

To the Chair
of the Scientific Jury,
Medical University,
“Prof. Dr. Paraskev Stoyanov” Varna

STATEMENT

By Prof. Dr. Zhaneta Georgieva Tyaneva, MD, member of the Scientific Jury appointed by Order No. R-109-274/July 30, 2026, of the Rector of the Medical University, Varna, for the academic position of “Associate Professor” in Higher Education Field 7, “Health Care and Sports,” Professional Area 7.1, “Medicine,” and the scientific specialty “Rheumatology,” for the needs of the Department of Cardiology and Rheumatology, the Faculty of Medicine at MU-Varna and the Rheumatology Clinic at the “St. Marina” University Hospital EAD in Varna.

One candidate has submitted documents for the competition: Senior Assistant Professor Dr. Simona Bogdanova-Petrova, M.D., Department of Cardiology and Rheumatology, Faculty of Medicine, Medical University of Varna, Department of Rheumatology, “St. Marina” University Hospital EAD. The documents submitted by the candidate comply with the requirements of the regulations for the academic position of “associate professor” and the bylaws of the Medical University of Varna.

Biographical information

Dr. Simona Petrova was born in 1984 in Kočani, North Macedonia. She earned her master’s degree in medicine in 2009. In 2016, she completed her specialty training in Rheumatology. Since 2022, she has been an independent doctoral candidate at the Department of Propaedeutics of Internal Medicine, Medical University of Varna, with a dissertation topic: “Pain as Part of the Rheumatological Manifestations of COVID-19 Viral Infection.” She earned her doctoral degree in 2023. Since 2015, she has been a resident in rheumatology, and since 2026, a senior resident in the Department of Cardiology and Rheumatology, Division of Rheumatology, Medical University of Varna.

Scientific research activities; evaluation of quantitative and qualitative indicators.

To meet the minimum state requirements under the Law on Scientific Research and the Regulations for the Implementation of the Law on Scientific Research at

MU-Varna, Dr. Petrova has submitted the following for review: Habilitation thesis—monograph: **1**; Publications in scientific journals, peer-reviewed and indexed in internationally recognized databases (Scopus/Web of Science)—**13**; Publications in non-peer-reviewed journals—**2**; Of the publications submitted for the competition, the candidate is: the first author in 5 of them, the sole author in 2 of the publications; and the second author in 6 of them.

The habilitation thesis, “Pain, Mood, and the Relationship Between Them,” has a total length of 159 pages and a bibliography listing 334 authors. **Total: 100 points.** It examines pain as a biopsychosocial phenomenon and emphasizes the relationship between pain and mental health. The monograph provides an analysis of the common neurobiological mechanisms and therapeutic approaches to pain and mood disorders. Dr. Petrova thoroughly analyzes the relationship between pain and mental health as interconnected conditions with shared pathogenetic mechanisms. It is emphasized that effective treatment requires an integrated diagnostic and therapeutic strategy targeting both the physical and psychoemotional manifestations of the condition. The monograph is written in precise, clear, and scientifically sound language. With her interdisciplinary approach to the problem, Dr. Petrova not only provides an in-depth analysis but also introduces innovative solutions. The strategies for dual-purpose treatment represent a new approach to managing the accompanying disorders.

Full-text publications in scientific journals, cited and indexed in a global scientific information database – 13.

Citations: 8 citations in peer-reviewed scientific journals, totaling 50 citations. The data reported for this indicator exceeds the minimum national requirements of the Law on Academic Staff and the Regulations of MU-Varna for the appointment to the academic position of “Associate Professor.”

Most Significant Scientific Contributions:

Pain and Rheumatological Manifestations in COVID-19 - An in-depth analysis of rheumatological manifestations in COVID-19 was conducted, clarifying the role of arthralgia, myalgia, and other musculoskeletal symptoms in the clinical picture of the disease. Data were presented on the role of inflammatory cytokines, immune dysregulation, and autoimmune processes as potential factors in the development of rheumatological complications in SARS-CoV-2 infection.

Immune-mediated inflammatory joint diseases. The pathogenic mechanisms of immune-mediated inflammatory joint diseases and the role of endothelial dysfunction as a factor in the development of accelerated atherosclerosis and

increased cardiovascular risk are discussed. The study of serum concentrations of the intercellular adhesion molecule ICAM-1 and the vascular cell adhesion molecule VCAM -1 in patients with ankylosing spondylitis and psoriatic arthritis demonstrates their potential value as biomarkers for endothelial activation and subclinical vascular damage. The results provide some insights into the relationship between chronic systemic inflammation and increased cardiovascular risk, with the potential for early prevention of vascular complications. The evaluation of the efficacy and safety of the relatively new targeted therapy with Janus kinase inhibitors in real-world clinical practice is of particular importance in scientific research. The therapeutic response, disease activity trends, functional status, and safety profile in patients with inflammatory joint diseases were analyzed.

Systemic connective tissue diseases—current treatment approaches—are a heterogeneous group of chronic autoimmune diseases characterized by impaired immune tolerance, the production of autoantibodies, and the development of multisystem inflammation with varying degrees of organ damage.

Artificial Intelligence in Rheumatology—Innovative Approaches in Modern Diagnosis and Treatment The current shift toward artificial intelligence in rheumatology summarizes the latest data on AI-based tools in the fields of ultrasound, radiography, MRI, computed tomography, capillaroscopy, and laboratory analyses. These publications highlight Dr. Petrova's in-depth interest in issues in rheumatology.

The research projects cover various areas of this field and are of a **scientific-theoretical, scientific-practical, and confirmatory theoretical-practical nature**. They are related to common and socially significant **immune-mediated inflammatory joint diseases and systemic autoimmune diseases of the connective tissue**. Emphasis is placed on the social and medical significance of pain. A current interpretation of the relationship between pain, inflammation, and mental health is presented, underscoring the need for a comprehensive, multidisciplinary approach to diagnosis and treatment. The results obtained have both theoretical significance for the advancement of rheumatology and substantial practical value for daily clinical practice. The new treatment approaches contribute to the implementation of a modern, evidence-based, and personalized approach to the treatment of **systemic autoimmune connective tissue diseases**. They expand our understanding of the efficacy and safety of biological and immunomodulatory therapies and highlight the importance of laboratory markers for monitoring therapeutic response. Dr. Petrova is investigating the role of **artificial intelligence in rheumatology** as a tool to

support clinical decision-making and a personalized approach for patients with rheumatic diseases. Her scientific works present a consistent line of research aimed at refining the diagnostic process, assessing associated risks, optimizing modern drug therapy, and improving preventive strategies for immune-mediated joint diseases. The presented studies have scientific significance for the pathogenesis and clinical course of these diseases and practical value for optimizing clinical management, personalizing treatment, and improving patients' quality of life.

Teaching, research, and administrative activities. Since 2015, Dr. Simona Petrova has been an assistant physician in rheumatology, and since 2026, a senior assistant physician in the Department of Cardiology and Rheumatology, Division of Rheumatology, Medical University of Varna. Dr. Petrova's teaching load meets the requirements for the academic position of "associate professor." As a lecturer, she is respected and beloved by her students.

Conclusion: According to the requirements of Medical University of Varna and the National Agency for Academic Development and Innovation (NAADI) for the academic position of "Associate Professor," Dr. Simona Bogdanova Petrova may be designated as a researcher capable of independent scientific work in the field of rheumatology, as well as a conscientious and responsible physician with a high level of professionalism. The scientific works and reports submitted meet the accepted scientometric criteria set forth in the Law on the Development of Academic Staff in the Republic of Bulgaria and in the Regulations on the Development of Academic Staff at MU-Varna for holding the academic position of "Associate Professor."

I confidently recommend to the Scientific Jury Dr. Simona Bogdanova-Petrova, M.D., for the academic position of "associate professor" in the professional field of medicine, in the specialty of "rheumatology."

10.09.2026

Varna

Reviewer:

(Assoc. Prof. Dr. Zh. Georgieva, M.D.)

Заличено на основание чл. 5,
§1, б. „Б“ от Регламент (ЕС)
2016/679