

REVIEW

Бургаски държавен университет  
„Проф. д-р Асен Златаров“  
8010 Бургас, бул. „Проф. Якимов“ №1

Per. № 4114 / 21.10.2025 г.

by Prof. Dr. Hristo Bozov, MD

Burgas State University “Prof. Dr. Asen Zlatarov” – Burgas

Chair of the Scientific Jury for the academic position “Associate Professor”

(announced in State Gazette, issue 42/23.05.2025)

Field of Higher Education: 7. Healthcare and Sports

Professional Field: 7.1. Medicine

Scientific Specialty: Neurosurgery

Dear Members of the Scientific Jury, For the preparation of this review, I was provided with all documents in both paper and electronic form, complying with the requirements for participation in the competition.

Within the legally defined deadline, the necessary documentation was submitted by Dr. Deyan Dimitrov Handzhiev, PhD.

#### I. Professional and Career Development of the Candidate

Dr. Deyan Handzhiev, PhD, graduated in Human Medicine from the Medical University – Varna in 1999.

Since 2008, he has been a specialist in Neurosurgery.

In 2013, he obtained a Master’s degree in Health Management from the Medical University “Prof. Dr. Paraskev Stoyanov” – Varna.

His postgraduate specializations include:

2000 – Emergency Medical Care (PHARE Program); 2010 – High-Speed Drill Techniques and Electrical and Pneumatic Instrumentation (Medtronic, USA); 2011 – Certification for diagnostic and therapeutic procedures under X-ray control (Military Medical Academy); 2012 – Cranial Neuroendoscopy (Istanbul, Turkey); 2012 – Percutaneous Nucleolysis and Vertebroplasty (Striker USA, Bucharest, Romania); 2013 – Surgical and Endovascular Treatment of Brain Aneurysms and Arteriovenous Malformations (Pirogov Hospital, Sofia); 2014 – Dandy Bulgaria

Course; 2014 – Percutaneous Techniques in Spinal Surgery (Alphatec Spine, University of Vienna, Austria); 2015 – Percutaneous Laser Discectomy (National Institute of Neurosciences, Budapest, Hungary); 2016 – Spinal Surgery System – NEOphytos (Nicosia, Cyprus); 2018 – Minimally Invasive Spinal Surgery – Neo Pedicle Screw System (NEO Medical, Koblenz, Germany)

In 2015, he successfully defended his doctoral dissertation titled “Angiogenesis in Glial Tumors”, earning the educational and scientific degree “Doctor”.

From 1999 onwards, he has worked in the Emergency Medical Center – Dobrich, in the Department of Neurosurgery at MBAL – Dobrich, and later in the Clinics of Neurosurgery at MBAL “St. Anna” and UMHAT “St. Marina” – Varna.

Since 2015, he has been a national consultant in Neurosurgery for MBAL Silistra, MBAL Targovishte, MBAL Ispirih, MBAL Razgrad, and UMHAT “Kanev” – Ruse, and has provided neurosurgical consultations for the Varna region.

Dr. Handzhiev is a member of the Bulgarian Society of Neurosurgery and speaks English (C2) and Russian (C1) fluently.

## II. Overview of the Materials Submitted for the Competition

The candidate has submitted a complete set of documents in accordance with the Regulations of the University “Prof. Dr. Asen Zlatarov” – Burgas, including:

An application to the Rector for participation in the competition;

A European-format Curriculum Vitae;

Diplomas confirming completed higher education (Medicine, specialty in Neurosurgery, Master’s degree in Health Management, and PhD in Medical Sciences);

Documentation of participation in a research project during his doctoral studies (2004–2005, Medical Science Fund, topic: Angiogenesis in Glial Tumors).

All documents were submitted in both printed and electronic format and are properly structured and compliant with the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB) and the internal Regulations of the University “Prof. Dr. Asen Zlatarov” – Burgas.

## III. Research Activity and Main Scientific and Applied Contributions

According to the NACID report, the total IF/SJR score from publications and citations amounts to 18.319, distributed as follows:

From publications – 7.117 (Web of Science – 4.733; Scopus Q4 – 2.384)

From citations – 11.202 (Web of Science – 7.852; Scopus – 3.35)

The candidate's h-index (Google Scholar) is 3.

From the "List of Publications for Participation in the Competition," it is evident that all scientific works are relevant to the announced field.

The 63 scientific works include:

1 monograph (PhD dissertation abstract)

2 textbook chapters

62 full-text publications in refereed and non-refereed journals (including journals with impact factor)

Dr. Handzhiev is first author in 22 of these publications and has participated in over 35 scientific forums, both national and international.

He has received a grant (1st place) from the Medical Science Fund (2004–2005) and has acted as a mentor in the Ministry of Education project "Student Internships."

#### Scientific and Applied Contributions

The scientific and applied contributions of Dr. Handzhiev can be summarized as follows:

##### 1. Neuro-oncology

The dissertation and 28 of his publications are devoted to this field.

Two of these papers were presented at the World Congress of Neurosurgery (Seoul, 2013) and five more at international congresses in Serbia, Romania, and Greece.

Two full-text publications were published in journals with a high impact factor – Journal of Clinical Neuroscience (2017, IF 1.387) and Neuroradiology (2014, IF 2.374).

In this field, Dr. Handzhiev has contributed with an extensive clinical analysis of 96 surgically treated patients with glial brain tumors – the largest Bulgarian cohort of its kind.

For the first time in Bulgaria, VEGF and bFGF growth factors were measured in plasma and cerebrospinal fluid of patients with brain tumors.

He established the independent prognostic role of CSF VEGF levels and developed a non-linear regression model predicting life expectancy for patients with glioblastoma multiforme.

A comprehensive angiogenic analysis was conducted, assessing both plasma and CSF concentrations of VEGF and bFGF in three groups of brain tumors and healthy individuals.

His studies demonstrated the clinical relevance of modern MRI physiological techniques (diffusion and perfusion sequences) for evaluating tumor structure, vascularity, and cellularity.

## 2. Neurotraumatology

Eleven of the candidate's publications are dedicated to traumatic brain and spinal injuries, presented at both national and international scientific forums.

He is also co-author of two textbook chapters in Neurosurgery (BAS Publishing House "Prof. Marin Drinov," 2024), edited by Prof. Nikolay Gabrovski:

Chapter 57: Cranial Trauma – Basic Concepts and Classification according to Clinical and Imaging Findings

Chapter 58: Cranial Trauma – Epidemiology, Biomechanics, and Pathophysiology

His publications reflect contemporary approaches to spinal stabilization, fusion, and cranial trauma management, presenting the experience of a center with significant expertise in neurotraumatology.

## 3. Vascular Neurosurgery

Fourteen of Dr. Handzhiev's publications focus on vascular neurosurgery – surgical and endovascular treatment of cerebral aneurysms, arteriovenous malformations, and spontaneous intracerebral hematomas.

He participated in the team that introduced and developed endoscopic-assisted evacuation of deep-seated hematomas, including thalamic lesions – the first such cases in Bulgaria.

## 4. Degenerative Spinal Diseases

Several of his papers analyze the diagnosis and surgical treatment of degenerative lumbar stenosis using decompression and fusion techniques, as well as approaches for chronic low back pain (low back pain syndrome).

## 5. Neurosurgical Quality Management

Dr. Handzhiev is part of the team that developed the first neurosurgical safety checklists in Bulgaria, designed to prevent complications and medical errors.

His work includes three publications on preoperative checklist implementation and one publication sharing the team's experience in establishing a modern university neurosurgical clinic.

#### IV. General Assessment of the Candidate's Compliance with the Required Criteria

According to the Regulations of the University "Prof. Dr. Asen Zlatarov" – Burgas, the candidate's performance in the evaluation indicators is as follows:

| Indicator Group       | Required Minimum |      | Achieved by Candidate |
|-----------------------|------------------|------|-----------------------|
| A – Dissertation      | 50               | 50   |                       |
| B – Habilitation Work | —                | —    |                       |
| C – Indicators 3 or 4 | 100              | 210  |                       |
| D – Indicators 5–9    | 220              | 486  |                       |
| E – Indicators 10–12  | 60               | 245  |                       |
| F – Indicators 13–20  | 20               | 175  |                       |
| Total                 | 450              | 1166 |                       |

The total number of 1166 points significantly exceeds the required minimum of 450, as stated in the Regulations.

The presented information confirms that the candidate is a well-established scholar with proven research achievements.

His deep knowledge of neurosurgery, active research output, and participation in scientific forums demonstrate the qualities of an independent and productive researcher.

#### V. Conclusion

Dr. Deyan Dimitrov Handzhiev, PhD, is an accomplished clinician and scientist whose contributions to modern neurosurgery are of both scientific and practical significance.

He enjoys high professional recognition within the medical community and among academic peers.

His work combines original scientific research with real-world clinical application.

Dr. Handzhiev is also an active and competent lecturer, successfully integrating advanced medical and scientific knowledge into teaching practice.

He is a member of national and European neurosurgical organizations and actively contributes to their professional activities.

After a thorough review of the materials and in accordance with the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations of the University "Prof. Dr. Asen Zlatarov" – Burgas,

I conclude that Dr. Deyan Dimitrov Handzhiev, PhD, fully meets – and significantly exceeds – the requirements for the academic position Associate Professor in the scientific specialty Neurosurgery.

Therefore, I express a positive opinion and recommend that the esteemed Scientific Jury confer upon Dr. Deyan Dimitrov Handzhiev, PhD, the academic position "Associate Professor" in the field of higher education 7. Healthcare and Sports, professional field 7.1. Medicine, scientific specialty Neurosurgery.

20 September 2025

Prof. Dr. Hristo Bozov, MD