

To
Chairman of Scientific Jury
Determined with Decree № R-109-299/07.08.2020
Of the Chancellor of Medical University - Varna

ACADEMIC OPINION

From Prof. Dr. Tihomir Nikolov Eftimov, MD, PhD
Head of Neurosurgery Clinic, Head of the Department of Nervous Diseases,
Neurosurgery, Psychiatry and Psychology
in Military Medical Academy-Sofia

Subject: Academic contest for the position of "Professor" in the scientific field of "Neurosurgery", professional field code 7.1. Medicine, in the field of higher education code 7. Healthcare and sports, promulgated in SG, iss. 53 / 12.06.2020

One participant in the contest - Assoc. Prof. Dr. Vasil Hristov Karakostov, Ph.D.

BIOGRAPHICAL DATA

Assoc. Prof. Karakostov was born in 1958. He graduated from the Medical University-Plovdiv in 1982. After graduation he worked as a pediatrician in the city of Smolyan. Subsequently, he began a clinical residency in neurosurgery at the Clinic of Neurosurgery of Alexandrovska Hospital - Sofia. In 1986 he acquired a degree in neurosurgery, and in the same year he began working as a District Neurosurgeon at the District Hospital in Smolyan. Two years later he was appointed "Assistant" at the Clinic of Neurosurgery at Medical University - Sofia. He holds the positions of "Senior Assistant" and "Chief Assistant", followed by "Head of Department". Since 2017 he has been the Chairman of the Clinic of Neurosurgery at the University Hospital "St. Iv. Rilski" - Sofia. In 2004, after successfully defending his dissertation on the topic: "Stereotactic CT-based interventions in cerebral processes", he was awarded a PhD degree. Since 2007 he has been an Associate Professor in the scientific field of "Neurosurgery" at the Medical University of Sofia. He has conducted a number of long-term residencies in Europe and the United States. He is a member of professional and scientific organizations at home and abroad, including AOSpine. He is an expert at the Accreditation Council of the Ministry of Defense and at the National Health Insurance Fund. He is a member of the Expert Council on Neurosurgery at the Ministry of Health and Co-Chairman of the Balkan Association of Spinal Surgery. Participates regularly in the state examination commission for awarding a specialty in neurosurgery as chairman and as a member of the commission.

RESEARCH ACTIVITY

Assoc. Prof. Karakostov participates in the current contest with a total of **176 scientific** papers/articles, full-text scientific reports and abstracts published in scientific journals and compendium of abstracts of scientific events in Bulgaria and abroad, out of which **82** have been produced after acquiring "Associate Professor" degree. The scientific production of the candidate, according to the presented Academic Reference includes: 1 dissertational work and thematically related publications, 1 independent monography for habilitation work: "Osteoporotic and pathological vertebral fractures. Percutaneous Techniques for Augmentation", co-authored 1 monography on "Modern technological advances in operative neurosurgery", as well as 79 publications, 5 of which are in scientific journals referenced and indexed in a world database and 74 in non-referenced journals, books and collections. Out of which 25 are in English and 57 are in Bulgarian. Assoc. Prof. Karakostov is an independent or first author in 12 of the scientific papers, a second in 24, and a third or subsequent in the rest of them. From the presented reference, 81 citations are certified, of which **50 citations** of scientific papers are in referenced and indexed in foreign databases publications (Scopus, Web of Knowledge, etc.) with **an h-index of 4**. The total **IF** of the journals with publications of the candidate is **28,414**.

The thematic distribution of the scientific activity of Assoc. Prof. Karakostov is in almost all major areas - in the field of neurooncology, spinal surgery, vascular and congenital diseases of the Nervious System, modern surgical techniques, functional neurosurgery and others. Definitely, the most in-depth research of the candidate is in the field of **spinal neurosurgery**. In this particular field there are 30 scientific publications and 1 monography presented. All of which have significant theoretical and scientific value for the field as a whole. Assoc. Prof. Karakostov, as an independent or as a co-author, thoroughly analyzes the problems of epidemiology, diagnosis and surgical treatment of "vertebral disc pathology". He has published and participated in the publication of a series of scientific papers on degenerative disc disease, and it is worth noting the pioneer introduction in the country of the methodology for intradiscal "graft" prosthetics with "cage" in the cervical and lumbar spine. In the field of Neurosurgery he has a number of publications related to the application of minimally invasive percutaneous techniques in the spinal surgery and in-depth analysis of early and late results. Exactly here the proficiency level and practical achievements of the candidate in the field of spinal surgery in Bulgaria stand out and are comparable with European standards. The monography published by Assoc. Prof. Karakostov, dedicated to osteoporotic and pathological vertebral fractures and the results of application of percutaneous techniques for vertebral augmentation, represents a significant contribution to the Bulgarian neurosurgical theory and practice. The in-depth analysis of the results in a large series of 994 single-center patients, guarantees the high scientific quality of the paper on an international level.

In the field of **neurooncology**, Assoc. Prof. Karakostov presents 16 full-text publications. In some of them, the candidate discusses the problems in the treatment of CNS tumors in childhood. The author has published and participated in the publication of a series of scientific papers on ventricular and paraventricular tumors, craniopharyngiomas in children, colloid

cysts and dermoid lesions of the 3rd ventricle and others. The results of the application of stereotactic localization and microsurgical techniques in the intervention of intraventricular lesions are summarized, which are a significant contribution to the integration of the European and world standards in Bulgaria. A series of publications related to the treatment of sellar and parasellar meningiomas, as well as pituitary adenomas, should also be noted here. As a member of a team with extensive and internationally recognized experience in transsphenoidal surgery, the author shares the need to focus on long-term monitoring of endocrinological results after transsphenoidal surgery as an important element of comprehensive interdisciplinary treatment of patients with pituitary adenomas. For the first time in Bulgaria, Assoc. Prof. Karakostov published and introduced in the neurosurgical practice the combination of localizing stereotactic methods and CT-guided stereotactic limited craniotomy as a method for localization and resection of small intracranial lesions (metastases) in combination with microsurgical techniques and endoscopic control. Some of the articles in this area are devoted to the surgical treatment of spinal cord tumors (primary and secondary), which are of significant scientific value, given the growing incidences of cancer worldwide.

Regarding the **operative techniques in modern neurosurgery**, the candidate has presented publications dealing with the application of neuroendoscopy, intraoperative neuronavigation, brain mapping, "awake craniotomy", intraoperative electrophysiological monitoring, deep electrical stimulation and other modern technological methods for image-guided and function-preserving neurosurgery. The basis for this are the advantages of the clinical unit to which Assoc. Prof. Karakostov belongs, which has at disposal three modern high-tech methods – stereotactic frame, neuronavigation and their combination with endoscopic microsurgical techniques.

The next main field of the research activity of Assoc. Prof. Karakostov are **vascular diseases in neurosurgery**. In his publications in this field, the candidate presents results from the application of modern endovascular procedures in the treatment of cerebral aneurysms and AVM malformations. The published 9 scientific papers in the field of endovascular interventional neurosurgery have been published in the most renowned journals and have an impressive number of citations and interest in the scientific world. The publications dealing with the modern neurosurgical treatment of brain angiommas, as well as the microsurgery of giant brain aneurysms and AV malformations have made a significant contribution in the field.

Another scientific field in the works of Assoc. Prof. Karakostov are **CNS malformations and hydrocephaly**. It's worth noting the publications on endoscopic methods in the treatment of hydrocephaly, such as triventriculostomy and aqueductoplasty. Good postoperative results are presented, as well as an analysis of the surgical technique and overcoming possible complications.

In the field of **neurotrauma**, the candidate presented 5 articles on traumatic intracranial hematomas and techniques for their surgical treatment, as well as treatment of early period

post-traumatic facial nerve injury. The presented results are correlated with those of other specialized centers for neurotraumas in the country and abroad.

Functional neurosurgery is represented in the scientific production of Assoc. Prof. Karakostov primarily with articles on the treatment of drug-resistant epilepsy through deep brain stimulation and stereotactic "awake craniotomy".

In conclusion, I must point out the **significant scientific activity** of the candidate with numerous participations with plenary scientific reports and published abstracts from prestigious national and international scientific forums.

Based on the above facts, I strongly consider that Assoc. Prof. Karakostov fully covers the minimally-required mandatory metrical scientific criteria set out in Medical University - Varna. /**tab. 1**/

GROUPS OF INDICATORS	CONTENT	PROFESSOR / NUMBER OF POINTS REQUIRED /	Assoc. Prof. Karakostov /number of points achieved/
A	Indicator 1	50	50
B	Indicator 2	-	-
C	Indicators 3 and 4	100	100
D	Sum of Indicators 5 to 9	200	222
E	Sum of Indicators 10 to 12	100	1340
F	Sum of Indicators 13 and beyond	100	290

Table 1: Minimally required points by groups of indicators for academic degree "Professor".

TEACHING AND TEACHING ACTIVITY

Assoc. Prof. Karakostov has many years of teaching experience. From the presented certificate for his research and teaching activity from Medical University - Sofia it is evident that he often conducts systematic lecture courses and exams for Bulgarian and foreign students at Medical University - Sofia. He also trains postgraduates and PhD students in neurosurgery programs, as well as annual tutoring and methodological activities related to the development of lectures, teaching aids and research projects. Assoc. Prof. Karakostov is a research supervisor of two doctoral students, who have successfully defended their PhD thesis in the scientific field of "Neurosurgery".

MEDICAL AND DIAGNOSTIC ACTIVITY

Assoc. Prof. Karakostov is a well-known and proven neurosurgeon with over 35 years of experience, who has received his recognition among patients and the medical community in the country and abroad, with extremely good and stable results in his overall neurosurgical work.

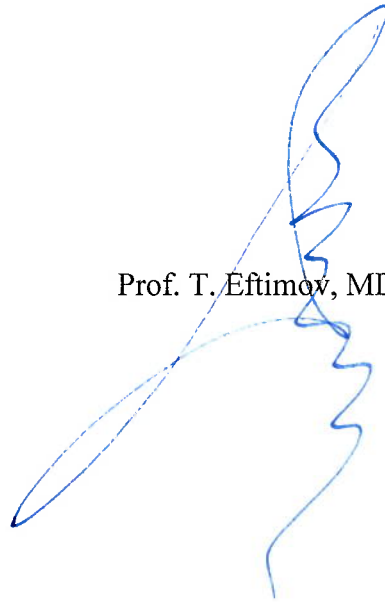
CONCLUSION

The analysis of the scientific research, tutoring and diagnostic/treatment activity of Assoc. Prof. Vasil Karakostov, Ph.D., demonstrates that the candidate meets and exceeds the minimally required criteria for acquiring the academic degree "Professor", according to the Requirements and Regulations for their application of Medical University - Varna. Therefore, I find it utterly justified to give my categorically **positive** vote for the election of Assoc. Prof. Dr. Vasil Hristov Karakostov, Ph.D. to the academic degree "**Professor**" in the scientific field of "Neurosurgery" for the needs of the Department of Neurosurgery and ENT Diseases at Medical University- Varna.

24.09.2020

Sofia

Prof. T. Eftimov, MD,PhD

A handwritten signature in blue ink, consisting of several loops and a long horizontal stroke, positioned to the right of the name 'Prof. T. Eftimov, MD,PhD'.

