

**Review**  
**by Prof. Dr. Marieta Ivanova Kostianeva, PhD**  
**Competition for the academic position of “Associate Professor” in the**  
**specialty “Ophthalmology,” Medical University – Varna**  
**Candidate: Dr. Elitsa Gercheva Hristova, PhD**

Dr. Elitsa Gercheva Hristova is the sole candidate for the academic position of “Associate Professor” in the specialty “Ophthalmology,” professional field 7.1 “Medicine,” in the area of higher education “7. Healthcare and Sports” – one position, 0.5 FTE at the Department of Optometry and Occupational Diseases, Faculty of Public Health, and one full-time position at USBOBAL – Varna Ltd.

**Brief Biographical Information**

Dr. Elitsa Gercheva Hristova was born in 1987. In 2012, she graduated with a Master's degree in Medicine from the Medical University – Varna. From 2013 to 2017 she specialized in “Ophthalmology” at the Department of Ophthalmology and Visual Sciences at MU-Varna. Between 2013 and 2016, she was a full-time PhD student in the Department of Ophthalmology and Visual Sciences, in the specialty “Ophthalmology,” Medical University – Varna. She successfully defended her dissertation titled: “Microstructural characteristics of changes in the macula in socially significant retinal diseases.” Between 2022 and 2024 she obtained an additional qualification – a Master’s degree in “Health Management and Medical-Social Care,” MU-Varna.

From 2016 to 2020, Dr. Elitsa Hristova held the position of “Assistant,” in the specialty Optometry, Department of Optometry and Occupational Diseases at MU-Varna. Since 2020, she has been a Chief Assistant in the same department at Medical University “Prof. Dr. P. Stoyanov” – Varna. Since 2020 she has also worked as a specialist physician in ophthalmology at USBOBAL – Varna.

Dr. Elitsa Hristova is proficient in English and has good computer literacy.

**Teaching Activity**

Dr. Elitsa Hristova's teaching career began in 2016. According to the provided report, the candidate had an average teaching load of 361 academic hours over three academic years: 2020–2021, 2021–2022, and 2022–2023, conducting exercises for Bulgarian and English students (with a normative of 220 hours). Her teaching experience is more than 8 years. She has co-authored a textbook with a total volume of 352 pages. Dr. Elitsa Hristova lectures and leads exercises for students in the “Optometrist” specialty and exercises in ophthalmology for the “Medicine” specialty. She has supervised 4 diploma students.

**Scientific Research Activity**

In the present competition for Associate Professor, Dr. Elitsa Hristova participates with one

dissertation for the award of the educational and scientific degree “Doctor,” defended in 2016: “Microstructural characteristics of changes in the macula in socially significant retinal diseases.” The candidate presents one monograph, published in 2024, titled “Refraction – Clinical Principles and Algorithms,” totaling 160 pages. Dr. Elitsa Hristova has 33 publications in journals and collections, with a total volume of 224 pages. According to the provided academic report (publications, citations, and profiles for applying for the academic position of “Associate Professor”), the candidate has 5 publications in scientific journals indexed in world-reknowned scientific databases. It is notable that the works are published in high-impact journals: *Contact Lens and Anterior Eye* – IF 3.7, *Diagnostics* – IF 3.3, *Journal of Public Health* – IF 3.1, *Healthcare* – IF 2.7, *Knowledge International Journal* – IF 2.1. In the category of publications and works published in non-indexed peer-reviewed journals, 12 publications are listed. With the total number of points accumulated from the publications, the defended dissertation, and the published monograph, the candidate exceeds the required 200 points for the position of Associate Professor. In more than half of the publications, Dr. Elitsa Hristova is listed as the first or second author. The number of citations in indexed journals (according to the report) is 4. Dr. Elitsa Hristova has delivered 29 scientific presentations in Bulgaria and 8 in international scientific forums. Her project activity includes participation in 5 projects.

The main areas in Dr. Elitsa Hristova’s scientific work are:

1. Refraction – clinical principles and algorithms
2. Microstructural changes and prevention of anterior ocular surface damage
3. Diabetic retinopathy and other socially significant retinal diseases – epidemiology, microstructural characteristics, and diagnostic methods
4. Modern diagnostic technologies and digitalization in ophthalmology
5. Rare eye diseases and interdisciplinary approach

#### **Field 1: Refraction – Clinical Principles and Algorithms**

This topic is addressed in the monograph of the same name.

Modern algorithms for clinical refraction assessment and selection of optical correction, including multifocal lenses, are developed and presented. A detailed comparative analysis of two automated methods for determining interpupillary distance (PD) for far vision – autorefractometry and pupilometer – has been conducted. The main steps and methods in refraction assessment are systematized and clearly described. Special attention is paid to the specifics of selecting multifocal lenses for patients with presbyopia. Common clinical challenges in PD measurement are identified and practical approaches are proposed.

#### **Field 2: Microstructural Changes and Prevention of Anterior Ocular Surface Damage**

Relevant publications include:

- 7.1: “UV damage of the anterior ocular surface – microstructural evidence by in vivo confocal microscopy”

- 8.1: “Modern approaches in the biological therapy of the anterior ocular surface”

Microstructural changes in the basal epithelium of the cornea and cystic alterations in the conjunctiva after UV exposure were demonstrated, which are clinically undetectable by standard methods. Preventive guidelines are proposed against cumulative microstructural damage to the anterior ocular surface caused by UV radiation. Contemporary approaches to treating the anterior ocular surface using serum eye drops, ensuring safety and efficacy, are systematized.

### **Field 3: Diabetic Retinopathy and Other Socially Significant Retinal Diseases – Epidemiology, Microstructural Characteristics, and Diagnostic Methods**

Included publications:

- 7.3: “Prevalence of diabetic retinopathy among diabetic patients from Northeastern Bulgaria”

- 7.5: “Diabetic Retinopathy Screening and Registration in Europe—Narrative Review”

- 8.4: “Structural changes in the macula in diabetic patients”

This field also includes Dr. Hristova’s dissertation: “Microstructural characteristics of changes in the macula in socially significant retinal diseases,” 2016.

An up-to-date epidemiological assessment of the prevalence of diabetic retinopathy in Northeastern Bulgaria has been prepared, considering diabetes type, treatment, and demographic factors. For the first time, a comprehensive comparative analysis of microstructural changes in the macula in socially significant diseases (including age-related macular degeneration, central retinal vein occlusion, and central serous chorioretinopathy) has been performed using optical coherence tomography (OCT). Specific OCT features have been identified. The advantages and limitations of OCT versus fluorescein angiography are outlined, aiding optimal diagnostic choices in clinical practice. A detailed diagnostic protocol for conducting and interpreting OCT studies is proposed. Significant correlations between microstructural macular changes and visual acuity are identified.

### **Field 4: Modern Diagnostic Technologies and Digitalization in Ophthalmology**

Included publication:

- 8.2: “Communication and image archiving systems – the future of modern ophthalmology”

The article presents the innovative diagnostic platform FORUM (Zeiss, US) and its capabilities for early detection and monitoring of glaucoma and retinal diseases. It discusses the use of artificial intelligence algorithms in diagnosis and individualized treatment of ocular diseases.

### **Field 5: Rare Eye Diseases and Interdisciplinary Approach**

Included publication:

- 8.3: “Usher syndrome—The most common reason for deaf-blindness”

The clinical and genetic characteristics of Usher syndrome are examined as a rare ocular

disease with severe multisensory manifestations. The need for interdisciplinary coordination in diagnosing and managing patients with Usher syndrome is emphasized, aiming to improve their quality of life.

### **Conclusion**

The primary scientific research activity of Dr. Elitsa Hristova is focused on refraction and its principles and algorithms, diabetic retinopathy, and microstructural changes identified by OCT in both this and other retinal diseases. She has also authored works on corneal damage due to UV radiation, demonstrated through in vivo confocal microscopy. Dr. Hristova's monograph can be regarded as a comprehensive guide to refraction examination following a strictly defined sequence. The candidate systematizes both the theoretical foundations of light and ocular optics and diagnostic algorithms for determining refraction in clinical practice. Progressive and multifocal lenses are effective means for presbyopia correction, and Dr. Hristova emphasizes that patient satisfaction depends not only on the precise dioptic value but also on competent selection of the optical product, lens design, and accurate measurement of individual parameters (monocular PD, vertex distance, etc.). Dr. Elitsa Hristova's publications and presentations address current scientific issues. Her presented research output opens new horizons for her development. The diagnostic methods she has mastered in clinical optics, as well as modern diagnostic techniques such as OCT, in vivo confocal microscopy, the innovative diagnostic platform FORUM, etc., provide a foundation for future scientific achievements. Dr. Hristova possesses profound theoretical knowledge and practical skills, particularly in the field of optometry. In both volume and quality, her scientific output meets the requirements for the academic position of "Associate Professor" at MU-Varna. I propose the academic jury vote "in favor" of awarding the academic position of "ASSOCIATE PROFESSOR" to Dr. Elitsa Hristova.

**30.07.2025**

  
**Prof. Marieta Kostianeva, MD, PhD**