

POSITION

by Assoc. Prof. PhD Galina Mircheva Ilieva, Plovdiv University “Paisii Hilendarski”

of application documents and scientific research
for the academic position ‘Professor’
at Plovdiv University “Paisii Hilendarski”

Higher education area **4. Natural sciences, Mathematics and Informatics**

Subject area **4.6. Informatics and Computer Science** (Informatics)

The competition procedure for awarding the academic position ‘Professor’ at Plovdiv University “Paisii Hilendarski”, Faculty of Mathematics and Informatics, Department of Computer Informatics, have been published in the State gazette, No 99/20.12.2020, as well as on the university web site. The only candidate has applied for participation in the announced competition:

Assoc. Prof. Elena Petrova Somova, Plovdiv University “Paisii Hilendarski”, Faculty of Mathematics and Informatics, Department of Computer Informatics.

1. General description of the procedure and the candidate

I was appointed as a member of the scientific panel with order №P33–74/12.01.2021 by the rector of Plovdiv University “Paisii Hilendarski” prof. Roumen Mladenov. Based on a report by prof. Angel Golev, the dean of Faculty of Mathematics and Informatics (FMI) and decision of the Faculty council №12/16.12.2020, I am an internal member of the scientific panel.

The only candidate has submitted documents for participation in the announced competition:

Associate professor Elena Petrova Somova, PhD, University of Plovdiv “P. Hilendarski”, Faculty of Mathematics and Informatics, Department of Computer Informatics (CI).

The application package submitted by assoc. prof. Elena Somova **complies** with the requirements of “Act on Development of the Academic Staff in the Republic of Bulgaria” (ADASRB), Regulations of the Act, Regulations for development of academic staff of PU (RDASPU) and additional requirements of FMI. The package includes the following documents: CV in European format; Master’s diploma; diploma for educational and scientific degree “Doctor”; diploma for the academic position of “Associate Professor”; work experience certificate; reference for compliance with the minimum national requirements; reference for compliance with the additional faculty requirements; list of research papers; list of citations; documents for teaching activities after acquiring the academic position of “Associate Professor”; documents for research activities; annotations of the materials under Art. 76. of RDASPU including self-assessment of scientific contributions, copies of the scientific papers and reference for original scientific contributions for participation in the “Professor” competition. In view of the above, assoc. prof. Somova has been accepted for evaluation by the scientific jury.

For participation in the competition, the candidate assoc. prof. Elena Somova presented a list of 45 research papers in Bulgarian and international scientific journals and conferences. The submitted research papers are published after the end of the competition for “Associate Professor” and are accepted for review in full. They could be grouped as follows: 5 publications are chapters from monographs, 15 are articles in scientific journals, 24 are published in conference proceedings and 1 is a textbook. 12 scientific papers have been published abroad, and 4 – in proceedings of international forums in Bulgaria. The search query confirms that 11 of the submitted publications are referenced in Web of Science, as well as 2 publications are also referenced in Scopus. It should be noted that 5 of the publications are co-authored with members of international teams, and 23 are co-authored with members of the CI department.

Citations used for this (“Professor”) application are 125 citations of 28 research papers. The list of citations from world-leading bibliographic databases consists of 26 citations of 9 publications.

The application package contains 4 other documents (certificates for participant or project manager, financing organization and other relevant evidence) supporting the applicant's achievements were also presented.

The documents are logically systematized, which greatly facilitates the assessment whether the candidate meets the necessary requirements.

General details of applicant

The candidate graduated with a master’s degree in Mathematics, specialization “Informatics” at Plovdiv University “P. Hilendarski”. She was a doctoral student in Computer Science at the same university. In 2003 she defended her doctoral thesis “Instrumental system for design, creation and maintenance of virtual learning environments”. During the period 1996 – 2007 she was successively appointed to the positions of assistant, senior assistant and chief assistant professor. Since November 2007 she is an associate professor in 01.01.12 Informatics in Computer Informatics department, Plovdiv University. Since 2012 she has been head of the department.

Personal impressions

I have known Assoc. Prof. Dr. Elena Somova as a highly qualified and responsible lecturer and researcher with expertise as a programmer for more than three years. The impressions from my official relationship with her are for a thorough and precise specialist in the preparation, implementation and management of research projects contributing to the digital transformation of Bulgarian economy and for the development of electronic learning.

2. General characteristics of applicant activities

2.1. Assessment of scientific and research activities

The research interests of the candidate assoc. prof. Elena Somova are in the field of learning automation through modern information systems and technologies.

The research papers presented by the candidate have been published after the previous procedure for “Associate Professor” position, and as such, they have not been used in it. It is noteworthy that a significant part of the papers is indexed in world-leading bibliographic online databases (Scopus and Web of Science).

The research papers fully meet the minimum national requirements (under Art. 2b, para. 2 and 3 of the Act on Development of the Academic Staff in the Republic of Bulgaria), as the minimum required points by groups of indicators are significantly exceeded. Also, the candidate fully complies with additional requirements of PU “P. Hilendarski” and FMI for academic position “Professor” in the scientific and professional field of the competition.

2.2. Assessment of educational and teaching activities

Assoc. prof. Elena Somova is a lecturer of 17 courses in bachelor’s and master’s degree programs of FMI, Faculty of Physics and Faculty of Philology of PU – 13 compulsory and 4 electives. For many years, she has conducted lectures and exercises in various courses in the field of informatics such as “Algorithms and Data Structures”, “Object Oriented Programming”, “Logical and Functional Programming” and many others. 1 textbook was presented for the competition. As a lecturer, she actively uses and provides electronic educational resources to students. Assoc. prof. Somova pays special attention to undergraduate and graduate students as their supervisor (more than 38 defended theses, more than 19 reviews of students’ theses). She is also a supervisor of six doctoral students – two with successful theses’ defences, one successfully finished his study and three are current PhD students.

2.3. Assessment of scientific contributions

The research contributions of assoc. prof. Elena Somova can be briefly summarized as follows:

1. New approaches to description, publication and portability of metadata:
 - through selection and compliance in order to create suitable aggregators;
 - using description standards for structured data.
2. A new approach to NoSQL database protection by encryption and configuration of services.

3. New approaches for creating, accompanying and tracking interactive learning activities:

- in teaching – through standardization in integrated national information environment for e-learning, invariance in teaching programming languages, gamification by using elements and techniques of e-games;

- in assessment – by automatically generating many different types of test questions from one accumulating test question.

The proposed approaches were implemented in various subject areas – managing of museum archives, web analysis, scientometric databases and e-learning content through the creation of various software plug-ins, web-based and classical information systems.

The candidate meets the minimum specific requirements of the FMI for the academic position “Professor” and exceeds them (45 /51 after equating / publications with a required minimum of 25, 37 publications in journals or proceedings of international conferences with a minimum of 15, 14 articles in journals with a minimum of 10, 125 citations with a minimum of 20).

Assoc. Prof. Somova is an active participant in many research and educational projects – a total of 36 projects, including 26 international and 10 national projects. She has been the leader of 16 international projects.

2.4. Assessment of individual contribution of the candidate

I am convinced in the personal contribution of the candidate in their publication list, as well as that the specified contributions and obtained results are her personal merit.

3. Critical remarks and recommendations

I would like to recommend assoc. prof. Elena Somova that she publish the results of her research in high quality journals and strengthen her publishing activity with a focus on theoretical insights.

CONCLUSION

The materials and documents presented by assoc. prof. Elena Petrova Somova, PhD fully satisfy the requirements of the Act on Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its implementation. The number of points in the groups of scientometric indicators significantly exceeds the minimum number of points in accordance with the Regulations for the Development of Academic Staff in the Plovdiv University. The specific faculty requirements of the Faculty of Mathematics and Informatics in Plovdiv University are also met.

Given all of the above, I take the opportunity as a member of the scientific panel to give a **positive assessment** of her educational and research work and suggest that the other members of the panel vote in favour of the application of Elena Petrova Somova for academic position “Professor” in 4. Natural Sciences, Mathematics and Informatics, professional field 4.6. Informatics and Computer Science (Informatics) at the University of Plovdiv, Faculty of Mathematics and Informatics, Department of Computer Informatics.

March 08, 2021

Member of the scientific panel:

(Assoc. Prof. Galina Ilieva)