

To  
The chairman of the scientific committee,  
determined by Order №P-109-180, 03.06.2020  
of the President of the Medical University  
Varna

## REVIEW

From Prof. Danail Borisov Petrov, MD, PhD, DSc, FETCS, FEBTS  
Head of the Dept. of Thoracic Surgery at UH "St. Sophia", Chairman of the Expert Board on  
Thoracic Surgery at the Ministry of Health of Bulgaria,

For the academic position of Associate professor in Healthcare and sports in professional field 7.1.  
Medicine and scientific specialty "Medical radiology and radiology (incl. Use of radioactive  
isotopes)" for the needs of the Department of Imaging Diagnostics and Radiation Therapy of MU -  
Varna, announced in SG No. 8 / 28.01.2020

Candidate: Marin Boykov Penkov, MD Phd, Head of Radiology Clinic, University Hospital "St.  
Ivan Rilski Sofia" EAD - Sofia city

Within the legally established term after announcing the competition, Dr. Marin Boykov  
Penkov Phd is the only candidate who submitted documents and admitted to participate in it. at the  
Medical University "Prof. Dr. P. Stoyanov" - Varna.

### **1. Brief biographical data.**

Dr. Marin Penkov, MD, Phd was born on December 3, 1977 in Sofia. He graduated in 2003  
from the Medical University of Sofia. In 2009 he was awarded the specialty "Radiology" (Imaging).  
After successfully defending his Phd in 2018, he was awarded the educational and scientific degree  
"Doctor" (Phd). Dr. M. Penkov started working in 2004 at UMHAT Lozenets, as a trainee-  
radiologist. From 2009 until now Dr. Penkov works at the University Hospital "St. Ivan Rilski",  
Sofia.

Since 2012 he has been working as an assistant radiologist at the Department of Imaging  
Diagnostics at the Medical University of Sofia. Over the years until now he has been a consultant to  
various hospitals in Sofia and the country

Dr. Penkov is a prominent specialist in the field of neuroradiology, in particular pediatric  
neuroradiology and gastroenterology. Holding two European diplomas in the subspecialties  
"Neuroradiology" (EDiNR054-2015) and "Pediatric Neuroradiology" (EDiPNR016-2019) from the  
European Society of Neuroradiology (ESNR)

In 2014 Dr. Penkov won a European project for "Creation of an innovative methodology for  
research in the field of neurocognitive science and theoretical and practical foundations of"  
Neuroeconomics and Neuromarketing "

Dr. Penkov is a recognized specialist of national importance in neuroradiology with over  
50,000 examinations over 16 years. He is a member of the European Association of Radiology -  
ESR, a member of the European Association of Neuroradiology ESNR, a member of the European  
Association of Gastroradiology ESGAR, a member of the Bulgarian Association of Radiology. He  
speaks German, English and Russian.

**2. General characteristics of the research and scientific-applied activity of the  
candidate.**

The publications with which Dr. Penkov participates in this competition, as well as their citations, are presented in the table below:

|   |  |  |
|---|--|--|
| Table 1. Publications   | All                                    |  |
| <b>1. Phd</b>   | <b>1</b>                               |  |
| <b>2. Printed in full text</b>                                      | <b>41</b>                              |  |
| 2.1 Articles in Bulgarian, s journals                               | 27                                     |  |
| 2.2 Articles in foreign journals                                    | 10                                     |  |
| 2.3 Participation in monographs and textbooks                       | 4                                      |  |
| <b>3. Participation in scientific events with printed abstracts</b> | <b>50</b>                              |  |
| 3.1 National scientific events                                      | 40                                     |  |
| 3.2 International scientific events                                 | 10                                     |  |
| <b>Total number of publications</b>                                 | <b>92</b>                              |  |
| <b>Cited</b>  | 27 articles, cited a total of 51 times |  |
|   |  |  |

From these 37 scientific papers, which are distributed as follows:

- 1 Scientific publications in publications that are referenced and indexed in world databases with scientific information - 11
2. Publications and reports published in scientific journals, referenced and indexed in world databases with scientific information - 11.
3. Publications and reports published in non-refereed journals with scientific review or published in edited collective volumes -11

Dr. Penkov took an active part in writing 2 monographs, 2 textbooks and manuals. Unlike publications and congresses, this type of scientific production more fully expresses the teaching talents and skills and should have priority in the overall assessment of the candidate for associate professor. What unites all these works is their depth, scientific and practical relevance and the recognized contributions they bring. The latter is also expressed in the number of publications abroad, the large number of citations and the high impact factor for Bulgaria (9).

### **3. Main scientific and applied contributions and their significance**

The scientific production presented by Dr. Marin Penkov outlines several main directions. A significant share is devoted to diseases of the nervous system and problems before imaging in neurosurgical patients. The candidate is the author and co-author of articles dedicated to diagnostics, incl. interventional, CNS diseases, and therapeutic endovascular neurointerventional procedures. The descriptions of extremely rare neurological diseases in childhood (PRESS, Congenital creatine deficiency syndrome in children, as well as the participation in the detection of the CREBBP denovo mutation in patients with Rubinstein-Taybi syndrome) are contributing.

For the first time in Bulgaria Dr. Penkov introduces in clinical practice the functional magnetic resonance diagnostics, as part of the preoperative preparation of the imaging diagnostics of patients with forthcoming neurosurgical operations. Another part of the contributions related to neuroradiological research. The application of perfusion and diffusion techniques for magnetic resonance imaging in the diagnosis of glial brain tumors, as well as for differentiation of low- and high-grade tumors by means of MR spectroscopy is an indisputable contribution to Bulgarian medicine.

The candidate is the author and co-author of articles dedicated to diagnostics, incl. interventional, of diseases of the colon, lung, liver and pancreas. The series of papers dedicated to oncology within the traditional conferences "SEA", where Dr. Penkov is a member of the National Board of Experts. The documents developed at these interdisciplinary consensus conferences are of a national nature and importance due to the evidence-based behavioral recommendations developed for a specific cancer and the emphasis on good practice.

In 2014, Dr. Penkov won a European project for "Creation of an innovative methodology for research in the field of neurocognitive science and theoretical and practical foundations of" Neuroeconomics and Neuromarketing ".

#### **4. Evaluation of the pedagogical preparation and activity of the candidate**

Dr. Marin Penkov, Phd has presented reports on a very intensive and diverse teaching activity. He has an extremely high study load from 2012 until now - only for the academic year 2019-2020 his study load is 200 hours, which is significantly above the norm approved by MU-Varna. His teaching activity includes full lecture courses in Imaging Diagnostics in both Bulgarian and English for English-speaking medical students.

Dr. Penkov has participated and is participating in the development of materials related to classroom and extracurricular teaching. He is also an active participant in the periodic updates of the Imaging Standard.

In addition to working directly with students at MU Sofia, Dr. Penkov conducts postgraduate courses in imaging diagnostics at MU Sofia; reads selected lectures in the main course for postgraduate qualification in imaging diagnostics of the Department of Lung Diseases and Ophthalmology at MU Sofia, conducts courses and individual trainings in the subspecialties Neuroradiology and Pediatric Neuroradiology.

Dr. Penkov is a regular speaker in the training panels of the National Congresses of BAR, as well as before national congresses of the Society of Pediatrics and the Society of Gastroenterology, the Society of Neurology, the Society of Rheumatology, Regular participant with a training panel dedicated to various aspects of imaging at the forums of the International Organization of Surgeons, Gastroenterologists and Oncologists (IASGO). In 2016 he was a guest lecturer at a training session of the European Association of Neurosurgery EANS "Course for Tumors", with a lecture "Modern Imaging of CNS tumors".

#### **5. Critical remarks and recommendations**

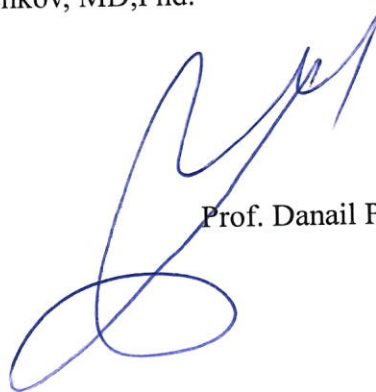
It is noteworthy that in the publishing activity of Dr. Penkov the percentage of "cases from practice" is relatively high. Each of the published cases is a rarity that deserves to be described. Based on the diverse pathology that is diagnosed in the candidate-led imaging unit, as well as the innovative diagnostic methods and interventional therapeutic procedures used, I expect in the future articles and studies of large clinical material published in leading journals with impact factor. This corresponds to the scientific potential of Dr. Penkov and his team.

#### **CONCLUSION**

I have known Dr. Penkov from our joint work since the beginning of his specialization. He quickly established himself as an excellent imaging specialist with in-depth theoretical knowledge and an exceptional affinity for interventional X-ray diagnostics. In his work with patients he shows high professionalism and empathy. All this, combined with his great dedication to the profession, courage, innovation and leadership qualities helped him to lead and build an independent unit for diagnostic imaging at the European level. His research interests are diverse with achievements in a number of areas of imaging, some of which are unique in nature. His desire and ability to share the accumulated theoretical knowledge and practical skills makes him an excellent teacher and sought-after lecturer.

His high professionalism, his scientific achievements, his active teaching activity and the presented documents meet the requirements of the Regulations for development of the academic staff of MU Varna. This gives me reason to convincingly give my positive vote and to propose to the honored members of the scientific jury, determined by order of the President of MU Varna to approve of the academic position "Associate Professor" in the field of "Health and Sports" in professional field 7.1. "Medicine" and scientific specialty "Medical Radiology and Radiology" (including the use of radioactive isotopes) for the needs of the Department of Imaging and Radiation Therapy of the MU-Varna Dr. Marin Boykov Penkov, MD,Phd.

15.06.2020

A handwritten signature in blue ink, consisting of several loops and a long, sweeping stroke that extends upwards and to the right.

Prof. Danail Petrov, MD