

OPINION

by Prof. Dr. Eng. Rusko Hristov Valkov

regarding the materials submitted for the competition for the academic position of Associate Professor in Higher Education Area 5, Technical Sciences, Professional Field 5.7, Architecture, Civil Engineering, and Geodesy

1. General Section

This opinion has been prepared in accordance with the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the Application of the Act on the Development of the Academic Staff in the Republic of Bulgaria, and is based on the decision adopted at the first meeting of the Scientific Jury held on August 20, 2026. The proceedings concern the competition for the academic position of Associate Professor, announced in the State Gazette, Issue No. 42 of May 8, 2026, to meet the staffing needs of the Department of Tactics at the Faculty of Fire Safety and Population Protection of the Academy of the Ministry of Interior.

The sole candidate participating in the competition is Dr. Eng. Svilena Sevdalinova Arabadzhieva, a Senior Lecturer in the same department.

2. Brief Biographical Details

Inspector Dr. Eng. Svilena Sevdalinova Arabadzhieva was born on October 16, 1984, in the town of Elena, Veliko Tarnovo Province. After completing her secondary education, she enrolled at the Academy of the Ministry of Interior, graduating in 2007 with a Bachelor's degree in Fire and Emergency Safety. In 2011, she obtained a Master's degree in the same field, and in 2021, she completed a second Master's degree at the G. S. Rakovski National Defence Academy, specializing in Security and Defense Logistics.

Her professional career began in 2007 as an inspector for state fire safety control and prevention at the First District Fire Safety and Civil Protection Service in Ruse. From 2010 to 2012, she served as an inspector in the State Fire Safety Control and Prevention Sector at the Regional Directorate in Veliko Tarnovo.

She obtained her PhD degree in 2024 after defending a dissertation titled "Dynamics of Fire Development in Passenger Carriages" in the professional field of Architecture, Civil Engineering, and Geodesy.

3. General Description of the Submitted Materials

The candidate, Dr. Eng. Svilena Arabadzhieva, participates in the competition with:

- A dissertation for the award of the educational and scientific degree of Doctor, on the topic "Dynamics of Fire Development in Passenger Carriages" (under Indicator A);
- A monograph titled "Water Supply for Internal Firefighting: Internal Fire Hydrants," ISBN 978-954-348-267-2 (under Indicator C);

- A statement of compliance with the minimum national requirements under Art. 2b of the Act on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), Field 5: Technical Sciences, Professional Field 5.7: Architecture, Civil Engineering, and Geodesy;
- A summary of original scientific contributions in the research publications;
- A report on the fulfillment of the teaching workload;
- A list of research publications (abstracts) submitted for review.

4. General Overview of the Candidate's Activities

Dr. Eng. Svilena Arabadzhieva began her teaching career in March 2012 at the Department of Tactics within the Faculty of Fire Safety and Population Protection at the Academy of the Ministry of Interior, initially serving as an assistant and later as a Senior Lecturer. She first conducted practical classes in subjects such as Practical Training (Operational Duty), Hydraulics and Firefighting Water Supply, and Rescue Operations. Since 2019, she has been fully responsible for delivering both lectures and practical classes in the courses Hydraulics and Water Supply for Firefighting and Logistics.

She has 14 years of teaching experience. Throughout this period, she has annually fulfilled the teaching workload requirements for the academic position she holds and has enhanced her professional knowledge and skills through participation in training programs at various institutions in Bulgaria and abroad.

All of this demonstrates a solid theoretical and practical background.

Of the 25 publications presented, five are sole-authored works by Senior Lecturer Arabadzhieva, while the remaining 20 are co-authored. Six of these involve two authors, and five involve three authors. Based on the way the publications are presented, it is difficult to determine in which of the collaborative works the candidate is listed first, making it difficult to establish her leading role.

The literature and sources cited in the monograph indicate that the candidate is well-versed in the relevant literature and scholarly periodicals in her field of work.

In terms of both subject matter and quality, the publications align with the professional field of the competition.

It is evident from the foregoing that Dr. Eng. Arabadzhieva is an experienced educator who is well-prepared both theoretically and practically and well-informed. She employs modern teaching methods and makes use of advances in information technology in the educational process.

Based on the candidate's teaching activities, I consider her a competent and well-prepared educator, fully capable of effectively performing the teaching duties associated with the academic position of Associate Professor for which she is applying.

5. Fulfillment of the Criteria for the Academic Position of "Associate Professor"

Senior Lecturer Dr. Eng. Svilena Arabadzhieva is participating in the competition for the academic position of Associate Professor with a defended dissertation titled "Dynamics of Fire Development in Passenger Carriages" (50 points) and a monograph titled "Water Supply for Internal Firefighting: Internal Fire Hydrants" (100 points).

Regarding Indicator G, the candidate presents 25 publications in journals refereed and indexed in internationally recognized scientific databases, as well as in non-refereed, peer-reviewed journals or edited collective volumes (303.35 points).

Under Indicator D12, the candidate has 5 citations in scientific publications refereed and indexed in internationally recognized scientific databases, or in monographs and collective works (50 points); under Indicator D13, 13 citations in monographs and collective volumes (39 points); and under Indicator D14, 5 citations in non-refereed, peer-reviewed scientific journals (10 points).

Total for Indicator D: 99 points.

Under Indicator E, the candidate has 10 points for participation in a scientific or educational project.

6. Assessment of Scientific and Applied Scientific Contributions

The candidate's submitted scientific works are of a high scientific standard, reflecting many years of research activity.

A significant number of scientific and applied scientific contributions are formulated in the submitted works and in the candidate's summary; the most significant among them are:

1. Development of mathematical, probabilistic, and numerical models for the analysis, assessment, and management of fire risk, including CFD models, factor-parameter models, event trees, risk assessment methodologies, evacuation models, and engineering calculation procedures.
2. Experimental and applied research has been conducted to enhance fire safety and the effectiveness of firefighting equipment and infrastructure, covering railway fires, fire nozzles, fire hydrants, indoor fire valves, material behavior, and fire-related factors, resulting in the development of practical methodologies and engineering relationships for their assessment and operation.
3. The human factor, as well as the behavior and preparedness of the general public, passengers, and professional teams, have been investigated. Methodologies for assessing knowledge and readiness for action, training models, and practical simulators have been developed to enhance fire safety.
4. Scientifically grounded organizational, regulatory, and managerial solutions have been proposed to enhance fire safety, including risk-based control, regulatory changes, operational control methodologies, organizational models, and integrated safety management approaches for various facilities and infrastructure.

5. Scientific knowledge regarding the fire safety of specialized and high-risk facilities has been expanded through comprehensive statistical, experimental, and numerical studies covering railway transport, industrial sites, ammunition depots, cultural heritage, kitchen fires, and firefighting water supply, aimed at enhancing prevention, operational readiness, and the effectiveness of fire protection.

7. Assessment of the Candidate's Personal Contribution

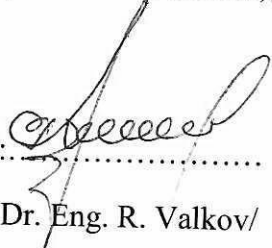
I consider the materials submitted for the competition to be the personal work of Dr. Eng. Svilena Arabadzhieva. I accept the presented information as authentic.

8. Conclusion

The review of the materials submitted for the competition demonstrated that the requirements for appointment to the academic position of Associate Professor have been met in accordance with the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADASRB) and the Regulations for the Application of the Act on the Development of the Academic Staff in the Republic of Bulgaria.

I consider the findings set out above to be sufficient grounds to recommend to the esteemed members of the Scientific Jury that Dr. Eng. Svilena Arabadzhieva be appointed to the academic position of Associate Professor in Higher Education Area 5 (Technical Sciences), Professional Field 5.7 (Architecture, Civil Engineering, and Geodesy).

September 3, 2026

Jury Member: 

/Prof. Dr. Eng. R. Valkov/