

## **REVIEW**

from

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### **Subject**

Competition for the academic position of "Associate Professor" in Ophthalmology, field of higher education 7. "Health and Sports", one half-time position, for the needs of the Training Sector "Medical Optician" at the Medical College, MU - Varna and half-time position in the clinical base (Specialized Hospital for Ophthalmology for Active Treatment - Varna, EOOD), announced in SG no. 14 / 18.02.2022.

By order №R-109-166 of the Rector of MU - Varna and protocol №44 / 30.03.2022 of the Academic Council of MU - Varna I was appointed a member of the scientific jury, with protocol № 1 / 29.04.2022 of the meeting of the scientific jury has chosen me to prepare a review.

Only one candidate participates in the competition announced under the rules – Chief assistant professor Dr. Dimitar Ivanov Grupchev, MD, PhD, FEBO. The candidate has submitted documents for participation in the competition, in accordance with state and institutional requirements.

On the basis of the presented evidence I have made a precise assessment, complying with the requirements of the law on the development of academic staff in the Republic of Bulgaria, the regulations for its implementation and the regulations for the development of the academic staff of the Medical University - Varna.

### **Abbreviated CV**

Dr. Dimitar I. Grupchev was born in a family with medical traditions on May 6, 1991. He graduated "Medicine" at the Medical University - Varna in 2016. (diploma № 003798 / 04.10.2016). Two years later, he obtained a second master's degree in health management. At the same time he was enrolled as a resident in ophthalmology at the base of MU-Varna - SBOBAL-Varna. After winning a contest from 01.03.2017 Dr. Grupchev has been appointed an assistant in the Training Sector "Medical Optician" at the Medical College - Varna, and from 15.09.2018 he was appointed head of the same unit. In 2017, Dr. Grupchev was enrolled as a full-time doctoral student at the Department of Ophthalmology and Visual Sciences at MU-Varna in the doctoral program "Ophthalmology" with the dissertation "Cellular and tissue therapy of the anterior ocular surface."

In 2021 he was awarded the PhD (diploma № 426 / 20.05.2021). From 01.06.2021 after defending his doctoral dissertation he held the academic position of Head assistant professor in the Training Sector "Medical Optician" at the Medical College, MU – Varna.

In December 2020, Dr. Grupchev successfully passed the exam in the specialty of ophthalmology and from January 2021 practices as ophthalmic specialist. That same year, he took two extremely prestigious exams, key to the career of every European ophthalmologist - EBO and ICO. Certificates for basic and clinical level of the International Council of Ophthalmology are provided.

The candidate's postgraduate training includes additional qualifications in ultrasound diagnostics, laser treatment, vitreoretinal surgery and ocular tissues transplantation. The attached certificates are proof of the active desire of the candidate to develop as an ophthalmologist and to constantly upgrade his surgical skills.

At the national level, Dr. Grupchev is a member of the Bulgarian Medical Association, the Union of Scientists in Bulgaria and the Bulgarian Society of Ophthalmology. At the international level, his membership of the European Board of Ophthalmology EBO (by examination) is very prestigious. His memberships in other European organizations such as the European Cataract and Refractive Surgery Association (ESCRS) and the European Retina Association (EuRetina) are also very prestigious. During his work as a doctoral student, he was a member of the Organization for Visual Research in Ophthalmology (ARVO).

The candidate has also conducted numerous trainings abroad, of which I would like to mention the Weill Cornell seminar in Salzburg, Venice Ophthalmology Summer School in Italy and the Balkan Wet-lab. Each of these educational activities requires an application process in a competitive European environment and is a guarantee of positive international recognition.

The candidate speaks English, French and Russian. He is married and has one child.

### **Research work and scientific production**

The candidate completed doctoral dissertation, the aim of which is to analyze the possibilities for cellular and tissue therapy of the anterior ocular surface by applying innovative technologies and testing methods for personalized treatment. As a result, he was able to develop algorithms for tissue processing, tailored to the specific conditions in Bulgaria. For his work the author uses the publicly available registers of the Executive Agency for Medical Supervision, clinical data of prospectively recruited patients, and also retrospective information (files of patients operated on the base where he works and specializes). All studies are performed in compliance with all regulations and ethical rules. The methodologies include theoretical analysis of the legislation, clinical analysis and detailed guidelines for transplantation in Bulgaria and the world. A questionnaire for testing the tendencies for transplantation in Bulgaria is also very impressive.

Algorithms for the application of grafts, biological products and medical devices for use in ophthalmology under the specific conditions in Bulgaria have been developed. Standard operating procedures for taking, processing, distribution, transport and application of cornea, sclera and limbal stem cells have been developed in accordance with the legislation in the Republic of Bulgaria. Experimental "production" and application of a biological product / medical device on the anterior ocular surface was performed. All clinical procedures are performed using innovative technology of the latest generation for microstructural assessment during surgery through three-dimensional microscopy and optical coherence tomography in real time.

In the thesis, a prospective analysis of 186 ocular transplantations was performed, of which 28 were corneal transplants. The data are compared with the results of a retrospective analysis of 2,050 amniotic membrane transplants performed by one surgeon over the past 10 years. The author concludes that the anterior ocular surface is a unique part of the visual analyzer.

Ocular surface health is expressed in three simple sensations on the part of the patient: vision, comfort and lack of redness. Disorders affecting each of the structures included in anterior ocular surface lead to neighborhood damage, and this unlocks the vicious cycle of disease. Treatment is often complex and requires time and perseverance. Ophthalmology is a high-tech specialty. Surgical interventions, and especially transplants, require the use of techniques that allow real-time microstructural analysis and other high-tech investigations.

The second, but not the most important, work presented by the candidate is an original monograph on the topic: "Evolution of visualization in ophthalmology". This fascinating text impressed me with the history (including the author's hereditary history), the confident view of the future and passion towards technological progress. The book is richly illustrated with original insertions and statements from medical celebrities. Especially valuable are the author's photos, which demonstrate step by step the algorithm for working with an operating microscope, application of the three-dimensional microscopy and OCT (optical coherence tomography). The author is one of the few ophthalmologists in Bulgaria with access to three-dimensional technology combined with OCT. The detailed presentation of the technological advantages and disadvantages included in this unique for the Bulgarian reader monograph is probably one of the few analyzes in the international literature. With the critical eye of a young person, he succeeds in simultaneously learning and training, treating and analyzing, observing and anticipating. The monograph was reviewed by two prominent ophthalmologists. Professor Petya Vasileva is the living history of our specialty and her high assessment that the "young specialist" is an "innovator" completely coincides with my opinion. The other reviewer, Assoc. Prof. Atanasov, emphasized the conclusion of Dr. Grupchev on the need to combine innovative technology with high qualification.

In my opinion, this is a mature conclusion that supports my opinion that the author is fully prepared for academic development with excellent knowledge, skills that he constantly improves and competencies in accordance with national and European requirements. I appreciate the monograph for its originality and practical orientation, as well as for the opportunity to use it for training specialists and emerging surgeons.

From the presented evidence, it is clear that the colleague has a good scientific publishing culture since the student bench. His first publication in indexed databases in 2018. There are 6 citations, although it is not included in the publications with which the candidate participates in this competition (presented as related to the dissertation). The publications presented for the current competition are distributed according to the minimum metric requirements of MU-Varna, as follows:

- Dissertation – PhD thesis;
- Independent monograph;
- Published university textbook, in which he is the author of two chapters;
- Full-text publications - a total of 18 are presented, of which:
  - 5, published in scientific journals, referenced and indexed in the Web of Science / Scopus, of which the most significant is the article on the evaluation of mucin balls and their impact on the anterior surface of the eye;
  - 13 published in peer-reviewed journals outside the above bases but present in Google Scholar.

According to the academic report provided by the library of MU-Varna, the candidate has h-index = 3, and the journals in which he has published have a total impact factor (IF) = 23.489. Based on the submitted material and the academic transcript, the candidate covers the indicators for the minimum required points by groups of indicators for the academic position "Associate Professor".

This compliance with the metric requirements of MU - Varna is presented in Table 1.

**Table 1. Compliance with the scientometric requirements of MU - Varna for the academic position of "Associate Professor"**

Requirements (by group)	Points required	Points of the candidate based on his application
A	50	50
V	100	100
G	200 ( $\geq 60$ from G 7)	205,75 (87 from G7)
D	50	75

Although they are not a requirement for participation in the competition, the presented scientific communications are another proof of the scientific activity of the candidate. Dr. Grupchev has indicated participation in a total of 18 scientific forums, of which 7 - in Bulgaria and 11 - abroad. During the pandemic he made 2 online presentations. He has participated in a total of 6 research projects. Of particular social importance is his participation in the "Children's Vision" project, as well as his active participation in the project "Surgical treatment of patients with cataracts and bilateral blindness." In 2020 Dr. Grupchev is involved in presentations in the training for young ophthalmologists of ESCRS. In 2021 he is preparing and actively participating in a seminar on vitreoretinal surgery, including live surgery.

### Teaching

Dr. Grupchev's teaching experience at the time of writing is 5 years, 1 month and 11 days. The candidate works as an assistant and chief assistant in the Training Sector "Medical Optician" of the Medical College - Varna, and since 2018. manages the education sector. The information provided shows that he participates in other departments of the MU-Varna, with tutorials covering the following disciplines: "Eye Diseases" for students in programs "Medicine" and "Nursing", "Contact Lenses", Ophthalmic Optics, "Optics and optical devices", as well as special disciplines for "medical opticians". (Table 2).

**Table 2. Teaching hours 2017-2021 covered by Dr. D.I. Grupchev**

Teaching year	Lectures		Tutorials		Practice	Summary
	Bulg	Engl	Bulg	Engl		
2016-17	0	0	186	108	0	294
2017-18	0	0	435	93	114	528
2018-19	0	0	271	135	0	520
2019-20	0	0	215	121	0	336
2020-21	6	0	297	97	0	382
<b>Summary</b>	6	0	1404	554	114	<b>2060</b>
<i>Mean per teaching year</i>			278	111	23	<b>412</b>

According to the information provided, the candidate has an average of 412 hours per year, which is more than the required 220 hours. It is impressive that 1/3 of the workload is in English. The number of lecture hours is small due to the fact that Dr. Grupchev has worked so far as a non-habilitated lecturer.

### **Clinical work**

The candidate has a relatively short clinical career, which, however, is enviably intense. Showing a variety of interests, Dr. Grupchev pays special attention to complex optical correction and plastic procedures, modification of corneal healing and corneal regeneration. The candidate has devoted a significant part of his early clinical work to the use of the amniotic membrane in ophthalmology, corneal and stem cell transplantation and "eye banking". For me as a vitreoretinal surgeon, his interest in vitreoretinal surgery is most impressive. This is of particular national and regional importance. Interest in vitreoretinal surgery in Bulgaria is relatively limited and so far, there are recognized centers in Sofia and Plovdiv, but not in Varna. Due to the complex nature of the operations, the need for follow-up and frequent repeated interventions, the development of this area in Northeastern Bulgaria is of strategic importance. That is why I believe that the enthusiasm of this young specialist must be supported by the ophthalmology community and the institutions he works for. The candidate demonstrates knowledge, skills and competencies that have been proven to be highly valued at national and international level, regardless of time constraints.

### **Conclusion**

After carefully reviewing and analyzing the evidence provided by Chief Assistant Professor Dr. Dimitar Ivanov Grupchev, MD, FEBO I can responsibly say that the candidate fully meets the requirements of the Law on the Development of Academic Staff of the Republic of Bulgaria, its Implementing Regulations and Development Regulations of the academic staff of the Medical University - Vrana.

I summarize as follows:

- The metric requirements for holding the academic position of "Associate Professor" are covered by the presented dissertation, monograph, publications and citations. Most works have both scientific and practical value. The monograph is an excellent tool for postgraduate qualification in ophthalmic surgery.
- The teaching work of the candidate is diverse and is aimed at medical students, bachelors in health care, medical opticians. A significant part of the study work is in English.
- The clinical work of the candidate is in accordance with all requirements. The candidate specializes in ophthalmology and passed examinations at the European Board of Ophthalmology and the International Council of Ophthalmology.
- Evidence for postgraduate education is presented. The candidate has studied abroad and is currently working on his training as a vitreoretinal surgeon.

Dr. Grupchev is a young, well-educated university lecturer of a new European type - with language culture (written and spoken knowledge of 3 foreign languages), with very good

ophthalmological and general medical training, meeting the modern requirements for a habilitated lecturer.

I know the candidate personally. He impresses with his affinity for scientific work, his in-depth clinical thinking and responsible attitude towards patients. Dr. Grupchev has a high potential for academic development and I believe that he would contribute to raising the prestige of the Medical University - Varna.

That is why I would like to recommend to the esteemed scientific jury to vote positively for the award of the academic position "Associate Professor" in Eye Diseases to Chief Assistant Professor Dr. Dimitar Ivanov Grupchev, MD FEBO. In my opinion, the support of young people with ambitions and achievements is strategic for the development of medicine and in our case ophthalmology in Bulgaria.

June 1, 2022  
Plovdiv



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Prof. Dr. Nelly P. Sivkova MD, PhD, FEBO