

OPINION

on a competition for filling the academic position of "Professor"
in Professional Field 4.2. Chemical Sciences, Scientific Specialty "Physical Chemistry",
for the needs of the Section "Surfaces and Colloids" at the Institute of Physical Chemistry
"Rostislav Kaishev", Bulgarian Academy of Sciences (IPC-BAS)
announced in the State Gazette, issue 41 of May 20, 2025
with candidate Assoc. Prof. Dr. Viktoria Milkova Nakova
Member of the scientific jury: Prof. DSc Petar Dimitrov Petrov (Institute of Polymers - BAS)

1. General characteristics of the candidate's research and applied scientific activities.

The only candidate in the competition is Assoc. Prof. Dr. Viktoria Milkova Nakova, head of the "Surfaces and Colloids" section at the IFC-BAS. The research activity of Assoc. Prof. Milkova is focused on studying the adsorption of polyelectrolytes on various micro- and nano-sized solid particles, liposomes and emulsion droplets in aqueous media, analysis of the electrical properties of the formed colloidal systems and their stability. Assoc. Prof. Milkova is the author of 41 scientific articles, most of which have been published in renowned international journals with an impact factor such as J. Colloid Interface Sci., Colloids and Surfaces A: Physicochemical and Engineering Aspects, Biomacromolecules, Langmuir, Colloids and Surfaces. B: Biointerfaces, Carbohydrate Polymers, etc. She submitted in the competition for "professor" 16 publications, which were published after her appointment to the academic position of "associate professor" on 01.01.2015 and do not repeat articles from previous competitions. The results presented by Assoc. Prof. Milkova in this competition have been published in refereed and indexed international scientific publications in world-known databases - 8 publications in journals in quartile Q1, 6 publications in Q2, 1 publication in Q3 and 1 book chapter. The candidate is the sole author of 5 of the listed articles and corresponding author of 7 of the remaining 11 works, which is a proof of the leading role in the given scientific production.

The quantitative indicators (points) satisfy the minimum requirements for acquiring the academic position of "professor" in Professional Field 4.2 "Chemical Sciences" of the Development of Academic Staff in the Republic of Bulgaria Act, as well as the adopted minimum requirements of the BAS and the IPC. The distribution of points by individual groups of indicators is shown in the table below:

Group of indicators	A	B	C	D	E	F
Minimum required points for Professional Field 4.2. Chemical Sciences according to the Act	50	-	100	200	100	150
Minimum requirements of BAS and IPC	50	-	100	220	120	150
Candidate's points	50	-	110	225	122	369

2. Main fundamental and applied scientific contributions.

Milkova's scientific research covers modern topics and is characterized by high quality. Original results have been obtained that contribute to enriching knowledge in the field of physical chemistry, colloidal chemistry and materials science. In a series of publications, the relationship between the physicochemical characteristics of some widespread polysaccharides (chitosan and alginate) and their ability to stabilize model colloidal systems has been studied. Various effects have been found between the type and molecular characteristics of polymers and their adsorption on the surface of given particles. Original polysaccharide-containing carriers for the delivery and controlled release of bioactive substances have been developed. Stable liposomes loaded with a multicomponent aqueous extract of medicinal Bulgarian plants have been obtained. A new procedure for fabricating films on emulsion capsules by using a low concentration of drops and polysaccharides at low ionic strength of the medium has been developed. Chitosan nanogels loaded with a corrosion inhibitor have been obtained and characterized and then embedded in a zinc coating in order to increase its corrosion resistance.

3. Candidate's scientific publications in the Bulgarian and foreign literature.

According to a search in Web of Science (16.09.2025), the papers of Assoc. Prof. Milkova have been cited by other authors 238 times (H – index 12). Regarding the works submitted in the competition for "professor", 50 citations (excluding self-citations) were registered, which is a good achievement taking into account the fact that most of the candidate's articles have been published in the last five years and have yet to be exploited by the scientific community.

4. Critical comments and recommendations on the candidate's scientific works.

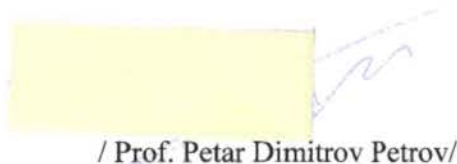
I have no comments and recommendations on the candidate's works.

CONCLUSION

The presented works of Assoc. Prof. Milkova are original, significant and high-quality and contribute to the development of various subfields of science worldwide. The candidate's research production exceeds the minimum requirements set out in the Development of Academic Staff in the Republic of Bulgaria Act and the Regulations for its implementation, as well as the accepted criteria of the Bulgarian Academy of Sciences and the Institute of Chemical Sciences for acquiring the academic position of "Professor" in Professional Fields 4.2 "Chemical Sciences". The fulfilment of this formal requirement, the high value of the scientific outcomes and the active participation of the candidate in various projects and training activities, gives me reason to confidently give my positive assessment and recommend to the Distinguished Members of the Scientific Council of IPC-BAS to support the election of Assoc. Prof. Milkova, at the academic position of " Professor" in the Professional Field 4.2. Chemical Sciences for the needs of Section "Surfaces and Colloids".

Date

18.09.2025.


/ Prof. Petar Dimitrov Petrov/