

## ACADEMIC REVIEW

Regarding a contest for the academic position of "Professor" in the scientific field of "Neurosurgery" in the field of higher education education 7. Healthcare and sports, professional field 7.1. "Medicine" for the requirements of the Department of Neurosurgery and ENT Diseases and the Department of Neurosurgery at the Medical Faculty at MU - Varna and the Neurosurgery Clinic at "St. Marina" Hospital LLC, Varna.

The contest is in accordance with order R-109-299 from 07. 08. 2020. of Prof. Svetoslav Georgiev, MD, PhD vice-chancellor "Career Development" of the Medical University "Prof. Paraskev Stoyanov, MD "- Varna and is announced in SG no. 53 / 12.06.2020

### **Candidate for the announced contest:**

Assoc. Prof. Vasil Karakostov, MD, PhD, Head of the Neurosurgery Clinic at the University Hospital "St. Ivan Rilski" Sofia.

### **Reviewer:**

Prof. Nikolay Stefanov Gabrovski, MD, PhD Head of the Neurosurgery Clinic at the University Hospital "Pirogov ", Chairman of the Expert Council in Neurosurgery at the Ministry of Health.

Assoc. Prof. Vasil Karakostov, MD was born on October 4, 1958. He graduated medicine at the Medical University "I. P. Pavlov "- Plovdiv in 1982. Worked as: pediatrician at the "Regional Hospital" - Smolyan from 01.12.1982 to 05.1983; as a clinical ordinator at "Clinic of Neurosurgery" Medical Academy - Sofia from 16.05.1983 until 1986; District Neurosurgeon at the District Hospital - Smolyan from 17.05.1986 until 1988; Assistant at the Neurosurgery Clinic since January 25, 1988 until 1991; Senior Assistant at the Neurosurgery Clinic since April 9, 1991 until 1998; Head Assistant at the Neurosurgery Clinic since April 1, 1998. until 2006; Head of the Spinal Department at the Neurosurgery Clinic of the University Hospital "St. Ivan Rilski "from March 21, 2008 until May 5, 2017. and currently Head of the Neurosurgery Clinic - from 26.04.2017 until present day.

Assoc. Prof. Vasil Karakostov, MD acquired the specialty "Neurosurgery" in 1986. In 2003 presents a thesis on "Stereotactic CT-based interventions in brain processes" for the achievement of educational and scientific degree "Doctor, PhD". Since 2007 holds the academic position of "Associate Professor". In 2013 he received a master's degree in Health Management from the Faculty of Public Health at the Medical University of Sofia.

In 2019 Assoc. Prof. Dr. Karakostov published a monography titled: "Osteoporotic and pathologic vertebral fractures. Percutaneous techniques for augmentation.

Assoc. Prof. Dr. Vasil Karakostov is a member of many scientific organizations. He is a member of the BDA; of the Bulgarian Scientific Society of Neurosurgery; co-chair of the Balkan Association of Spinal Surgery; Chairman of the Board of Neurosurgery of the BDA; member of the editorial board of the journal "Bulgarian Neurosurgery"; Deputy Chairman of the Scientific Council at the University Hospital "St. Ivan Rilski "from

September 23, 2018 until present day; external expert for the National Health Insurance Fund Commission for carrying out expertises under article 82, al. 1 and article 82, al. 1 A of 330 in the Central Office of the National Health Insurance Fund. He speaks fluent English, Russian and work-level German.

In recent years, the tutoring activity of Assoc. Prof. Dr. Vasil Karakostov numbers about 200 hours of auditorial participation, 100 hours of extracurricular activities and 30 hours of tutoring methodological activities per year.

Assoc. Prof. Karakostov, MD participates in the contest with 176 articles, full-text reports and abstracts published in journals, collections and collections of abstracts of scientific events in Bulgaria and abroad. The actual publications are 82, dissertation - 1, monography - 1; co-authored monography - 1; scientific papers and reports published in scientific journals - 79, of which 5 are referenced and indexed in world databases and 74 - are indexed in unreferenced ones. Of the scientific papers and reports 25 were published in English and the rest in Bulgarian. The bibliographic citations of the scientific works are 37 in the Bulgarian literature and 81 - in the foreign one.

Assoc. Prof. Karakostov, MD was the scientific supervisor of two PhD students. He is a participant in two international research projects and one national one.

Fifteen of the scientific articles of Assoc. Prof. Vasil Karakostov, MD have an impact factor, and the total impact factor of the scientific papers is 29.059 .

The thematic aspects of the scientific works with which Assoc. Prof. Dr. Karakostov participates in this contest are as follows:

- Dissertation for awarding the scientific and educational degree "Doctor, PhD" and related scientific papers - 4
- Habilitation work; Monography - 1
- Oncological diseases of the brain and spinal cord - 16
- Vascular diseases of the CNS - 12
- Operative neurosurgery, new diagnostic and intraoperative methods and technologies - 20
- Degenerative spondylogenic diseases - 29
- Malformations of the CNS, hydrocephaly - 4
- Neurotraumas - 5
- History and theory of neurosurgery, scientific information - 1
- Epilepsy and functional neurosurgery - 3

Some of the works belong to more than one theme. The dissertation for the acquisition of educational and scientific degree "Doctor, PhD" of Assoc. Prof. Dr. Vasil Karakostov occupies a central place in his scientific production and is about "Stereotactic CT-based interventions in brain processes." The dissertation is the first attempt known in our medical literature, at a systemic analysis on the topic.

The introduction of a "soft marker" for intraoperative determining of brain mass-lesions is of a markedly original nature and under a procedure for "patent and innovation" certification. His version, technical solution and its implementation -according to literature data- is done for the first time on a national and international scale. Karakostov, MD introduces for the first time in our country and in the world-wide stereotactic practice, the double rotation in stereotactic biopsy with unilateral opening

forceps, which allows for a more informative histological material and the ability to reduce the volume of the lesion.

In the dissertation the routine "serial stereotactic biopsy" is described for the first time in our country. The introduction and adoption in clinical practice of a cannula for stereotactic aspirational biopsy developed by the author and a curative aspiration(evacuation) of liquid lesion-substrates is also of a markedly original nature.

In the dissertation an economic analysis of the methodology of CT-based stereotaxy is made and it is demonstrated that with a minimal percentage of mortality and morbidity and reduced postoperative stay it obviously possesses an economic significance.

The other main scientific work of Assoc. Prof. Vasil Karakostov, MD is the monography titled "Osteoporotic and pathologic vertebral fractures. Percutaneous techniques for augmentation " published in 2019 .Presented are 998 patients treated in the neurosurgery clinic of "St. Ivan Rilski" University Hospital. The indications and contraindications, published and discussed in the world literature, are thoroughly considered, own criteria for the correct selection of patients suitable for vertebroplasty and kyphoplasty are formulated. The positive and negative sides of the technical implementation of the two procedures for vertebral augmentation are critically and objectively synthesized. The problems are considered in a practical as well as operative aspects. Assoc. Prof. Vasil Karakostov MD dedicates several more articles and scientific notes to the topic of percutaneous augmentation techniques in the treatment of osteoporotic fractures.

In the field of neurooncology, it should be noted that the collective scientific work on CNS tumors in children, and particularly the neuroophthalmological aspects and prognostic factors in patients with craniopharyngiomas. The author has published and participated in the publication of a series of scientific papers on ventricular and paraventricular tumors as well as the application of the stereotactic framework for localizing single/multiple brain lesions near functionally relevant and sensitive for surgery brain zones. It should also be noted his participation as a member of a team with extensive experience in trans-sphenoidal surgery and the resulting publications on large cohorts of patients with oncologic pituitary pathology. For the first time in the country, the author published and introduced in the neurosurgical practice the combination of localizing stereotactic techniques and CT-guided limited craniotomy as a method for localization and resection of small intracranial lesions (metastases) in combination with microsurgical and endoscopic control.

In the field of vascular diseases, Assoc. Prof. Vasil Karakostov, MD introduces for the first time in Bulgaria the intraoperative localization of small and hard-to-reach cavernous angiomas with the aid of a "soft marker". As part of a team, the author participated in a study on the diagnosis and surgical treatment of giant cerebral aneurysms. In a team led by Assoc. Prof. Sirakov, Assoc. Prof. Vasil Karakostov, MD participates in numerous publications related to endovascular treatment of cerebrovascular pathology, which found a place in prestigious journals with high impact factor and caused a wide response in the international scientific community.

Regarding the introduction of new diagnostic and intraoperative methods in neurosurgery, Assoc. Prof. Vasil Karakostov, MD participates as a co-author in a publication dedicated to the intraoperative monitoring of evoked potentials in neurosurgery, percutaneous endoscopic discectomy, frameless endoscopy and

stereotactically-navigated endoscopy.

Most publications and reports from the scientific works of Assoc. Prof. Vasil Karakostov, MD are devoted to spinal pathology and particularly the degenerative diseases of the spine. This is evident both from the numerous presentations at international congresses and from the main topic of his monography published in 2019 .

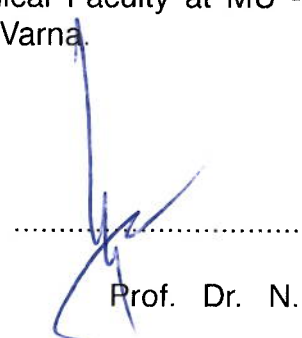
The scientific works of Assoc. Prof. Vasil Karakostov, MD covers other fields such as CNS malformations and hydrocephaly, neurotrauma, history and theory of neurosurgery, as well as epilepsy and functional neurosurgery.

In conclusion, I state that based on the documentation provided and the written above, Assoc. Prof. Vasil Karakostov, MD meets the criteria set out in the Law on the Development of Academic Staff in the Republic of Bulgaria and in the Rules of MU-Varna for holding the academic degree "Professor", Which is why I am giving a positive vote for the election of Assoc. Prof. Vasil Karakostov, MD to hold the academic position of " Professor" in Neurosurgery for the needs of the Department of Neurosurgery and ENT Diseases and the Department of Neurosurgery at the Medical Faculty at MU - Varna and the Clinic of Neurosurgery at "St. Marina" Hospital LLC, Varna.

October 18, 2020  
Sofia City

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Gabrovski, MD .



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Prof. Dr. N.