

## REVIEW

BY PROF. DR. VALERIE LYUBENOV GELEV, PHD.

HEAD OF CARDIOLOGY CLINIC

"ACIBADEM CITY CLINIC TOKUDA UNIVERSITY HOSPITAL "

**Subject: Competition for the academic position of "Associate Professor" - one position, in the field of higher education 7. Health and Sports, professional field, 7.1 Medicine, in the scientific specialty "Cardiology" for the needs of the Cardiology Clinic of "Acibadem City Clinic Tokuda University Hospital", published in the "Official Gazette" No. 85/14.10.2025**

### **1. Information about the procedure**

By order No.15-05-259#1/15.12.2025 of the Executive Director and the Procurator of "Acibadem City Clinic Tokuda University Hospital", I have been appointed as an internal member of the Scientific Jury.

All procedural requirements for announcing the competition, the deadline for submitting documents and for selecting the Scientific Jury have been met. Only one candidate has submitted documents for participation in the competition - Dr. Ivayla Zhivkova Zheleva-Kyuchukova, PhD, who meets all the requirements of the LDASRB, the Regulations for its implementation and the Regulations for the development of the academic staff at "Acibadem City Clinic Tokuda University Hospital".

In connection with the materials provided to me for the preparation of a review, I declare that I have not identified any evidence of plagiarism and I have no conflict of interest.

### **2. Professional data of the candidate**

Dr. Ivayla Zheleva, PhD was born in 1974. In 1999 she graduated from the Medical University of Sofia with a degree in medicine. Dr. Zheleva worked as a doctor successively in the Cardiology Clinic of the St. Catherine University Hospital (1999-09.2009), in the Department of Invasive Cardiology of the N.I. Pirogov University Hospital (10.2009 - 02.2013), and since 02.2013 - in the Cardiology Clinic of Acibadem City Clinic Tokuda University Hospital.

She has acquired specialties in Internal Medicine in 2009 and Cardiology - 2012, as well as highly specialized medical activity - "Invasive Cardiology" - 2010. In 2020, she graduated with a master's degree in "Public Health and Health Management" at the FPH, MU Sofia.

In 2021, Dr. I. Zheleva acquired the educational and scientific degree "PhD" after successfully defending a dissertation on the topic "Interventional treatment in patients with truncated stenosis and accompanying complex coronary pathology".

Dr. Zheleva has been a part-time lecturer at the Faculty of Medicine of Sofia University "St. Kliment Ohridski" since the academic year 2019/2020 and continues to participate in the training of medical students.

As of 10.12.2025, Dr. Zheleva has almost 25 years of work experience in the specialty.

Dr. Zheleva has completed a number of qualification courses and trainings in Bulgaria and abroad in the field of cardiology and interventional cardiology.

She is fluent in English.

### **3. Evaluation of the quantitative and qualitative indicators of the candidate**

Dr. Zheleva presents herself at the competition with a total of **94 scientific works**, of which: one dissertation for the acquisition of the educational and scientific degree "PhD", 40 scientific works and 53 participations in congresses and symposia in our country and abroad.

The scientific production of Dr. I. Zheleva, PhD includes:

- 6 scientific publications in journals with IF (Thomson Reuters)
- 10 – refereed and indexed journals (Scopus, Web of Science);
- 23 publications in Bulgarian journals (National Reference List);
- 1 – international non-indexed journal with scientific review

Independent or first author is in 27.5% of the actual publications, second author – 35%, and third and subsequent – 37.5%. Regardless of his place in the author team, Dr. Zheleva actively participates in the preparation and writing of the articles.

The candidate's scientific activity includes participation as an organizer, moderator and/or lecturer in 53 scientific forums in our country and abroad. Of these, 15 have printed abstracts (5 at international and 10 at national scientific forums), in some of the most authoritative publications in the field of cardiology with a high impact factor such as Am Coll Cardiol, Journal of the American College of Cardiology, etc.

From the submitted reference from the Central Medical Center, Medical University of Sofia and the attached documents, it was established that the candidate has a total of **31 citations**, of which Scopus and Web of Knowledge - 7, Bulgarian - 18 and other foreign sources - 6.

The **total impact factor** of Dr. Zheleva's scientific works is **60.483**, and the **individual impact factor** - **22.7372**. H index 2.

The number and quality of the scientific papers presented by Dr. Zheleva are fully sufficient for participation in the competition.

The table compares the quantitative criteria - the minimum national required points of "ACC UMHAT Tokuda" and those presented by the candidate.

| Group of indicators | Contents                   | Minimum required NACID points for "Associate Professor" | Points presented by Dr. I. Zheleva, PhD |
|---------------------|----------------------------|---|---|
| A                   | Indicator 1                | 50  | 50                                      |
| B                   | Indicator 2                | -   | -                                       |
| V                   | Indicator 3 or 4           | 100   | 139,52                                  |
| G                   | Sum of indicators 5 to 9   | 200   | 395,75                                  |
| D                   | Sum of indicators 10 to 12 | 50  | 220                                     |
| <b>Total points</b> |                            | <b>400</b>  | <b>805,27 p</b>                         |

Comparison by indicators, according to the regulatory requirements for the scientific and teaching activities for the appointment of Associate Professor of JSC Dr. I. Zheleva, shows that she covers them, and in almost all points significantly exceeds them. 805.27 points are presented, with 400 points required.

#### 4. Main scientific contributions

The scientific contributions of Dr. Zheleva are mainly related to coronary interventions - recanalization of chronic coronary occlusions (CTO), percutaneous interventions in main left coronary artery, bifurcation stenoses, treatment of high-risk patients.

The scientific research and scientific-applied contributions can be grouped into several sections:

##### **4.1 Percutaneous interventions in main stenosis.**

For the first time in Bulgaria, the candidate analyzes the results of his own prospective study, with a large number of patients after revascularization of the main left coronary artery, which he follows up long-term. The various aspects of the indications and indications for interventional treatment of the main left coronary artery, as well as the techniques for achieving optimal results, are examined. The predictors of major complications in interventions on the main left coronary artery are analyzed. The importance of the scoring systems - Euroscore and Synax score as factors for assessing immediate procedural results, short-term and long-term adverse events is emphasized.

The analysis shows that the individualized approach and the adaptation of the interventional strategy to the specific anatomy are key to achieving high procedural success. A significant original scientific-theoretical and scientific-practical contribution is the analysis of patients with high anatomical complexity (Syntax Score  $\geq 32$ ).

The works have shown that in the presence of an experienced interventional team and careful selection, PCI can be applied in this group of patients, with acceptable

early and medium-term clinical outcomes. Clinical, anatomical and procedural predictors of adverse cardiovascular events have been identified, which supports decision-making within the multidisciplinary "heart team".

The follow-up and analysis of this large group of patients, comparable in scope to the world's leading registries, led to the creation of an algorithm for behavior in percutaneous interventions on the left main coronary artery. Particular attention has been paid to distal bifurcation trunk lesions, which represent a serious technical challenge.

The detailed follow-up of these patients has been expressed in numerous publications and reports in international and national journals and forums. One of the many interesting topics examines the frequency, behavior and prognosis of patients with ACS and involvement of the LM as a culprit artery. These results, it can be said, are unique in their nature. The publications have discussed various double-stent and single-stent strategies, including culotte, T-stenting, and DK crush techniques, as well as the role of optimal lesion preparation in severe calcinosis.

#### ***4.2 Recanalization of chronic coronary occlusions (CTO)***

The scientific publications in the field of CTO that Dr. Zheleva has made are related to the epidemiology of this type of coronary lesions, anatomical features, as well as the indications and techniques for interventional revascularization. The candidate actively participated in the recruitment and follow-up of patients from the study initiated by the European Club for Chronic Occlusions, in which for the first time the effectiveness of interventional treatment was compared with drug therapy in patients with chronic coronary occlusions. Dr. Zheleva, as an experienced operator of CTO, has numerous publications on this topic, including those dealing with the avant-garde retrograde access for recanalization of this type of lesions. Dr. Zheleva's significant commitment to the topic of recanalization of chronic coronary occlusions is demonstrated by both the realization of many publications and the participation as a presenter and organizer of numerous forums dedicated to this problem, representing a scientific-theoretical and scientific-practical contribution.

#### ***4.3 Complex coronary interventions***

Publications have examined the importance and behavior in the presence of massive coronary calcification and global trends in the treatment of this type of lesions. The place of rotational atherectomy in the treatment of calcium lesions has also been examined, as well as an analysis of own results in the treatment of patients with rotablation.

Dr. Jeleva is one of the initiators and pioneers in intravascular lithotripsy in the treatment of coronary lesions with significant calcification. The rapidly accumulated experience and results are the basis for publications and presentations at international and national scientific events. They examine the possibilities of this new methodology, its specific features and the achieved results, as well as the optimal ways for its combined use with other methods for the treatment of highly calcified coronary lesions,

such as ablative techniques - rotablation and/or the treatment of lesions with high and ultra-high pressure balloons.

From a scientific and practical perspective, the experience in treating stented areas with suboptimal stent expansion is also interesting.

#### **4.4 Non-obstructive Coronary Disease**

For the first time in the country, the clinic operates the system for invasive assessment of coronary microcirculation for the diagnosis of the various phenotypes of ANOKA. After the introduction of this new methodology, some experience has been gained, which has been shared in presentations and publications, which leads to timely diagnosis and allows for individualization of therapy for these patients and a significant improvement in their quality of life. Realizing the importance of the problem and the need to popularize it, coronary physiology and in particular the assessment of microcirculation, it is in the focus of the annual international course BBC - Bulgarian Course on Bifurcations and Complex Coronary Interventions, in January 2025, where Dr. Zheleva was an active participant, both in the discussions on this current problem and the main operator in the live broadcasts.

#### **4.5. Miscellaneous**

- The influence of Heart Rate Variability and its changes in patients with CHD before and after revascularization, as well as in patients with degenerative aortic stenosis, has been analyzed.
- Of particular interest are the publications dedicated to the **diagnosis and treatment of patients with heart failure with preserved ejection fraction**, which show the significant interest of the candidate in this current problem.
- Special attention also deserves the publications dedicated to the regimens of **antiplatelet therapy in patients after PCI and high risk of bleeding**, as well as antithrombotic therapy in patients after coronary artery bypass grafting.
- Reviews have been made of the **modern treatment** of acute coronary syndrome, heart failure, dyslipidemia, arterial hypertension.
- A clinical case of endovascular treatment of life-threatening conditions in urology has been shared.
- The experience of contrast-induced neurotoxicity after interventional treatment of cerebral aneurysm, which is a very rare but severe post-procedural complication, is shared.

The candidate's scientific output is of an original nature and includes numerous scientific-applied, scientific-theoretical and confirmatory contributions of great practical importance.

## **5. Teaching and learning activities**

The teaching workload of Dr. Ivayla Zheleva includes active participation in the training of medical students in Bulgarian and English, cardiology residents and postgraduate training of cardiologists and general practitioners. The teaching workload for the period is excellently presented.

Certificate No. 19-812/01.12.2025 is presented, issued by the Education Department of "Acibadem City Clinic Tokuda University Hospital", which certifies a total teaching workload of 1289 equiv. hours for the period from 01.01.2021 to 31.11.2025. She is the head of specialization of 4 cardiology residents. Official note No. 282/04.12.2025 from the Faculty of Medicine of Sofia University "St. Kliment Ohridski" certifies the teaching load as a part-time lecturer for the period from the academic years 2022/2023 to 2024/2025 inclusive, a total of 594 teaching hours.

Dr. Zheleva teaches medical students in Bulgarian, III year "Propaedeutics of Internal Medicine" - Cardiology, IV year students and intern doctors (VI year) in the discipline Internal Medicine - Cardiology in Bulgarian and English at the Faculty of Medicine of Sofia University "St. Kliment Ohridski". She actively participates in scientific forums on cardiology with review and scientific reports.

## **6. Medical and diagnostic activities**

Dr. Zheleva's medical and diagnostic activities include diagnostics of cardiovascular diseases, recanalization of CTO, endovascular treatment of coronary lesions, bifurcation stenoses, drug treatment of high-risk patients in cardiology, as well as interventional treatment of vascular diseases. Recently, she has gained extensive experience in the endovascular treatment of aortic stenosis in high-risk patients.

Dr. Zheleva is a well-established doctor - an internist, cardiologist, specialist in invasive cardiology and endovascular treatment of vascular diseases, with extensive clinical experience, performing a full range of complex invasive cardiovascular procedures. She actively participates in intra-clinical, inter-clinical and outpatient consultative activities in internal medicine and cardiology, as well as in discussing patients in the intensive care unit and determining the treatment and diagnostic algorithm.

## **7. Expert activity**

Dr. Zheleva is a member of national and international scientific societies and organizations, and in some of them holds leadership positions.

She is a member of:

- Bulgarian Cardiology Society,
- European Society of Cardiology;
- Bulgarian Society of Invasive Cardiology: for 4 consecutive terms she has been a member of the Board;

Dr. Zheleva is a peer reviewer of three scientific manuscripts in peer-reviewed scientific journals, including Bulgarian Cardiology and Pharmacia for the period 2023–2024.

## **CONCLUSION**

The candidate Dr. Ivayla Zheleva, PhD, fully meets the requirements of the LDASRB, the Regulations for the Implementation of the LDASRB, the Regulations for the Development of the Academic Staff at Acibadem City Clinic Tokuda University Hospital for holding the academic position of Associate Professor.

In my long-standing acquaintance and professional collaboration, I have become convinced that Dr. Zheleva is a professional with excellent theoretical training, broad general culture, erudition and clinical practice. She actively participates in medical congresses and symposia, has acquired numerous additional qualifications and has proven her place as a pioneer and leading expert in the field of invasive cardiology. Her holding leadership positions in scientific societies is convincing evidence of the great authority she enjoys among the guild in our country and abroad.

**Considering the above, I strongly recommend that the esteemed members of the Scientific Jury vote positively for the election of Dr. Ivayla Zhivkova Zheleva-Kyuchukova, PhD, to occupy the academic position of "Associate Professor" in the field of higher education 7. Health and Sports, professional field, 7.1 Medicine, in the scientific specialty "Cardiology" for the needs of the Cardiology Clinic at "Acibadem City Clinic Tokuda University Hospital "**

20.01.2026  
Sofia

Prepared the review:

(Prof. Dr. Valeri Gelev, PhD.)

