for her to ensure that her documentation is more orderly and accurate.

Personal Impressions
My professional acquaintance with Dr. Tanya Topuzova-Hristova spans over 30 years. I have observed her dedication to teaching and her deep connection with students, as well as her scientific curiosity and expertise in cell biology. She is a gifted teacher and a dedicated scholar.

Conclusion

Based on the analysis of her teaching and scientific activities, it is clear that Associate Professor Tania Topuzova-Hristova possesses the necessary qualities of a scientist and educator. She meets all the requirements for the academic position of "Professor" at Sofia University "St. Kliment Ohridski". Therefore, I strongly recommend her election to this position.

Sofia, 31 of July 2024 **Prof. George Miloshev**