

## **Scientific opinion**

On the competition for occupation of the academic position of "ASSOCIATE PROFESSOR" in the scientific specialty "Clinical Laboratory" in the field of higher education 7. "Health and Sports" in the professional field 7.1 "Medicine", for the needs of the Clinical Laboratory at the National Heart Hospital – Sofia, announced in the State Gazette No.61 / 02.08.2019

With one candidate

**Dr. Dobrinka Dineva Savova, MD**

Senior Assistant at the Dpt of Clinical Laboratory of the MHAT- National Heart Hospital.

**By assoc. prof. Milena Georgieva Velizarova, MD, PhD**

Dpt of Clinical Laboratory, Medical Phaculty, Medical University-Sofia, Member of scientific jury, appointed by order N411/14.10.2019.

### *I. General description of the submitted documents for the competition.*

The application of only one candidate dr. Dobrinka Dineva Savova, was submitted on paper or in electronic form for participation in the competition.

The applicant has submitted all the necessary documents and supporting materials in accordance with the requirements for participation in a contest under the Law on the Development of Academic Staff in the Republic of Bulgaria and the Rules for the Conditions and Procedures for Acquiring Degrees and Occupation of Academic Positions at the National Heart Hospital.

### *II. Analysis of the applicant's career profile.*

Dr. Dobrinka Dineva graduated from the Medical Academy-Sofia with a Master's degree. She has held the academic positions of "III degree researcher" at the National Center for Cardiovascular Diseases and Rehabilitation since 1991., "II degree researcher" at the NCCVDR since 1997, and since 2009 she has been the Senior Assistant at the Clinical Laboratory of the MHAT "National Heart Hospital". Dr. Dineva has a recognized specialty in Clinical Laboratory since 1997. She obtained her PhD degree in 2013 after successfully defending her doctoral thesis "Monitoring of platelet activity by impedance aggregometry in the treatment of clopidogrel and / or aspirin in high-risk patients with coronary artery disease".

### *III. Assessment of the academic work for overall academic development.*

Dr. Dineva presented a total of 15 articles in Bulgarian scientific journals, 5 of them are published in Bulgarian refereed and indexed (Scopus and Web of science) journals, and 10 - in Bulgarian non-refereed journals with scientific peer-review or abstracts. In 3 scientific publications she is single or the first author (20%), in 5 (33%) she is the second co-author. Citations from Bulgarian and foreign authors are 27 in total.

Dr. Dineva has published an independent monograph entitled "Biology and function of platelets, functional tests and their application in clinical practice for evaluation of platelet response" (128 pages), as well as published 3 chapters in collective monographs. The habilitation work examined in detail the physiology of platelets, their basic functions in their participation in hemostasis, as well as impaired platelet function - congenital and acquired. The various types of platelet functional tests, which were initially used to diagnose coagulation disorders, are now applicable to monitor antiplatelet therapy and to predict thrombotic and bleeding risk. Dr. Dineva has summarized 10 years of clinical laboratory experience in monitoring of antiplatelet therapy and concluded that platelet aggregation studies with ADP test, ASPI test and TRAP test are very useful for controlling adequate perioperative hemostasis.

The scientific topics of Dr. Dineva's doctoral thesis and in many publications discussed the application of impedance aggregometry in the response monitoring of antiplatelet therapy in patients with coronary artery disease: identifying the relationship between high platelet residual activity and clinical outcome and different practical approaches to optimize therapy to reduce ischemic and hemorrhagic complications. In a study of residual platelet activity, Dr. Dineva found that patients, who were poorer responders to clopidogrel therapy, had a higher incidence of



instant thrombosis than those with an adequate response. In 3 of the applied publications, all in the journal of hematology, issues 1-2/2019, the platelet physiology and functions and the application of the platelet functional tests, developed for this purpose in clinical practice, have been examined in a consistent manner. The characteristics of the most commonly used antiplatelet agents in context of the recommendations of the European Society of Cardiology (ESC) 2017, were presented. The risk factors, pathophysiology, clinical presentation and diagnostic approach to heparin-induced thrombocytopenia (HIT) have been discussed. The therapeutic options for the administration of fondaparinux and direct oral anticoagulants (DDAK) in HIT were mentioned and guide recommendations were applied.

Dr. Dineva's and colleagues' scientific work is also related to the assessment of the influence of the genetic variants CYP2C19 \* 2 and CYP2C19 \* 17 on the ADP-induced platelet aggregation in patients treated with thienopyridines. As a result of the study, the incidence of the CYP2C19 \* 2 allele was found to be higher in the group with high residual platelet aggregation compared to the group with adequate platelet response; there was found no association between CYP2C19 \* 17 allele carrier and platelet aggregation response rates.

Scientific studies of interest expressed the effect of the administration of antiplatelet therapy by P2Y<sub>12</sub> receptor inhibitor applications to prevent thrombotic complications. The experience of individualizing therapy in patients with HPR with clopidogrel, prasugrel and ticagrelor has been shared.

The applicant's scientific activity has been documented through the participation in 59 international and national scientific forums, with 20 papers and 39 posters presented.

The active participation of the applicant in 12 educational courses at national and international trainings was also impressive in order to improve the professional qualification.

#### *IV. Assessment of teaching activity:*

Dr. Dineva is Senior Assistant in the Laboratory Diagnostics Division of the MHAT- National Heart Hospital. From the preliminary report (2013-2019) on the academic work, the largest part was occupied by the classroom employment in the postgraduate training of specialists in the clinical laboratory - an average of 201.6 hours / year. The student training was conducted in the form of exercises in the Internal Medicine module, medical students from 4<sup>th</sup> degree year - average 5.6 hours / year. No data were presented for participation in lecture courses in student

and post-graduate teaching, in foreign language teaching and participation in exam commission boards. No data on the candidate's extra-curricular employment were provided.

*V. Assessment of the minimum (mandatory) requirements for acquiring an academic position of Associate Professor.*

Groups of parameters	Content	Associate professor (minimum points)	Total points
A	Parameter 1	50	50
B	Parameter 3	100	100
G	Sum of parameters from 5 to 9	200	267.3
D	Sum of parameters from 10 to 12	50	160
Sum A+B+G+D		400	577.3

The comparative assessment of the mandatory requirements and their fulfillment showed, that the applicant fully covers and even exceeds the required number of points from all groups of scientific parameters.

*VI. Conclusion*

Based on the enclosed documents and the evidence according to the Law on the Development of Academic Staff in the Republic of Bulgaria and the Rules for the Conditions and Procedures for Acquiring Degrees and Occupation of Academic Positions at the National Heart Hospital, as well as on the basis of the upward academic development, publication activities, scientific activities and applied contributions, I believe that:

**Dr. Dobrinka Dineva Savova is a qualified laboratory specialist, scientific researcher and teacher and meets all the specific and obligatory conditions and requirements for academic post “Associate Professor” at the Dpt of Clinical Laboratory, National Heart Hospital, Sofia.**

24.11.2019

Sofia

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/Assoc. prof. Milena Velizarova, MD, PhD/