

REVIEW

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Regarding the procedure for appointment to the academic position of “Associate Professor” in Higher Education Area 7. “Healthcare and Sports”, Professional Field 7.1 “Medicine”, scientific specialty “Orthopaedics and Traumatology” – 0.5 full-time equivalent position at the Department of Orthopaedics and Traumatology, Faculty of Medicine, and 1 full-time position at the Clinic of Orthopaedics and Traumatology, University Hospital “St. Marina” EAD – Varna, in connection with a competition announced in the State Gazette, issue No. 50/02.06.2026.

This review has been prepared in accordance with the Development of Academic Staff in the Republic of Bulgaria Act, the Regulations for the implementation of this Act, the Regulations for the Development of the Academic Staff at the Medical University of Varna /amended on 27.07.2026/, Appendix No. 1 to these Regulations, and Order No. R 109-273/30.07.2026 of the Rector of the Medical University of Varna.

Only one candidate is participating in the competition – Stoyan Ivanov Ivanov, MD, PhD – Chief Assistant Professor at the Department of Orthopaedics and Traumatology, Medical University of Varna.

Dr Ivanov is 42 years old. He graduated in Medicine from the Medical University of Sofia in 2009 (Diploma No. 026514 of 2009). He acquired the specialty “Orthopaedics and Traumatology” in 2015 (Certificate No. 3681 of 01.01.2016). In 2020, he was awarded the educational and scientific degree “Doctor” (PhD) by a Scientific Jury after successfully defending a dissertation entitled “Minimally Invasive Surgery for Displaced Intra-articular Fractures of the Calcaneus” (Diploma No. 406 of 29.12.2020). He has held a Master’s degree in “Health Management” from the University of National and World Economy, Sofia, since 2018 (Diploma No. 039127 of 2018).

Dr S. Ivanov, MD, PhD, has 15 years and 2 months of professional experience, of which 10 years and 8 months are as an orthopaedic trauma surgeon, respectively at Medical Center “Clinic Nova”, St. Anna Hospital – Varna, and, since 2022 to the present, at University Hospital “St. Marina”. (Certificate No. 0-930/21.07.2026 issued by University Hospital “St. Marina” EAD – Varna). Since September 2021, Dr Ivanov has been a member of the academic staff of

the Department of Orthopaedics and Traumatology at the Medical University of Varna, successively progressing through the entire non-habilitated academic career hierarchy – Assistant Professor and Chief Assistant Professor (Certificate No. 099-1976/10.06.2026). The candidate was also a part-time Assistant Professor at the Medical University of Varna during the period 2017–2019.

Dr Ivanov, MD, PhD, has completed dozens of specializations in orthopaedic and trauma surgery in Bulgaria, the EU, and at the AO Research Institute, Davos, Switzerland. He has recognized competence in five highly specialized activities under the National Framework Agreement. He has completed Basic, Advanced, and AO Recon courses within AO Trauma (2017–2021). Dr S. Ivanov is a member of prestigious professional organizations: BOTA, EHS, EFORT, EFAS, and the AO Foundation. He is fluent in English and German.

1. SCIENTIFIC OUTPUT

For the present competition, Stoyan Ivanov Ivanov, MD, PhD, has submitted: a list and available copies of the abstract of his dissertation “Minimally Invasive Surgery for Displaced Intra-articular Fractures of the Calcaneus”; a habilitation thesis entitled “Contemporary Strategies for Optimizing Surgical Treatment and Implant Safety in Orthopaedics and Traumatology”, based on 10 articles referenced and indexed in WoS and Scopus (9 of them with an Impact Factor); scientific publications in specialized journals; and reports and communications from participation in international and national conferences, symposia, and congresses – a total of 73 titles. The quantitative indicators presented by the candidate are summarized in the following tables:

A. Analysis of all scientific works

Scientific works	Number
Abstracts of doctoral dissertations	1
Habilitation thesis based on 10 articles referenced and indexed in WoS and Scopus	1
Articles published in peer-reviewed journals and scientific proceedings	10
Publications in referenced journals (of which with IF)	22 (17)
Scientific communications at international scientific forums	5
Scientific communications at national scientific forums with published abstracts	34
Total	73

B. Citation analysis

Citations	Number
Citations in Bulgarian sources	0
Citations in international sources	8
Total	8

For citations in Bulgarian and international sources, a reference report from the Medical Library – Medical University of Varna, No. 379/17.06.2026, has been submitted.

B. Analysis of scientific activity according to Art. 126 and Appendix 1 of the Regulations for the Development of the Academic Staff at the Medical University of Varna dated 21.11.2022

Scientific works	Sole-authored	First author	Second/subsequent author	Last author	Number
Dissertations	1	0	0	0	1
Habilitation thesis	1	0	0	0	1
Publications and reports in non-indexed peer-reviewed journals or published in edited collective volumes	0	3	7	0	10
Publications and reports in scientific journals referenced and indexed in internationally recognized databases	0	5	14	3	22
Total	2	8	21	3	34

For the total number of works of Dr Ivanov submitted for participation in the competition, in accordance with the Regulations for the Development of the Academic Staff at the Medical University of Varna and Appendix 1, I accept 21 (twenty-one scientific works) from the total number of scientific works with which the candidate participates in the competition. These are the abstract of the dissertation for the educational and scientific degree, the habilitation thesis, and articles outside the latter. In 13 of them (38%), the candidate is sole, first, or last author. They contain original scientific research and are published predominantly in English (17 publications). The works accepted by me have not been used in previous competitions for the award of the educational and scientific degree “Doctor” (PhD).

According to Appendix 1 of the Regulations for the Development of the Academic Staff at the Medical University of Varna, Dr Ivanov’s habilitation thesis – “Contemporary Strategies for Optimizing Surgical Treatment and Implant Safety in Orthopaedics and Traumatology” – has a volume of 90 pages. It contains data from original scientific research and consists of 14 sections, with 8 tables, 13 figures, and 68 bibliographic references. The main objective of the habilitation thesis is to analyze and summarize contemporary strategies for increasing the predictability, mechanical stability, safety, and measurability of surgical treatment in

orthopaedics and traumatology through the integration of biomechanical, clinical, digital, materials-science, and registry-based approaches. The 11 formulated tasks fully correspond to the topic. Sixteen conclusions with high methodological, scientific-theoretical, and scientific-applied significance have been drawn. Personally, it is unclear to me why such a completed independent work has not been published as a monograph. The habilitation thesis fully complies with the legal requirements for this type of work and with the requirements of the present competition.

Dr Ivanov has 29 (twenty-nine) actual publications. In accordance with the requirements, 22 (twenty-two) of them are in journals referenced in WoS and Scopus, 17 (seventeen) of which have an Impact Factor. Ten (10) of them were used for the habilitation thesis. Thus, the remaining 12 articles form a total of 173.57 points under Indicator 7.

The candidate's works have 8 citations. All of them are in referenced international journals. In reality, the number of citations is much higher, with 52 citations recorded in WoS alone; however, for the competition, only the minimally presented citations documented by the Library of the Medical University of Varna were assessed.

The candidate has participated in 2 research projects: Project Leader of Science Fund Project No. 22015 – Competition Session 2022, and participant in Science Fund Project No. BG-RRP-2.004-0009 MUVE-TEAM (MUVE-TEAM), “Personalised Implants for Bone Regeneration Therapy (PERSIM)”.

As additional evidence of the high scientific output of Dr St. Ivanov, MD, PhD, I may also note the scientific reports and communications (according to the submitted list) at international and national congresses – a total of 34. These participations are in leading scientific forums in the specialty – congresses and conferences of BOTA, most of which have international participation, congresses of IMAB, EFORT, and others.

The candidate has presented registrations in WoS, Scopus, Google Scholar, and ORCID, with publications and their corresponding citations reflected in his scientific profile (Academic Reference Report).

According to the National Minimum Scientometric Requirements for appointment to the academic position of “Associate Professor”, Professional Field 7.1 Medicine, under which the competition is conducted, and Appendix 1 to the Regulations, Dr S. Ivanov, MD, PhD, fully meets the stipulated minimum scientometric requirements for appointment to the academic position of “Associate Professor” at the Medical University of Varna:

Group of indicators	Content	Minimum requirements for “Associate Professor”	Evidence submitted by the candidate for the competition at the Faculty of Medicine, MU-Varna	Points		% fulfilment
A	Indicator 1	50	Dissertation	50		100%
B	Indicator 3	100 Habilitation thesis	Habilitation thesis – Referenced: 10 (9 IF)	100		100%
G	Sum of Indicators 5–9	200	Referenced: 12 (8 IF) Non-referenced: 7	G-7	173.57	117.8%
				G-8	62	
				Total	235.57	
D	Sum of Indicators 10–12	80	International database – 8	120		150%

C. Qualitative analysis of the works of Stoyan Ivanov Ivanov, MD, PhD

All scientific works, 100%, address problems related to diseases and injuries of the musculoskeletal system. The total of 29 actual publications accepted by me can be systematized into the following groups:

	Topic	Number
1	Clinical studies in the field of orthopaedics and traumatology	11
2.	Experimental studies in the field of orthopaedics and traumatology	5
3.	Digital medicine and innovative technologies in normal and pathological conditions of the musculoskeletal system	4
4	Other – antibacterial and osteointegrative implant coatings, bone substitutes in regenerative medicine, biological treatment (PRP), and postoperative kinesitherapy	9

Brief analysis of the contributions by thematic sections

The candidate's contributions are scientific-theoretical, scientific-practical, and confirmatory. They are described in detail in the candidate's self-assessment submitted with the competition documentation, with which I fully agree, and the more significant contributions can be systematized as follows:

- Through detailed biomechanical testing on human cadaveric models, the optimal distribution of loads in the fixation of calcaneal fractures (Sanders II B) was established. It was demonstrated that longitudinal screws inserted through a superior approach provide superior stability and minimize plantar displacement of the posterior facet compared with screws inserted through an inferior approach.

- The biomechanical superiority of an anterolateral locking plate combined with additional longitudinal screws, as well as of intramedullary nailing in severe comminuted intra-articular calcaneal fractures, was demonstrated in comparison with standard lateral plates.
- The effectiveness of an innovative surgical technique for PMMA cement augmentation in three- and four-part proximal humeral fractures in elderly patients was evaluated.
- Using a new cadaveric model, the biomechanical stability of a novel combination of partially threaded screws in a delta configuration for achieving optimal compression in subtalar arthrodesis was evaluated and demonstrated.
- Clinical experience with surgical approaches for tibial plateau fractures and the specific features of osteosynthesis in scapular neck fractures was analyzed.
- Based on a 6-year retrospective analysis of 450 patients after unicompartmental knee arthroplasty, the leading technical errors were identified, and a clinical protocol was proposed to limit early aseptic loosening and polyethylene wear.
- Specific modifications and surgical techniques for filling tibial plateau bone defects during total knee arthroplasty were implemented and scientifically summarized in order to achieve stable primary fixation.
- The superior role of ultrasonic treatment of explanted metal in disrupting biofilm was demonstrated, increasing the rate of successful pathogen isolation to 93.75% compared with conventional tissue cultures (50%).
- A methodology was implemented for generating and 3D-printing individualized plastic (PLA) models from CT data of patients with complex acetabular fractures. A statistically significant reduction in operative time (by an average of 59 minutes), intraoperative blood loss (by 172.5 mL), and a marked reduction in radiation exposure were demonstrated, owing to preoperative plate contouring on the model.
- The concept of pre-surgical 3D printing was expanded and successfully applied to the planning of complex deformities and fractures of the entire lower limb (tibial plateau, calcaneus, ankle).
- An innovative approach was developed for creating a computational software model simulating trabecular bone structure, opening new possibilities for the design of personalized implants.
- The physicochemical properties of electrochemically deposited copper coatings on medical-grade steel and nickel alloys were investigated. A complete antibacterial effect (100% bacteriostasis) against the major pathogens of implant-associated infections – *S. aureus* and *E. coli* – was demonstrated.

- The clinical efficacy of a new, innovative method for obtaining platelet-rich plasma (PRP), applied in chronic enthesopathies and tendinopathies of the upper and lower limbs, was evaluated. Existing international classifications of platelet concentrates were critically analyzed.

2. TEACHING ACTIVITY

Chief Assistant Professor Stoyan Ivanov Ivanov, MD, PhD, has been actively engaged in teaching since 13.09.2021, as an Assistant Professor (2021–2022) and as a Chief Assistant Professor (from 25.11.2022 to the present). His experience in the latter academic position is 3 years and 7 months (Certificate from the Medical University of Varna, No. 099-1976/10.06.26).

He teaches students at the Faculty of Medicine, Medical University of Varna. He conducts practical classes in Bulgarian and English. Dr Ivanov's total classroom teaching workload for the period 2021/2022–2025/2026 is 1,224 academic hours (Reference No. 112-129/09.06.2026, Medical University of Varna). Averaged annually over the last 5 years, the candidate's teaching workload is 244.8 academic hours, which fully meets the requirement of Art. 125(3) of the Regulations for the Development of the Academic Staff at the Medical University of Varna.

He is co-author of two teaching aids: "Test Questions in Traumatology for Fifth-Year Students", edited by Prof. Raykov, ISBN 978-619-221-570-5, 2025, 172 pages, and "Traumatology Test Questions for Students", 2025, ISBN 978-619-221-569-9.

Dr St. Ivanov has been a lecturer at AO Recon Courses: Principles of Total Hip and Knee Arthroplasty during the period 2022–2025, and at AO Trauma Courses: Basic Principles of Fracture Management (2021) and Pelvic and Acetabulum Fracture Management (2023).

3. DIAGNOSTIC AND THERAPEUTIC ACTIVITY

Stoyan Ivanov, MD, PhD, is a fully established orthopaedic trauma surgeon. He independently performs all complex and highly complex operations in operative orthopaedics and traumatology of the musculoskeletal system. He has recognized professional competence in "Joint Arthroplasty", "Arthroscopy", "Ultrasonography of the Paediatric Hip Joint", "Pelvic and Acetabular Surgery", and "Hand Surgery". The candidate's surgical workload in recent years exceeds the requirements of the "Orthopaedics and Traumatology" medical standard. According to the attached report, during the most recent three-year period, 2024–2026, he

performed 1,449 operations involving the limbs and pelvis, of which more than 40% (589) were major and highly complex surgical interventions (GAMA Report, 06.2026).

In conclusion:

The analysis of all administratively required documentation, based on the submitted works, their quantitative and qualitative assessment as scientific output, and their compliance with the requirements of the law, gives me grounds to vote “in favour” and to recommend to the esteemed Scientific Jury, as well as to the members of the Academic Council of the Medical University of Varna, that the only candidate who submitted the required documentation for the announced competition (State Gazette, issue No. 50/02.06.2026) for appointment to the academic position of “Associate Professor” in Higher Education Area 7. “Healthcare and Sports”, Professional Field 7.1 “Medicine”, scientific specialty “Orthopaedics and Traumatology”, at the Faculty of Medicine, Department of Orthopaedics and Traumatology, and the Clinic of Orthopaedics and Traumatology at University Hospital “St. Marina” EAD – Varna, Chief Assistant Professor Stoyan Ivanov Ivanov, MD, PhD, be elected Associate Professor of Orthopaedics and Traumatology.

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