

STATEMENT

competition for the academic position

“Professor”

in the professional field:

4.6. Informatics and Computer Science

(e-Governance and e-Business – in Bulgarian and English),

for the needs of Sofia University “St. Kliment Ohridski” (SU),

Faculty of Economics and Business Administration,

announced in State Gazette 86/13.10.2023

The statement is prepared by prof. Dr. Dessislava Georgieva Petrova-Antonova – Faculty of Mathematics and Informatics, Sofia University “St. Kliment Ohridski” (professional field 4.6. Informatics and Computer Science), in her capacity as a member of the scientific jury for the competition according to the Order № ПД 38-622/20.11.2023 of the Rector of Sofia University.

Only one candidate has submitted documents to participate in the announced competition: Assoc. Prof. Dr. Kamen Boyanov Spasov from the Faculty of Economics and Business Administration at Sofia University "St. Kliment Ohridski".

I. GENERAL DESCRIPTION OF MATERIALS PRESENTED

1. Application data

The presented documents for the competition comply with the requirements of the Act for the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Rules for the implementation of the ADASRB, the Rules for the terms and requirements for the acquisition of the academic degrees and occupation of academic positions at Sofia University “St. Kliment Ohridski”.

For participation in the competition, Associate Professor Dr. Kamen Spasov has submitted a list of documents, including a curriculum vitae, international diplomas for higher education (Master's in Business Administration), a diploma for the educational and scientific degree of 'Doctor,' an abstract of the doctoral dissertation, a document for the academic title of 'Associate Professor,' a certificate for professional experience in the field, a document verifying compliance with Article 115, Paragraph 1, Item 2 (a reference for teaching engagement from October 2019 to December 2023), a certificate for holding the academic position of Associate Professor since June 9, 2009. The submission also includes a list of all publications and those submitted for the competition, a list of publications, conferences, projects, and scientific guidance generated by Sofia University's “Authors” system, a compliance statement according to the national requirements with attached evidence, a citation report with complete bibliographic details of cited and citing publications, a statement regarding original scientific contributions supported by relevant evidence, indicators according to Article 122, Paragraph 2, Items 1 and 2 with necessary evidence, scientific works submitted for the competition, abstracts of reviewed publications in Bulgarian and English, a copy of the announcement in the State Gazette, a medical certificate, and a certificate of no criminal record.

A total of 22 scientific research and educational works were submitted, including chapters in two books, one collective monograph, 16 scientific publications in journals indexed and referenced in globally recognised databases

for scientific information (Web of Science and Scopus), and two university educational resources. Evidence for referencing in Scopus was provided for all 16 publications, while for 5 of them, evidence for referencing in Web of Science was presented. Four publications were published in the IEEE Xplore Digital Library and four in Springer. The compliance statement lacks information regarding the presence of Journal Impact Factor (IF) and SCImago Journal Rank (SJR).

A statement regarding the indicators according to Article 122, Paragraph 2, with appropriate evidence for teaching and research activities, has been provided. Assoc. Prof. Kamen Spasov supervises three PhD students, two of whom are enrolled in an independent doctoral program from 2021, one in a regular doctoral program from 2019 with an extended deadline of one year, and one who has successfully defended his PhD thesis. He has participated in scientific juries as a chief assistant (one at Sofia University and two at UniBIT) and as an examiner for doctoral dissertations (one at Sofia University, two at the Bulgarian Academy of Sciences, one at UniBIT, and one at Shumen University). Seventeen references have been submitted, including recommendations, certificates of merit, and certificates as evidence of participation in working groups in the state administration, membership in professional organisations, conducting courses at Bulgarian and foreign universities and organisations, and certificates for additional qualifications.

2. Information about the candidate

Assoc. Prof. Dr. Kamen Spasov graduated with a Master's in Business Administration from the Vienna University of Economics and Business, Austria, in 1998 and from the Business School, University of South Carolina, in 1999. In 1992, he defended his doctoral dissertation at the University of Chemical Technology and Metallurgy on the topic "Mathematical Modelling and Control of Processes in Secondary Steel Treatment".

From 2013 to 2019, he headed the Electronic Governance Laboratory at the Bulgarian Academy of Sciences (BAS). Since 2009, he has been an Associate Professor of Informatics and Computer Science (e-Business) at Sofia University "St. Kliment Ohridski". Currently, he is a member of the Department of Statistics and Econometrics at the Faculty of Economics and Business Administration. From 2009 to 2019, he was the coordinator of the Master's program in "e-Business and e-Governance", and from 2014 to 2019, he led the Master's program in e-Business, conducted in English at the Faculty of Mathematics and Informatics. From 2019 to 2023, he managed the Master's program in "Management Information Systems" at the Faculty of Economics and Business Administration, and from 2023, he oversees the "Management Information Systems" Master's program accredited by the Association of MBAs (AMBA). Since 2003, he has been a lecturer in Electronic Governance, Operational Compatibility, and Information Security at the Institute of Public Administration under the Council of Ministers.

Associate Professor Dr. Kamen Spasov managed project activities and knowledge exchange within the project BG05M2OP001-1.001-0004 "Universities for Science, Informatics, and Technologies in the E-Society" (UNITE) at Sofia University "St. Kliment Ohridski" from April 2, 2018, to March 1, 2020. He is a member of the scientific group "Digitization of SMEs" under contract BG-RRP-2.004-0008, the project "Sofia University - Marker for Innovations and Technological Transfer (SUMMIT)," from 2023 to 2025. His research interests encompass Management Information Systems, Open Data and Open Governance, Information and Network Security, Customer/Citizen Relationship Management, and Digital Transformation. He holds an h-index of 4 in Web of Science, 5 in Scopus, 9 in Google Scholar, and 8 in ResearchGate.

Additionally, Assoc. Prof. Dr. Kamen Spasov possesses extensive managerial experience. He has held leadership positions in international and multinational companies in Bulgaria and the USA, gaining practical experience implementing e-governance and CRM systems. He serves as the Vice President of the Union of Automation and Informatics, is a member of IFIP Workgroup 8.5, and serves on the EMEA Advisory Council of the Microsoft Business Applications Academic Community.

3. General characteristics of the scientific works and achievements of the candidate

The candidate applied 22 original research and educational works for participation in the competition. The presented 16 scientific publications are in specialised scientific journals and conference proceedings within the field of the competition and do not replicate those submitted in previous competitions for the candidate's attainment of the educational and scientific degree of "Doctor" and for the occupation of the academic position of "Associate Professor." All publications are within the scientific area announced in the competition, specifically e-Governance and e-Business. They convincingly demonstrate the candidate's substantial scientific and applied contributions in the following areas:

- Theory of e-Governance;
- Applied aspects of e-Governance;
- E-Governance on the Internet and social networks;
- Information security;
- Transport optimisation;
- Training in e-Governance and e-Business.

Upon checking the compliance statement for meeting the minimum national requirements according to Article 2b of ADASRB in the scientific area of Natural Sciences, Mathematics, and Informatics, professional field 4.6 Computer science and informatics, it becomes evident that the points for a group of criteria 'A' are 50 (minimum 50), for a group 'B' – 216 (minimum 100), for a group 'Г' – 327 (minimum 200), for a group 'Д' – 192 (minimum 100) and for a group 'E' – 236 (minimum 100). The total number of points for all groups of criteria is **1021**, with a minimum total number of points equal to **600**, which exceeds the minimum number of points **1.7** times. Hence, I am motivated and definitely declare that:

- a) the scientific works meet the minimum national requirements (according to Article 2b, paragraphs 2 and 3 of the ADASRB) and, accordingly, the additional requirements of the SU "St. Kliment Ohridski" for occupying the academic position of "professor" in the scientific and professional field of the competition, and in addition they exceed them;
- б) the scientific works presented by the candidate do not repeat those from previous procedures for obtaining a scientific title and academic position;
- в) no plagiarism has been proven in the scientific works presented in the competition according to the law.

4. Characteristics and assessment of the candidate's teaching activity

The candidate has been an Associate Professor at Sofia University "St. Kliment Ohridski" since 2009. During the period 2019-2023, he conducted teaching activities, for which a document proof has been provided, as follows:

- Bachelor's degree - Information Systems and Technologies in English (specialisation in "Accounting, Finance, and Digital Applications," Faculty of Economics and Business Administration);
- Master's degree - in Foundations of E-Business in English (Master's program in e-Business in English, Faculty of Mathematics and Informatics), Introduction to Business Management Information Systems in English, and Customer Relationship Management in English (Master's program in Business Administration - Management Information Systems in English).

Assoc. Prof. Dr. Kamen Spasov is a co-author of two books as follows: "E-Governance in Bulgaria: Normative Technological Framework," Publisher: Prof. Marin Drinov, Bulgarian Academy of Sciences, 136 pages, edited by Svetlana Filcheva, 2015, ISBN: 978-954-322-820-1; and "Institutional Identity of Websites and Pages in the Social Networks of the State Administration in Bulgaria," 76 pages, Institute of Public Administration, 2018, ISBN 978-619-7262-10-0.

Apart from being a mentor to over 130 graduates, Assoc. Prof. Dr. Kamen Sima successfully supervised a PhD student in the professional field 4.6 Computer Science and Informatics – Dr. Lyudmil Vasiliev Anachkov, with the dissertation topic "Business Games and Simulations in Education." Currently, he supervises three doctoral students.

5. Content analysis of the candidate's scientific and scientific-applied achievements included in the documents for participation in the competition

In the current competition, the candidate presents 16 scientific publications referenced and indexed in globally accepted scientific databases (Web of Science and Scopus), where 7 are included in Group 'B' and 9 in Group 'Г'. The submitted works contain significant scientific and applied contributions, which can be summarised as follows:

A. Theory of e-Governance

- An architecture for e-governance based on a service-oriented architecture (SOA) has been described. An architecture of structural components in SOA has been proposed. A unified environment for exchanging electronic documents has been defined [Work 'Г7'].
- The significant role of semantic interoperability in the successful implementation of e-governance has been proved [Works 'Г6', 'Г9'].
- Issues with semantic interoperability on the Internet of Things have been analysed. E-governance is presented as a generator of various environments and as a creator of resources based on the Internet of Things with semantic interoperability [Work 'B4'].
- A modification has been made to the Balanced Scorecard developed by R. Kaplan and D. Norton for monitoring and managing the E-Government Strategy 2003-2007. The development is one of the first modifications of the Balanced Scorecard for the needs of e-governance [Work 'B6']. 42 indicators have been defined in 17 ministries. A software application with a web interface was developed using Oracle technologies. The system is freely accessible for observation on a specialised internet page.

B. Information security

- A new model demonstrating the reasons for hackers' superiority over cybersecurity teams has been proposed. The model reveals the reason for hackers' superiority over cybersecurity teams [Work 'Г2'].
- A conceptual model for a Shared Cyber Operations Centre (SCOC) for industrial control systems (ICS) has been developed, providing continuous proportional ICS protection against malicious actors and in compliance with regulations and standards [Work 'Г3'].
- A regression model has been developed based on statistical online research involving 180 respondents from countries south of the Sahara, aged 17 to 74. As a result, a recommendation has been made to ensure guarantees for protecting citizens' personal data [Work 'B7'].

C. Applied aspects of e-Governance

- A prototype of an integrated healthcare electronic system has been created [Work 'Г1']. It has been proven that the system can operate with a common database and be built on an existing No Code software platform. A system for electronic management of municipalities in Borino and Dospat has been designed, developed, and implemented based on Low Code/No Code principles.

D. E-Governance in the Internet and social networks

- Recommendations have been made to municipalities in Bulgaria for effective use of presentation opportunities on Facebook, based on a study involving 264 municipalities in 2014-2016 [Work 'B5'].
- A model based on Sentiment Analysis, examining reactions and levels of agitation on Twitter, has been developed [Work 'Г4'].
- A study has been conducted on the websites of 4 urban agglomerations in Ghana for compliance with Web Content Accessibility Guidelines (WCAG) and W3C standards, proposing an evaluation methodology [Work 'Г5'].

E. Transport optimisation

- A new algorithm for computing optimal trajectories of electric buses for fulfilling public transport requests in an intelligent urban environment has been developed [Works 'B2', 'B3'].

F. Training in e-Governance and e-Business

- A book has been published featuring topics of student theses in the Master's programs "E-Business and e-Governance" and "E-Business in English" [Work 'Г12'].
- Under the candidate's supervision, an integrated healthcare electronic system prototype has been developed [Work 'Г1']. The development is part of the theses of Bulgarian and Albanian students.
- Under the candidate's supervision, the institutional identity of the state administration's internet pages and social network pages in Bulgaria has been researched [Work 'B5']. The study is part of the work of graduates. An online platform for data collection and visualisation has been created during the study.
- Two textbooks have been published, one in English and the other in Bulgarian [Works 'Г10', 'Г11'].

Evidence of indexing in Scopus has been provided for all (16) publications; for 5 of them, proof of indexing in Web of Science has been presented. Four publications have been published in the IEEE Xplore Digital Library and four in Springer. All the submitted publications have been co-authored, with the candidate being the first co-author in 2 publications, the second co-author in 8, the third co-author in 4, and the fifth co-author in 2 publications.

The candidate's results have a proven impact on the works of other authors. The citations provided for the competition are 23 and do not include self-citations or hidden citations. The number of citations for all publications as of December 10, 2023, is 38 in the Web of Science, 72 in Scopus, 166 in ResearchGate, and 293 in Google Scholar. These citations form the candidate's h-index in Web of Science (h-index=4) and Scopus (h-index=5).

6. Critical notes and recommendations

The provided works for the competition and the entire documentation have no significant critical remarks from me. They are meticulously formatted and described in detail and with accuracy. All publications are of an excellent technological level and contain in-depth analyses of the current state in the respective scientific field, problem formulation, precision, and completeness of the proposed solutions and analysis of the obtained results, as well as adequate summaries and guidelines for future work. In all presented publications, the candidate demonstrates high professionalism and excellent literary awareness.

7. Personal impressions of the candidate

Assoc. Prof. Dr. Kamen Spasov is a responsible colleague from FMI with high professionalism. I appreciate the progress in his research and publication activity in recent years in terms of quality and subject matter.

8. Conclusion on the application

Having reviewed the materials and scientific works presented for the competition and based on the analysis of their significance and the scientific and applied contributions contained therein, I confidently **confirm** that the academic achievements of Assoc. Prof. Dr. Kamen Spasov meet the requirements of the ADASRB, the Rules for the implementation of the ADASRB, the Rules for the terms and requirements for the acquisition of the academic degrees and occupation of academic positions at Sofia University "St. Kliment Ohridski" for the candidate's appointment to the academic position of "professor" in the scientific and professional field of the competition. In particular, the candidate meets the minimum national requirements in the professional field, significantly surpassing them. No plagiarism has been identified in the scientific works presented for the competition.

I definitely give a **positive assessment** of the application.

II. GENERAL CONCLUSION

Based on the above, I **strongly recommend** to the Scientific Jury to unanimously propose to the Faculty Board of the Faculty of Economics and Business Administration at Sofia University "St. Kliment Ohridski" to select.

Assoc. Prof. Dr. Kamen Spasov for the academic position “Professor” in the professional field 4.6. Informatics and Computer Science (e-Governance and e-Business – in Bulgarian and English).

03.01.2023

Sofia

Signature:

(prof. Dr. Dessislava Petrova-Antonova)