



To

the chairman of the scientific jury,

as defined by Order No. P-2599 / 14.11.2019

of the Rector of the Medical University - Plovdiv

R E V I E W

by

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about the competition

for "ASSOCIATE PROFESSOR" in "Cardiology" to the Cardiology section - First Department of Internal Diseases of the Medical University of Plovdiv, announced in SG, issue 72/ 13.09.2019

The review has been prepared in accordance with the Academic Staff Development Law (ASDL), the Regulations for Application of the ASDL (RAASDL) and the Rules for the Conditions and Procedures for Acquisition of Academic Degrees and Occupation of Academic Positions in the University of Plovdiv. It complies with the national scientometric requirements according to the 2018 ASDL.

All necessary materials and procedures for the competition have been provided. The requirement of the applicant to meet the needs of English language training in Cardiology was also fulfilled.

The only candidate participating in the competition is d-r Peter Fedev Nikolov, MD.

1. Biographical data:

D-r Peter Nikolov is a graduate of Plovdiv's Medical University. He graduated in medicine in 2007 with full honors – Hippocratic medal. He won the assistant competition in 2009 at the Cardiology section - First Department of Internal Diseases of the Plovdiv's Medical University and since 2014 he has been chief assistant professor. In 2013 he defended his PhD thesis on "Hypertension. Dissemination, functional and laboratory changes. Therapeutic approach". He

acquired a specialty in cardiology in 2012 and is currently working in the Invasive Cardiology division of the Cardiology Clinic of UMBAL "St. George" – Plovdiv.

2. General description of the submitted materials for the competition:

The following scientific works are presented in this competition:

- Abstract of dissertation work,
- Publications in refereed and non-refereed journals,
- Summaries of scientific forums,
- Monographs,
- Textbooks and manuals,
- Scientific projects.

3. Assessment of the scientific works on the overall academic development:

D-r P. Nikolov has presented 31 publications in foreign and Bulgarian journals, 10 of which are in refereed journals. Attendances at congresses and conferences are 21, 16 of which are abroad.

The citations are 28, of which 17 are from sources abroad and 11 - from Bulgarian authors.

Most of the publications are related to arterial hypertension (AH). The author has been conducting epidemiological studies for several years in southern Bulgaria for the spread of AH. The scientific interest is directed to the early manifestations and borderly conditions of AH - prehypertension and high normal blood pressure (HNAP). Laboratory and functional characterization of these conditions is made. Early changes in arterial stiffness, flow induced vasodilation and abnormalities in laboratory markers for endothelial dysfunction were identified. D-r Nikolov argues the thesis that these states are at a higher cardiovascular risk and in certain cases should be treated by drugs. A study is presented in which the ACE inhibitor ramipril has a beneficial effect in this category of individuals. The validity of this thesis is confirmed by the latest recommendations of the European Society of Hypertension, where drugs are recommended for HNAP individuals with high cardiovascular risk.

Six of the publications are related to metabolic syndrome (MS). Prehypertension is associated with a higher incidence of MS. The role of leptin and adiponectin in patients with metabolic syndrome has been investigated. Adipose tissue is recognized as a rich source of proinflammatory mediators. Adiponectin not only acts as an increasing insulin sensitivity factor, but its protective effect may be due to its ability to suppress the production of pro-inflammatory cytokines. It negatively regulates the expression of TNF-alpha and C-reactive protein (CRP) in adipose tissue, as well as vascular cellular adhesion molecules, intercellular adhesion molecules (VCAM-1, ICAM-1), E-selectin and interleukin-8 (IL-8). Hyperleptinemia is associated with the development of endothelial dysfunction/atherosclerosis and hypertension - two major pathophysiological states associated with the development of

cardiovascular diseases. Leptin-mediated enhancement of sympathetic nervous system activity may be among the major mechanisms causing obesity-related hypertension. Leptin stimulates the secretion of pro-inflammatory cytokines and increases the release of endothelin-1 (ET-1) – a factor which can stimulate the development of hypertension. Prehypertension is associated with decreased insulin sensitivity (so-called insulin resistance) of peripheral tissues and concomitant hyperinsulinemia, as well as with microvascular dysfunction.

Some of the publications are related to atherosclerosis. Of interest is the atherogenic mouse model and the effect of the ACE inhibitor trandolapril on vascular and organs changes. Interesting cases of interventional treatment of acute myocardial infarction have been presented. The predictors of carotid atherosclerosis, which is closely correlated with coronary disease, and the possibility of statins being used to prevent cerebrovascular disease are discussed.

Interesting is the publication in the field of the heart failure, where a new inflammatory biomarker YKL-40 has been investigated, which is related to the degree of inflammation and pathological tissue reconstruction. Its levels are significantly higher in heart failure (HF) compared to the controls.

The attached information shows that Dr. Nikolov has presented some of the issues at numerous international forums.

The monograph entitled Endothelial Dysfunction and Coronary Disease was published in 2019. It is impressing the number of the used sources - 554, quoted after each chapter. The applicant's scientific growth is evident in presenting a work, combining the competence of a functional and interventional cardiologist and reflecting the complex interactions between the endothelium and ischemic heart disease. Endothelial dysfunction is not only the beginning of the atherosclerotic process but also a concomitant phenomenon in the subsequent stages of atherosclerosis and its onset and complications. It is relevant in the whole process of the cardiovascular continuum: from the initial vascular damage, through the formation of atherosclerotic plaque, the onset of complications leading to the terminal stage. The monographic work strives to determine its importance for the diverse clinical manifestations and complications of the coronary artery disease. The function of the normal endothelium and the concept of endothelial dysfunction are presented in details. The various methods for the study of endothelial dysfunction have been described in great detail. An important focus is the differentiation of microvascular and macrovascular endothelial dysfunction in the context of understanding the coronary artery ischemia. Clinical conditions related mainly to microvascular endothelial dysfunction are discussed in details. On the other hand, the role of macrovascular endothelial dysfunction in the process of coronary plaque formation, destabilization and, during stenting, and late complications from interventional procedures is considered. The monograph concludes with a detailed description of the potential for non-drug and drug treatment of endothelial dysfunction.

D-r Nikolov has co-authored a collective monograph, "A Guide to Lipid Regulators in Clinical Practice, Past, Present, and Future."

The dissertation is titled "Prehypertension. Dissemination, functional and laboratory changes. Therapeutic approach." The main thesis of the dissertation is that prehypertension is a state which in some cases is more pathology than physiology. Clinical, laboratory, and functional characteristics of the condition are made using sensitive methods for proving arterial rigidity, endothelial dysfunction, and accounting for initial organ changes. In some cases, in combination, a high risk profile is formed which requires medical treatment. It should be emphasized that this approach at the moment of the

thesis' defense – 2013, is very innovative and right now it finds approval by the recommendations of the European society of hypertension of 2018.

The candidate's scientific publications are cited 28 times, in Scopus and Web of science - 9 times, 8 times other foreign sources - dissertations, book, periodical, 11 times in Bulgarian magazines.

D-r Petar Nikolov participates in three scientific projects, two of which have been successfully completed.

4. Teaching:

D-r Nikolov's teaching activity exceeds 420 hours per year. It includes lectures, practical lessons, participation in semester and state exams - both in English and Bulgarian. He participates in thematic courses for specialists in cardiology and resident doctors.

The applicant co-authored two textbooks, one in English.

5. Professional assessment:

D-r Nikolov has been a specialist in cardiology for 7 years and has 12 years of professional experience in the Cardiology Clinic of UMBAL" St. George" - Plovdiv. Of the proposed certificates for the expert level in Echocardiography and qualification in Invasive Cardiology, the impression for d-r P.Nikolov is made by a completed and complex cardiologist. He is a member of the National Societies of Cardiology and Invasive Cardiology, as well as of the European Society of Cardiology.

6. Overall assessment of the applicant's compliance with the national minimum scientometric requirements according to the 2018 AAA, as well as compliance with the mandatory conditions and scientometric criteria of the Rules of the Medical University of Plovdiv:

According to the 2018 ASDL and national scientometric requirements, d-r P. Nikolov completely meets the requirements for the academic position "associate professor". At minimal scientometric requirements of 400 points, d-r Nikolov's are 934.

Minimal required points by the groups of indices for the academic positions "Associate Professor" and "Professor" according to the 2018 ASIA

Group of indices	Content	Associate professor (points)	Professor (points)	D-r Petar F. Nikolov, MD,PhD (points)
A	Index 1	50	50	50
B	Index 2	-	-	
C	Indices 3 or 4	100	100	100
D	Group of indices from 5 to 9	200 (160 for PD 7.6)	200 (180 for PD 7.6)	392
E	Group of indices from 10 до 12	50	100	270
F	Group of indices from 13 till the end	-	100 (80 for PD 7.6)	115
Overall points		400		934

PD - Professional Direction

D-r Petar Nikolov meets all the mandatory requirements according to the rules of Plovdiv's Medical University for taking the position of associate professor - available scientific degree "doctor", recognized specialty, chief assistant professor for more than 2 years, published monographic work.

Mandatory scientometric criteria according to the rules of the Plovdiv's Medical University

Academic position –associate professor	Medical clinical disciplines	D-r Petar Nikolov, MD,PhD
Total number of publications - 25	25	31
- in refereed journals	5	10
- in journals with impact factor	1	5
Positive citations	15	28

7. Conclusion:

D-r Peter Fedev Nikolov is a specialist with comprehensive training in non-invasive and invasive cardiology. He has accumulated sufficient teaching experience. The presented scientific production is sufficient in volume, covering and even exceeding the requirements of the Law for the development of the academic staff in the Republic of Bulgaria and the Regulations for the development of the academic staff in the Medical University - Plovdiv. This gives me reason to recommend to the honorable members of the scientific jury to vote positively for d-r Peter Fedev Nikolov to be awarded the academic position "Associate Professor".

09.12.2019

Signature:



(Prof. Ivaylo Rilkov Daskalov, MD, PhD)