

POSITION

by **Prof. Krastena Todorova Nikolova - Department of "Physics and Biophysics" of the University of Varna**

on the materials submitted for participation in the competition
for occupying the academic position of "**professor**"
of **Plovdiv University "Paisiy Hilendarski"**

in: field of higher education **Natural sciences, mathematics, and informatics**

professional direction **Physical sciences (Condensed Matter Physics)**

In the competition for "professor", announced in the State Gazette, no.92 from **18.11.2022** and on the website of Plovdiv University "Paisiy Hilendarski" for the needs of the department of **Physics** in the faculty **Physico-technological**, as a candidate participates **Maria Georgieva Marudova-Zhivanovich** from the Department of Physics of "Paisiy Hilendarski" (PU)

1. General presentation of the procedure and the candidate

By order no RD-21-330/15.02.2023 of the Rector of Plovdiv University "Paisiy Hilendarski" (PU) I have been appointed as a member of the scientific jury of the competition for the academic position "**professor**" at **PU** in the area of higher education 4. **Natural sciences, mathematics and informatics**, professional direction 4.1. **Physical sciences (Condensed Matter Physics)**, were announced for the needs of the department **Physics** of the **Physico-technological faculty**.

The documents for participation in the announced competition single **candidate** were submitted:

Assos. Prof. Maria Georgieva Marudova-Zhivanovich, Ph.D., Department of Physics, faculty Physico-technological at PU "Paisiy Hilendarski".

The presented by Assoc. Prof. **Maria Georgieva Marudova-Zhivanovich** set of hard copy materials is in accordance with the Regulations for the Development of the Academic Staff of the PU and includes the following documents:

1. Application form to the rector for admission to the competition;
2. European format autobiography;
3. Diploma for higher education with an acquired educational and qualification degree "master" - original with attachment or notarized copy;
4. Diploma for educational and scientific degree "doctor" - original or notarized copy;

5. Diploma (certificate) for the academic position "associate professor" - original or notarized copy;
6. List of scientific works;
7. Academic works (copies of publications);
8. Certificate of compliance with the minimum national and additional faculty requirements (if any);
9. Declaration of originality and authenticity of the attached documents;
10. Annotations of the materials under Art. 76. from PRASPU (in Bulgarian and a foreign language);
11. Extended habilitation reference
12. Self-assessment of contributions;
13. List of citations;
14. Document (certificate) of work experience;
15. Documents of academic work;
16. Scientific research documents;

The candidate **Assos. Prof. Maria Georgieva Marudova-Zhivanovich** has applied 64 scientific papers, 1 patent, 1 book chapter, 2 textbooks and teaching aids, and a list of 60 research developments. 40 scientific works were accepted for review, which are outside the dissertation and are counted in the final evaluation, 2 study aids, 1 patent, 1 book chapter, and 17 research projects. 2 research papers on the dissertation and 17 research papers were used for the position of Associate Professor that have not been reviewed. All papers submitted for review in the competition are in the Web of Science and Scopus databases.

The candidate **Assos. Prof. Maria Georgieva Marudova-Zhivanovich** has acquired:

- 1) the scientific degree doctor in Chemistry of high molecular compounds in 2007;
- 2) the scientific title "**Assos. Prof.**" in 2009;
- 3) according to the attached references, she has experience as an associate professor for over 13 years;
- 4) the research and teaching experience, including lecturing courses, one Ph.D. student successfully defended.

I know **Maria Marudova-Zhivanovich** from the time when I was a student at the Faculty of Physics of PU. Prof. Marudova-Zivanovich (then assistant Marudova) explained

the tasks in Molecular Physics and Optics to us with great diligence and professionalism and taught us precision in preparing the protocols with experimental data in the mentioned disciplines. Her correctness, precision, and dedication in the execution of experimental research also led to our fruitful collaboration afterward as colleagues working in different universities but in the same field of Applied Physics.

2. General characteristics of the activity of the candidate/s

Associate Professor Maria Marudova-Zhivanovich has research experience: she took part in the competition with 40 articles in reputed international journals with impact factor or impact rank, participation in the writing of 1 textbook and 1 teaching aid in physics, published by the PU university publishing house.

She is involved in one patent for an invention. **No. 67404 B1, Title: Preparation of water-insoluble glucan by a transferase enzyme reaction.** She took part in 18 international and national forums with international participation after acquiring JSC Docent. She has given lectures on Erasmus + at Corvinus University of Budapest, Hungary, and at the University of Technology, Athens, Greece. She participated in 2 international, 8 nationals, and 7 university research projects, being the head of 6 of them (3 national and 3 universities). She is on the editorial board of 2 scientific publications Polymers, MDP and bioengineering International, IS. 20 of the publications taking part in the competition are in journals with an impact factor, with the total number of IFs being 50.9 (out of 96.6) and-index 10 (according to Scopus).

The contributions of the scientific developments of **Associate Professor Maria Marudova-Zhivanovich** I would define as scientific-applied, related to the physical properties of polymer materials and food products. I accept the candidate's division of them into four groups, namely:

- ❖ Development of polyelectrolyte multilayer films from natural polymers and establishing their potential to incorporate different classes of biologically active substances.
- ❖ Study of physical and physicochemical properties of food products.
- ❖ Development of edible packaging based on biopolymers.
- ❖ Investigation of physical properties of polymer films.

Apart from vigorous scientific activity, **Associate Professor Maria Marudova-Zhivanovich** has a heavy educational load. In the last 5 academic years, she has

had more than 600 hours of average annual workload. She carries out courses and has developed electronic materials in Mechanics, Molecular physics and thermodynamics, Physics 1 - mechanics and molecular physics, High molecular compounds, Application of polymers in medicine and biotechnology, Fundamentals of electronics, Polymers in electronics and telecommunications for students studying at the Faculty of Physics and Technology of Plovdiv university. She is the scientific supervisor of 16 graduate students, the supervisor of two full-time doctoral students, and one with the right of defense.

3. Critical remarks and recommendations

I have no critical notes or recommendations.

CONCLUSION

The documents and materials submitted by **Associate Professor Maria Marudova-Zhivanovich** answer to all requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the Implementation of ZRASRB and the relevant Regulations of PU "Paisiy Hilendarski".

The candidate in the contest introduced enough scientific works (44) published after the materials used in defense of the ONS "Doctor" and AP Docent. The candidate's works contain original scientific and applied contributions that have received international recognition, all of which have been published in international databases. The scientific and teaching qualifications of **Associate Professor Maria Marudova-Zhivanovich** is **undoubted**.

Achieved by **Associate Professor Maria Marudova-Zhivanovich** results in educational and research activities, **completely** correspond to the minimum national requirements, adopted in connection with the Rules of the PU for the application of the ZRASRB.

After getting acquainted with the materials and scientific works presented in the competition, analyzing their significance and the scientific, scientific-applied, and applied contributions in them, I find it reasonable to give my positive evaluation and recommendation to the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty **Physico-technological** for the selection of the academic position "professor" at PU "Paisiy Hilendarski" in the field of higher education 4. **Natural sciences, mathematics, and informatics**, professional direction 4.1. **Physical sciences (Condensed Matter**

Physics).03.04. 2023

Opinion prepared by: Prof. Kr. Nikolova

(signature)