

OPINION

**by Prof. Nikola Malinowski,
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regarding the competition for occupying the academic position 'Professor' in in the Institute of Optical Materials and Technologies "Akad. J. Malinovski "at the Bulgarian Academy of Sciences in Professional field 4.1. Physical sciences and scientific specialty "Physics of wave processes"

The "Professor" competition is announced in State Gazette no 12 of 11.2.2020 and has a single candidate Assoc. Prof. Dr. Dimana Ilieva Nazarova from Institute of Optical Materials and Technologies "Akad. J. Malinovski" at the Bulgarian Academy of Sciences (IOMT – BAS).

1. General presentation

The materials presented by Assoc.Prof. Dimana Nazerova are in compliance with the Law on Development of Academic Staff in the Republic of Bulgaria and the Regulations for the Development of the Academic Staff of IOMT - BAS and include all necessary documents for participation in the competition.

Dimana Naserova is a co-author of 91 scientific publications, including 71 with IF and/or SJR and a chapter of a book. She has 132 citations of scientific papers and 111 participations at international and national conferences. She is a leader of 5 projects and is a participant in 13 scientific and educational projects.

Ass.Prof. Dimana Naserova participated in the competition with 21 articles in journals with impact factor or impact rank of which 8 were with factor Q1, 4 had factor Q3, 6 had factor Q4 and 3 were with SJR. They meet the requirements of NACID – indicator C and indicator D.

Assoc. Prof. Dr. Dimana Nazarova has been an Associate Professor at the Institute of Optical Materials and Technologies "Akad. J. Malinovski" since 2011 year and since then she has been a member of the Scientific Council of IOMT. She has been Chairman of the General Assembly of IOMT Scientists since 2012 year and she is Head of the Optical Metrology and Holography Department at IOMT.

The presented by Assoc. Dimana Nazerova scientific activities fully comply with the minimum national requirements for 4.1. Physical sciences:

According to criterion A (min. 50 points) - 50 points

She received a PhD in Physics of Wave Processes in 2009, defended before the Higher Attestation Commission with topic " Optical resonances in periodic and scattering structures".

According to criterion B (min. 100 points) - 105 points

According to criterion Г (min. 220 points) - 257 points

According to criterion Д (min. 120 points) - 138 points

According to criterion E (min. 150 points) - 281 points

E-14 (participation in a national scientific or educational project) - 100 points;

E-15 (participation in an international scientific or educational project) - 60 points;

E-16 (Management of a national scientific or educational project) -100 points;

E-18 (Raised funds for projects managed by the applicant) - 21 points;

2. General characteristics of the candidate's activity

Assoc. Prof. Dr. Dimana Nazarova has many active and diverse activities in research, in her participation in national and international projects and programs, as well as in the training of students and doctoral students.

Scientific and applied activities

The main scientific and applied activities of Assoc. Dimana Naserova is in the field of holographic recording (polarization and art holography), materials for holographic recording, anisotropic and hybrid materials. Scientific contributions are both fundamental and applied and can be grouped into two main directions:

I. Development, optimization and application in the polarization holography of new hybrid organic/inorganic media for optical recording based on azopolymers, dyes and nanoparticles of different composition and size.

There was a significant improvement in the photo response (increase in two-beam fractures up to 40 percent) of the resulting hybrid layers compared to the undoped ones and the stability of the photoinduced birefringence in all samples.

II. Development of theoretical models for diffraction optical structures, for the study of the optical response of composite materials, as well as approaches for applying dynamic speckle analysis.

Theoretical models of the optical response of complex diffraction structures consisting of mixed volume and relief diffraction gratings have been developed; and the dynamic speckle analysis is applied to different objects.

Teaching work and participation in funded contracts

Assoc. Prof. Dr. Dimana Nazarova participated in 18 research projects and she is a coordinator of five of them. She is the supervisor of 12 graduated students, two of whom have a master's degree, three have a bachelor's degree, and seven interns. At the moment she is a supervisor of two PhD students in the final years. She leads her doctoral lecture courses for specialized training in "Photosensitive materials for optical recording: reversible and irreversible new type of organic-inorganic composites" at the Training Center of BAS;

CONCLUSION

The documents and materials presented by Assoc. Prof. Dimana Ilieva Nazarova PhD, meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, as well as the Specific additional requirements of the Institute of Optical Materials and Technologies "Akad. J. Malinovski" at the Bulgarian Academy of Sciences, as publications and scientific activities exceeding the minimum national requirements for occupying the academic position "Professor". The candidate's works contain original scientific and applied contributions that have received international recognition through their publication in journals and scientific publications published by international academic publishers. Based on all this, I without hesitation support the candidacy of Assoc. Prof. Dimana Ilieva Nazarova PhD for the academic position of "Professor" at IOMT - BAS.

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