

OPINION

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On the documents in a competition for the academic position "Associate Professor" in the field of higher education: 4. Natural sciences, mathematics and informatics, Professional field: 4.3. Biological Sciences, Scientific specialty: Biophysics, for the needs of the section "Lipid-protein interactions" at the Institute of Biophysics and Biomedical Engineering - Bulgarian Academy of Sciences (BAS), announced in the State Gazette - №69/ 16.08.2024.

Only candidate for participation in the competition: Assistant Professor Rusina Lachezarova Hazarosova, PhD

1. Correspondence of the applicant's submitted documents with the required documents, according to the Regulations for occupying academic positions at the Institute of Biophysics and Biomedical Engineering-BAS

All documents, submitted by Assistant Professor Rusina Lachezarova Hazarosova, PhD, for participation in the announced competition for the academic position of "Associate Professor" fully meet the requirements of the Law on the Development of the Academic Staff in Republic of Bulgaria, the Regulations for its application and the Regulations for occupying academic positions at the Institute of Biophysics and Biomedical Engineering -BAS.

2. Brief biographical data about the candidate

From the presented CV of Assistant Professor Rusina Hazarosova, it can be seen that after completing her secondary education at the "Hristo Botev" Secondary School in Nova Zagora, profile: Biology, she continued her higher education at the New Bulgarian University, Sofia, where in 2000 she received a bachelor's degree. From 2001 to 2003 she studied in the master's program "Cell Biology and Pathology" at the Faculty of Biology, Sofia University "St. Kliment Ohridski", where she defended her diploma thesis on the topic "Changes in the characteristics of A549 cells in the period after treatment with halothane" in the Department of "Cytology, Histology and Embryology". From 2013 to 2016, Rusina Hazarosova was a PhD student in the section "Lipid-Protein Interactions" of the Institute of Biophysics and Biomedical Engineering - BAS, where she successfully defended her PhD dissertation on the topic "Influence of Biologically Active Molecules on Membrane Organization" with scientific supervisor Prof. Galya Staneva, PhD, and scientific consultant Prof. Albena Momchilova in the professional field: 4.3. Biological Sciences, scientific specialty: Biophysics. The PhD thesis investigated the effect of structural membrane lipids (*aminophospholipids*

phosphatidylcholine and phosphatidylethanolamine, containing the polyunsaturated ω -3 docosahexaenoic fatty acid, phosphatidylcholine and phosphatidylethanolamine, as well as the oxidized phospholipid palmitoyl-oxovaleroyl phosphatidylcholine) on the formation and stability of microdomains of the “rafts” type in model membrane systems. In addition, the impact of biologically active compounds *resveratrol* and *xylooligosaccharides* on the structure and membrane organization, on model membrane systems and isolated liver plasma membranes was also studied. To achieve the goals, modern methods for the formation and visualization of giant unilamellar, multilamellar and large unilamellar vesicles, differential scanning calorimetry, fluorescence microscopy, Laurdan fluorescence spectroscopy and other highly informative techniques were used.

From the certificate attached to the documents, it can be seen that at the present time Assistant Professor Rusina Hazarosova has over 22 years of work experience in her specialty, and from 2004 to the present she has been successively a specialist biologist (2004-2007), assistant professor (2007-2011) and senior assistant professor (from 2017 to the present) at the Institute of Biophysics and Biomedical Engineering - BAS.

3. Evaluation of the candidate's scientific, applied scientific and publication activities.

Until now, Assistant Professor Rusina Hazarosova has co-authored 23 publications, of which 18 scientific articles have been published in refereed and indexed in world-renowned databases of scientific information journals (*Web of Science and Scopus*) with an impact factor, and 5 publications - in a journal with SJR. She is the first author in 2 of the publications, and the last author in 3 publications. The distribution of her articles by quartiles is respectively: 8 publications - in journals with Q1, 6 publications - in journals with Q2, 5 - in journals with Q3 and 4 - in journals with Q4. She has 44 participations in National and International conferences, as well as 15 participations in scientific research projects.

The scientific topics of the publications of Asst. Prof. Hazarosova, with which she participates in the current competition, is aimed at studying the composition and structure of biological membranes (in particular lipid rafts), by forming biomimetic model membranes to establish the functioning of the cell membrane in norm and pathology. The main scientific contributions are described, related to a detailed study and demonstration of new aspects in the mechanism of action of natural antioxidant agents - *miconoside* from the Balkan endemic and relic *Haberlea rhodopensis* on normal canine renal epithelial (MDCKII) cells and on human lung adenocarcinoma A549 cells; the polyphenol *resveratrol* on sphingolipid metabolism in human lung adenocarcinoma A549 cells and on the structural organization and biophysical properties of two heterogeneous in the degree of unsaturation of the fatty acid at the sn-2 position of phosphatidylcholine containing model lipid membranes.

The minimum requirements of the National Center for Information and Documentation (NACID) and the Regulations for occupying the academic position of "Associate Professor" at the Institute of Biophysics and Biomedical Engineering - BAS by groups of indicators in the scientific field 4. Natural Sciences, Mathematics and Informatics, professional direction: 4.3. Biological Sciences in the scientific specialty "Biophysics", are described in the table below. For comparison, the indicators of Assistant Professor Rusina Lachezarova Hazarosova for her participation in the competition also are shown.

Group of indicators	Content	Minimal National Requirements for an Associate Professor	Minimal Requirements of Institute of Biophysics and Biomedical Engineering, BAS for an Associate Professor	Scoring of Assistant Professor Rusina Lachezarova Hazarosova, PhD
A	Indicator 1	50	50	50
B	Sum of indicators 3-4	100	100	117
Г	Sum of indicators 5-10	200	220	231
Д	Sum of indicator 11	50	60	96
TOTAL NUMBER OF POINTS BY INDICATORS		400	430	494

In the current competition for the academic position of "Associate Professor" Assistant Professor Rusina Hazarosova has presented **19 scientific publications** in refereed and indexed publications in world-renowned databases of scientific information (*Web of Science and Scopus*), of which **14 in journals with an impact factor** (5 in Q1, 5 in Q2, 3 in Q3 and 1 in Q4) and **5 in journals with SJR** (2 in Q3 and 3 in Q4). The total impact factor of the 19 publications presented in the competition is 41.019, and the number of citations noted is 48 (excluding self-citations). The Hirsch index (h-index) of the candidate based on the publications included in the database of scientific information is 5 (<https://www.scopus.com/authid/detail.uri?authorId=22734061500>). The total number of points, based on the values of the quartiles of the publications in which the scientific papers were published, is 348 points (the sum of indicators B and Г).

According to **indicator A: Dissertation work for the award of the educational and scientific PhD degree** Assistant Professor Hazarosova presented an abstract and a diploma No. 000766/09.08.2026 from the Institute of Biophysics and Biomedical Engineering – BAS. The PhD thesis "*Influence of biologically active molecules on membrane organization*" was successfully defended on 27.07.2016. The results of the dissertation have been published in 3 scientific articles - two in journals with Q1 and one - in Q2.

Regarding **indicator B**: *Scientific publications in publications that are refereed and indexed in world-renowned databases of scientific information (Web of Science and Scopus)*, the candidate in the competition has submitted **6 scientific articles** published in the period 2020-2024 (two of them are in journals with Q1; two – in journals with Q2, and one publication in journals with Q3 and Q4). **The points from the publications under this indicator cover the necessary legal requirements – 117 points, with a minimum required of 100 points.**

13 scientific articles published in the period 2005-2023 were presented by Assistant Professor Khazarosova for covering the requirements under **indicator Г.7**: *Scientific publication in publications that are referenced and indexed in world-renowned databases with scientific information (Web of Science and Scopus)*. Distributed by quartiles, these articles have been published in scientific journals as follows: Q1 – 3 scientific articles, Q2 – 3 scientific articles, Q3 – 4 articles and Q4 – 3 scientific articles. **The total sum of the points under indicator Г is 231 points with a minimum required of 220 points, according to the legal requirements for occupying the academic position of “Associate Professor” in Institute of Biophysics and Biomedical Engineering-BAS.**

In addition, Assistant Professor Rusina Hazarosova has provided evidence of **48 citations** to meet the requirements of **indicator Д**: *Citations in scientific publications, monographs, collective volumes and patents, referenced and indexed in world-renowned databases of scientific information (Web of Science and Scopus)*. **The total number of points under this indicator is 48 citations x 2 points = 96 points, with a required minimum of 60 points, according to the requirements of Institute of Biophysics and Biomedical Engineering -BAS.**

4. Evaluation of the candidate's personal contribution

After reviewing the attached documents of Assistant Professor Rusina Hazarosova in the announced competition for "Associate Professor" at the Institute of Biophysics and Biomedical Engineering - BAS, I confirm that the 19 scientific publications with which she participates in this competition, the results obtained, the formulated scientific contributions, her participation in 44 National and international scientific conferences, her leadership and participation in 15 National and international scientific projects have been implemented with her active participation and are her personal merit.


In conclusion, Assistant Professor Hazarosova meets the minimum national requirements in the professional field and no plagiarism has been established in the scientific publications with which she participates in the competition.

5. Conclusion

After careful consideration of the submitted documents for participation in the announced competition for the academic position "*Associate Professor*" in the field of higher education: 4. Natural sciences, mathematics and informatics; Professional field: 4.3. Biological sciences, Scientific specialty: Biophysics, announced in the State Gazette - issue 69 of 16.08.2024, I confidently state that the only candidate Assistant Professor Rusina Lachezarova Hazarsova, PhD meets the minimum national requirements of the National Center for Information and Documentation and meets the conditions and procedure set out in the Act on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the Regulations for the Occupancy of Academic Positions at the Institute of Biophysics and Biomedical Engineering-BAS.

I CONVINCEDLY SUGGEST Assistant Professor Rusina Lachezarova Hazarsova, PhD to occupy the academic position "*Associate Professor*" in the field of higher education: 4. Natural sciences, mathematics and informatics; Professional field: 4.3. Biological Sciences, Scientific specialty: Biophysics, for the needs of the "*Lipid-Protein Interactions*" section of the Institute of Biophysics and Biomedical Engineering - Bulgarian Academy of Sciences.

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Author of opinion: 

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