

To the Chair of the Scientific jury,
appointed by order from the
Rector of the Medical university of Varna
N: P-109-274/30.07.2026

STATEMENT

by Assoc. Prof. Atanas Angelov Atanasov, MD, PhD
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Member of the Scientific Jury for the competition (SG No.50/02.06.2026)
For the academic position of “**Associate Professor**” in the higher education area
7. “Healthcare and Sport”, professional field 7.1 “Medicine”,
Scientific speciality “**Rheumatology**”, for the needs of the Faculty of Medicine,
Department of cardiology and rheumatology,
and the Clinic of Rheumatology at UMPHAT “St.Marina”, Varna

Pursuant to Order No. P-109-274/30.07.2026 issued by the Rector of the Medical university of Varna, I was appointed as a member of the Scientific Jury. According to Minutes No. 1 of the first meeting of the Scientific jury, I was assigned to prepare the present opinion concerning the procedure for the appointment to the academic position of Associate Professor for the needs of the Faculty of medicine, Department of cardiology and rheumatology, and the Clinic of rheumatology at St. Marina University Hospital, Varna.

The competition procedure has been conducted in full compliance with the applicable legal and institutional regulations, and no procedural violations have been identified. The competition was entered by a single candidate – Dr. Simona Bogdanova-Petrova, MD, PhD.

1. Brief biographical information about the candidate

Dr. Simona Bogdanova graduated from the Medical University of Varna in 2009. Since 2010, she has been working at the Clinic of rheumatology, St. Marina University Hospital, Varna, and since 2015 she has also served as an Assistant lecturer in the Department of internal medicine at the Medical university of Varna. She obtained her specialty in Rheumatology in 2017. In 2024, she was appointed Chief assistant professor in Rheumatology within the First Department of Internal Medicine at the Medical University of Varna.

In 2023, Dr. Bogdanova was awarded the educational and scientific degree Doctor (PhD) following the successful defense of her doctoral dissertation entitled "Pain as Part of the Rheumatological Manifestations of COVID-19 Viral Infection."

2. Research activity of the candidate – evaluation of quantitative and qualitative indicators

Dr. Simona Bogdanova has submitted the following scientific works for evaluation:

1. **Monograph:** *Pain, Mood and Their Relationship*. Simona Bogdanova. ISBN 978-619-241-401-6, 160 pages.
2. **Doctoral dissertation** for the award of the educational and scientific degree **Doctor (PhD)** entitled *Pain as Part of the Rheumatological Manifestations of COVID-19 Viral Infection*.
3. **Full-text publications** in peer-reviewed journals indexed in internationally recognized scientific databases – 13 publications.
4. **Full-text publications** in peer-reviewed scientific journals – 2 publications.
5. **Full-text publication** not included in the minimum national requirements for participation in the competition – 1 publication.

6. **Conference posters** presented with accompanying oral communications and published abstracts at national and international congresses and scientific meetings – 19 presentations.
7. **Oral presentations** at national congresses and conferences with international participation, accompanied by published abstracts – 3 presentations.

Dr. Simona Bogdanova is the sole author of two scientific publications. She is the first author of five publications and the second author of six publications. In six additional publications, she is listed as the third or a subsequent author. The majority of her scientific works have been published in English-language or bilingual journals. Nine of her publications have appeared in journals with an Impact Factor, with a cumulative Impact Factor of 15.34.

Citations: Dr. Simona Bogdanova's scientific publications have received eight citations, all of which are in scientific journals indexed in internationally recognized bibliographic databases.

3. Main research areas of the candidate and principal fields of scientific publications

- Pain and rheumatological manifestations associated with COVID-19 infection
- Immune-mediated inflammatory joint diseases – epidemiology, prevention, and diagnostic and therapeutic approaches
- Systemic connective tissue diseases – contemporary therapeutic strategies
- Rare manifestations relevant to rheumatological practice – challenges in clinical medicine
- Artificial intelligence in rheumatology – innovative approaches to contemporary diagnosis and treatment

4. Scientific and applied contributions

A substantial proportion of Dr. Simona Bogdanova's scientific work has focused on **pain and the rheumatological manifestations of COVID-19 infection**. Her publications have investigated multiple aspects of this condition, including:

- The frequency, clinical characteristics, and duration of arthralgia, myalgia, and other musculoskeletal manifestations in the clinical course of COVID-19. The publications provide evidence regarding the role of inflammatory cytokines, immune dysregulation, and autoimmune mechanisms as potential contributors to the development of rheumatological complications following SARS-CoV-2 infection.
- The impact of COVID-19 infection on patients with autoimmune rheumatic diseases, together with the specific challenges related to their management during the pandemic. The mechanisms underlying the development of persistent post-infectious chronic pain are comprehensively discussed, as are the opportunities for multidisciplinary diagnostic evaluation and therapeutic management.
- A particularly valuable scientific contribution is the systematic review and critical appraisal of contemporary evidence regarding pain as a multifactorial biopsychosocial phenomenon, considered not merely as a symptom of infection but as an independent pathophysiological process with substantial implications for patients' quality of life and functional capacity.

Dr. Bogdanova's monograph, **"Pain, Mood and Their Relationship,"** extends beyond the traditional boundaries of rheumatology and possesses all the characteristics of a truly interdisciplinary scholarly work. Pain is presented as a universal human experience accompanying individuals throughout their lives and representing one of the most complex sensory and emotional phenomena. It is described as a multidimensional construct resulting from the interaction of biological, psychological, and social factors. Pain is further characterized as an inherently subjective experience, whose onset, intensity, and interpretation

are influenced not only by individual biological characteristics but also by environmental factors, life experiences, cultural background, and emotional state. Owing to its unpleasant nature, pain is invariably associated with negative emotional experiences and frequently affects behaviour, decision-making, and self-regulation, thereby extending beyond the boundaries of sensory perception to become a complex psychophysiological phenomenon.

The author devotes particular attention to chronic pain as a major medical, social, and economic challenge associated with substantial healthcare expenditures and a profound deterioration in patients' quality of life.

The concept of nociception is comprehensively discussed as the neurophysiological process responsible for the detection and processing of potentially harmful stimuli. A clear distinction is made between nociception and the subjective experience of pain, emphasizing that nociceptive activity is neither a prerequisite for the perception of pain nor necessarily accompanied by pain, while pain may occur even in the absence of active nociceptor stimulation. This distinction is fundamental to understanding contemporary concepts of chronic pain and its underlying mechanisms. Pain is therefore defined as a subjective phenomenon whose perception continuously evolves throughout the human lifespan.

Particular emphasis is placed on the relationship between pain and mental health. Effective management requires an integrated diagnostic and therapeutic strategy addressing both the physical and psycho-emotional dimensions of disease. Such an approach has the potential to improve patients' quality of life, functional capacity, and long-term prognosis, while simultaneously reducing the burden on healthcare systems and society.

Scientific contributions in the field of immune-mediated inflammatory joint diseases

The candidate's principal scientific contributions in this field include:

- Publications addressing contemporary aspects of the diagnosis, prevention, disease activity assessment, and modern treatment of inflammatory joint diseases, with particular emphasis on seronegative spondyloarthritides, including axial spondyloarthritis and psoriatic arthritis.
- Investigation of the pathogenetic mechanisms underlying immune-mediated inflammatory joint diseases, particularly the role of endothelial dysfunction in the development of accelerated atherosclerosis and increased cardiovascular risk. The assessment of serum concentrations of intercellular adhesion molecule-1 (ICAM-1) and vascular cell adhesion molecule-1 (VCAM-1) in patients with ankylosing spondylitis and psoriatic arthritis demonstrated their potential utility as biomarkers of endothelial activation and subclinical vascular injury.
- Evaluation of therapeutic response, changes in disease activity, functional status, and safety profile in patients with inflammatory joint diseases receiving targeted therapy with Janus kinase (JAK) inhibitors. The results demonstrate high clinical efficacy, rapid control of inflammatory activity, significant improvement in functional capacity, and an acceptable safety profile.
- Analysis of the diagnostic characteristics of non-radiographic axial spondyloarthritis. Through comparative evaluation of the clinical and imaging phenotypes of the disease, differences in disease activity, functional impairment, and quality of life were assessed. The findings indicate that, despite the absence of structural radiographic changes in a proportion of patients, the disease is associated with substantial impairment in daily functioning and quality of life, highlighting the importance of early diagnosis and timely initiation of appropriate treatment.
- Investigation of adherence to recommended vaccination programmes among patients with inflammatory arthritis and identification of factors influencing vaccination coverage. Despite the availability of international recommendations, uptake of recommended vaccinations

remains suboptimal. The principal barriers identified include insufficient patient awareness and inadequate discussion of vaccination within routine clinical practice.

Scientific contributions in the field of systemic connective tissue diseases

The candidate's principal scientific contributions in this field include:

- In a prospective study involving patients with systemic lupus erythematosus treated with biological agents, including belimumab, real-world clinical data were generated regarding the effectiveness and safety of biological therapy in routine Bulgarian clinical practice. The study demonstrated a significant reduction in disease activity, as assessed by the SELENA-SLEDAI index, together with a substantial decrease in the need for maintenance glucocorticoid therapy while maintaining a favourable safety profile.
- Data have been presented on the monitoring of organ damage in immune-mediated diseases through the assessment of proteinuria as a biomarker of disease activity and therapeutic response in glomerular disorders. Early and sustained reduction of proteinuria was shown to be associated with improved therapeutic outcomes and a more favourable prognosis, confirming its value as an accessible and clinically relevant tool for patient monitoring in routine practice.
- Contemporary mechanisms underlying the immunomodulatory effects of intravenous immunoglobulins have been critically reviewed, together with their role in the management of various autoimmune diseases. Both established and emerging therapeutic indications, including off-label applications, have been systematically analysed, highlighting their contribution to the individualization of treatment strategies for patients with complex autoimmune disorders.

Scientific contributions in the field of rare manifestations relevant to rheumatological practice

Within this research area, the candidate has reported a rare extra-articular manifestation of rheumatic disease—aortitis associated with seronegative spondyloarthropathies—which may occasionally represent the initial clinical presentation of the disease. Another publication addresses the musculoskeletal manifestations of endocrine disorders, including polycystic ovary syndrome and thyrotoxicosis, emphasizing the importance of their recognition in rheumatological differential diagnosis.

Scientific contributions in the field of artificial intelligence in rheumatology

The candidate's work in this field provides a comprehensive overview of contemporary applications of artificial intelligence in rheumatology, with particular emphasis on its role in imaging and laboratory diagnostics. The available evidence regarding AI-assisted interpretation of conventional radiography, musculoskeletal ultrasonography, magnetic resonance imaging, and computed tomography has been systematically reviewed, together with the application of artificial intelligence in the analysis of laboratory parameters, autoantibodies, biomarkers, and multimodal clinical datasets. Furthermore, the publications highlight the potential of AI-based predictive models for early diagnosis, disease activity assessment, prediction of structural progression, and therapeutic response.

5. Teaching Activity

Dr. Simona Bogdanova delivers lectures and practical classes in Internal Medicine to undergraduate medical students enrolled in both the Bulgarian- and English-language programmes, as well as to students in the Faculty of Dental Medicine. She also serves as a member of semester and state examination committees.

In addition, Dr. Bogdanova is actively involved in the postgraduate training of rheumatology residents. She participates in teaching within the Capillaroscopy Course and contributes as a lecturer and instructor in workshops conducted during national and international scientific conferences.

In conclusion, Dr. Simona Bogdanova, MD, PhD, is a well-established rheumatologist with an extensive and high-quality scientific record. A substantial proportion of her research has been published in reputable international peer-reviewed journals. Her scientific achievements and teaching activity fully satisfy the requirements of the Regulations on the development of the academic staff in Republic of Bulgaria and the Regulations on the conditions and procedures for the acquisition of academic degrees and appointment to academic positions at the Medical University of Varna.

Based on the above considerations, I confidently recommend that the distinguished Scientific Jury vote positive of appointing Dr. Simona Bogdanova, MD, PhD, to the academic position of Associate professor in the scientific specialty of "Rheumatology", for the needs of the Department of cardiology and rheumatology, Faculty of Medicine, Medical University of Varna.

Заличено на основание чл. 5,
§1, б. „В“ от Регламент (ЕС)
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Assoc. Prof. Atanas Angelov, MD, PhD

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