REVIEW

on the materials submitted for participation in a competition for the academic position of "Associate Professor" in the professional field 6.5. Forestry, scientific specialty "Forest Reclamation, Forest Protection and Special Uses in Forests", announced by the Forest Research Institute - BAS in the State Gazette No. 18 of 17.02.2026.

Candidate for participation in the competition: Dr. Eng. Todor Nikolov Stoyanov, Chief Assistant Professor at the "Forest Ecology" of the Forest Research Institute at the Bulgarian Academy of Sciences

Review prepared by: Corresponding Member Plamen Borisov Mirchev

1. Brief biographical data

Todor Stoyanov was born on 13.12.1977. In 2004, he graduated from the University of Mining and Geology "St. Ivan Rilski" as a Master of Engineering Geo-ecologist, majoring in "Ecology and Environmental Protection", and in 2010 - a Master of Business Administration from the University of National and World Economy. At the University of Forestry, in 2020, after a successful defense on the topic: "Study of the Opportunities and Prospects for the Development of Credit Cooperatives in Bulgaria", he acquired the educational and scientific degree of Doctor. In 2025, he completed 4 specializations: forest technician, specializing in forestry and hunting; forest ropeway designer; specialist in acceptance, commissioning and technical supervision of forest ropeways; and a license to operate an unmanned aerial vehicle (Drone). He has conducted 28 educational courses in various fields of knowledge and practice. There are short-term scientific missions in the Republic of North Macedonia, the Czech Republic and participation in 4 COST programs.

T. Stoyanov's career began on 15.04.1998 in the Sofia Municipality, Mladost district, then continued in the inspectorate at the Sofia Municipality; State Fund "Agriculture" and the Ministry of Environment and Water - Directorate "Cohesion Policy for the Environment". From 04.03.2013 to 2018 he was a consultant in project management, financed by the Cohesion and Structural Funds of the European Union. He joined of the Forest Research Institute at the Bulgarian Academy of Sciences as an assistant professor on 03.02.2020, and from 01.06.2021 he is currently a chief assistant professor. In the period 2021 - 2026 he is a part-time lecturer at the University of Forestry, Sofia. He is a member of the editorial board - Bozok Journal of Agriculture and Natural Sciences (BOJANS). He declared proficiency in Russian and English

and good communication skills acquired during the training in "Political Management and Management Skills" and the training at the Institute of Public Administration.

2. Compliance of the submitted documents and materials of the candidate with the minimum requirements, according to the Regulations for the acquisition of scientific degrees and holding academic positions at the Forest Research Institute - BAS

Dr. T. Stoyanov has submitted all documents and materials required by Article 18 of the Regulations for the Acquisition of Scientific Degrees and Holding Academic Positions at the Forest Research Institute - BAS.

With 500 minimum required points on all indicators, Dr. T. Stoyanov has presented evidence for 1290.62 points. The candidate exceeds the required minimum of points on all 5 indicators by 2.58 times.

3. General description of the submitted materials (by type; by importance; place of publication; language in which they were published; number of co-authors, etc.)

The candidate's total scientific output amounts to 29 pieces, of which: a dissertation and 3 publications related to the educational and scientific degree "doctor", 3 pieces during his certification as "chief assistant".

In this competition, 22 scientific papers are participating:

Category B

- 10 articles (all in English) in refereed and indexed publications in scientific information databases, of which 3 are solo authors, 1 with two co-authors, 3 with three co-authors, 1 with four co-authors, 1 with ten co-authors, 1 with thirty-six co-authors, 1 with fifty-six co-authors. Five of the articles have SJR from 0.137 to 0.740; 3 in Q_1 and 2 in Q_4.

The minimum requirements for this category are 100 points. The candidate's points are 233.74.

Category D

- One independent article in Bulgarian in a refereed and indexed publication in databases with scientific information;

- one independent monograph in Bulgarian;

- 7 articles and reports, all in English, published in non-refereed journals with scientific review or published in edited collective volumes, of which 5 are solo and 2 with four

co-authors (in 1 he is the first author);

- 2 studies published in non-refereed journals with scientific review or published in edited collective volumes, one in Bulgarian, the other in English, with 11 and 29 co-authors, respectively.

Minimum requirements for category D are 200 points. The candidate's points are 206.88.

4. Main directions of the candidate's research work and the most important scientific contributions

Scientific contributions

The scientific interests and pursuits of Senior Assistant Professor Stoyanov can be assessed as broad-spectrum in the field of ecology. As a result of the research conducted, certain scientific contributions have been achieved, which I would allow myself to systematize in several directions.

Forest fires

*** Integrated approach to forest fire risk management and assessment**

The legally established procedure for horizontal and vertical coordination, communication and coherence of measures for the prevention and control of forest fires in Bulgaria has been analyzed (B 4.1.).

An innovative approach for spatial assessment and mapping of forest fire risk is proposed, including 29 indicators in five thematic groups, reflecting current data on hazards, vulnerability and emergency response capacity, aiming to obtain an integrated assessment of fire risk within a given forestry (B 4.6., D.10.2.). An innovative risk register of factors for the occurrence of forest fires has been created, ensuring structured collection, processing and exchange of data in the context of inter-institutional cooperation (D.10.2.). The proposed fire risk assessment index allows for standardized classification and comparability of results between different territorial units (D.11.1.).

A reliable tool for comparability of the results of fieldwork on fires is the proposed questionnaire (D.11.1.).

Based on the Bulgarian and European legislation related to forest fire management, the role of specialized bodies for prevention and control, the status and development of voluntary organizations and civil protection are analyzed. The elements limiting the effectiveness of the existing regulatory framework are identified (D.5.1.).

A concept has been proclaimed, on a European scale, to manage forest fires not only as emergencies, but also as part of a sustainable and active ecological strategy, determined by the interaction between climatic, ecological and anthropogenic factors. A trend has been identified on the continent for an increase in the frequency and intensity of forest fires, which requires the integration of fire risk into sectoral policies (D.10.1.).

*** Ecological analysis of the impact of fires on forest ecosystems**

The impact of fires on the development of soil erosion processes and, on the other hand, the influence of changes in soil acidity on fires has been studied. The mineral composition of soils in the post-fire period and the influence of the species composition of forest tree vegetation on the formation of combustible materials in the forest litter were studied (B 4.5.).

The accumulation of organic carbon in the soil at different thinning intensities in beech and spruce stands was analyzed (B4.2., B.4.4.).

Ecological aspect of forestry economics

Using a qualitative and quantitative approach, the transition from a traditional linear economy to a circular one, aiming to bring significant economic, environmental and social benefits, has been analyzed, identifying the main barriers hindering its adoption, including inadequate regulatory frameworks, insufficient technological infrastructure and ingrained consumption and production habits that resist change (B.4.3.).

The condition of remote forest and mountain areas with limited economic opportunities has been analyzed. Overcoming their marginalization includes infrastructure development, sustainable resource management and support for alternative lifestyles, access to education and healthcare, as well as engagement with local communities to ensure that their rights and needs are respected. Forest owners in forestry cooperatives should also have a role in these processes. Improving the well-being of residents should go hand in hand with promoting environmental protection in mountain and forest areas (B.4.7.,B.4.3.).

The role of forestry cooperatives as social enterprises in the circular bioeconomy has been studied (D.8.3.).

The role of cooperatives as a mechanism for sustainable management of private forests and for socio-economic development of rural regions is substantiated (D.8.2., D.8.7.).

Based on data from 38 European countries, forest biomass has been calculated as an essential resource in the green transition and sustainable management of forest resources (B.4.8.).

Attention is paid to non-agricultural forest products and their role in the country's

economy. It is concluded that the production of modern high-value bio-based products and materials and the exploitation of the hidden potential of non-timber forest products represent key opportunities for the development of the bioeconomy in Bulgaria (D.8.5.).

The legal framework of forest legislation in 28 European countries was examined based on the Property Rights Index in Forestry (PRIF). It has been noted that in recent years there has been no clear boundary between Western and former socialist countries in terms of national governance systems used to deal with private forest ownership. However, with the exception of the Baltic countries, most of the former socialist countries still maintain a state-centralized approach to the management of private forests (B.4.9.).

The important role of forest certification in ensuring sustainable management is justified. It has been argued that FSC (Forest Stewardship Council) certification is one of the earliest multilateral and global eco-certification schemes for goods. A study has been undertaken to assess the profitability of FSC forest certification in Bulgaria (B.4.10.).

5. Most significant scientific and applied achievements and implementation activities

The above-mentioned scientific contributions of the candidate are a good basis for their adaptation and successful implementation in practice in the field of forest fire protection, forest ecology, forestry economics, circular economy, forestry cooperatives and sustainable forest management:

- The proposed improvements in forest fire prevention, through legislative and management measures to optimize monitoring, early warning and fuel mass management, are of high ecological and economic value. The methods developed by the applicant have stood the test through their successful implementation in practice (Botevgrad State Forest District and Pirin National Park);

- The proposed methods for enhancing the role of forestry cooperatives in creating employment, social inclusion and sustainable management of natural resources have a social impact and are an effective measure against the depopulation of some regions of the country. This also involves improving inter-institutional interaction in the forestry sector;

- The social effect and the increase in the efficiency of the forestry sector can be achieved through the proper and rational utilization of all the gifts of nature, including non-timber forest products and the opportunities for their sustainable inclusion in the bioeconomy of Bulgaria. The optimization of the forestry sector also requires the implementation of modern methods for preparing forest management plans.

6. Reflection of the candidate's scientific publications in the literature (citability)

An objective indicator that allows for a high assessment of the candidate's scientific output is citations. A list of 40 citations, from 6 of the candidate's scientific papers, is presented.

* **According to the type of citing publications in:**

- refereed journals – 37;
- monographs – 2;
- non-refereed journals – 1.

Minimum requirements for this category are 100 points. The candidate's points are 580 points.

7. Participation in scientific and applied projects

Dr. Stoyanov, after joining of the Forest Research Institute at the Bulgarian Academy of Sciences in 2020, has participated in the development of 11 projects, as follows:

* Project manager, funded by the Scientific Research Fund – 2 pcs.;
* Participant in international scientific or educational projects – 4 pcs.;
  - funded by HEI EIT Climate-KIC – 2 pcs.;
  - funded by EACEA – 1 pc.;
  - funded by LTER – 1 pc.
* Participant in national scientific or educational projects – 5 pcs.
  - funded by the Scientific Research Fund – 4 pcs.;
  - financed by the Operational Program "Environment", co-financed by the European Union through the ERDF and from the national budget of the Republic of Bulgaria - 1 pc.

Minimum requirements for this category are 50 points. The candidate's points are 215 points.

8. Teaching and learning activities (supervisor/advisor of doctoral students, teaching of students, etc.)

In the period 2021-2026 he is a part-time lecturer at the University of Forestry, Sofia.

9. Assessment of the candidate's personal contribution

When reviewing the collective publications, the field of research conducted by Dr. Stoyanov and his contribution are clearly outlined. The publications are presented correctly, and the authors discussed are listed in the discussions. There are no signs of appropriation of other people's results.

It should be noted that the candidate's scientometric indicators meet and even exceed the criteria for an associate professor of the Forest Research Institute - BAS (according to the Regulations for the Implementation of the Act on the Development of Academic Staff in the Republic of Bulgaria).

10. Critical remarks and recommendations

I have no critical remarks about the candidate

11. Personal Impressions

My personal impressions are of a fair colleague, immersed in scientific research.

12. Conclusion

In connection with the above, I propose that Chief Assistant Professor Dr. **Todor Nikolov Stoyanov** be elected as an "associate professor" in the professional field 6.5. Forestry, scientific specialty "Forest reclamation, forest protection and special uses in forests".

May 27th, 2026

Reviewer:

Corresponding Member Plamen Mirchev