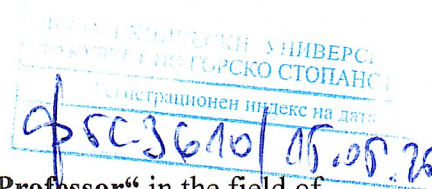


REVIEW



of the materials submitted for participation in a competition for „**Professor**“ in the field of higher education 6. Agricultural Sciences and Veterinary Medicine, Professional field 6.5. Forestry, scientific specialty „Machines and equipment in forestry, logging, woodworking and furniture industries” in the discipline „Forest Transport”

In the competition for **professor**, published in the State Gazette, No. 7 of 24.01.2025 and on the site of the University of Forestry with code FOR-P-0125-155 for the needs of the Department of “Technologies and Mechanization in Forestry” at the Faculty of Forestry, **Assoc. Prof. Dr. Eng. Stanimir Yordanov Stoilov**, Faculty of Forestry, Department of “Technologies and Mechanization in Forestry” is participating as a candidate.

Reviewer: Prof. Dr. Slavcho Asenov Sokolovski, Professor in Professional Field 6.5 "Forestry" at the University of Forestry, retired.

1. Brief biographical data for the candidate

Candidate Assoc. Prof. Dr. Stanimir Stoilov was born on 03.02.1964 in the town of Elin Pelin. He completed his secondary education in 1983 at the professional High School of Transport and Energy "Henry Ford" - Sofia, majoring in "Heat and Refrigeration Equipment". He completed his higher education at the University of Forestry (UF) - Sofia in 1990 as a Master of Engineering, specialty "Complex Mechanization and Production Lines in Forestry". In 2005 he defended his doctoral dissertation in scientific specialty: "Machines and Equipment in Forestry, logging, woodworking and furniture industries" on the topic "Traction and Coupling Properties of Wheeled Tractors in logging". The scientific specialty of the doctoral studies coincides completely with the scientific specialty of the competition. Assoc. Prof. Stoilov has had two specializations, in 2002 at the Technical University of Sofia in auto-tractor technology and in 2009 at the Technical University of Zvolen, Slovakia in the use of modern multi-operation machines for working on mountainous terrain and utilization of wood biomass for energy production.

After completing his higher education from 1990 to 1997, he worked in practice as the head of the "Mechanization" department at the State Forestry Office - Sofia. From 1997 to present, he is a lecturer at the Department of "Technologies and Mechanization in Forestry" at the Faculty of Forestry (FF) of the University of Forestry - Sofia. From 1997 to 2010, he was an assistant, senior and chief assistant at the Department of "Technologies and Mechanization in Forestry" and has led exercises for students from the Faculty of Forestry in several academic disciplines of the department. From 2010 to present, he is an associate professor and lectures on the disciplines "Forest Transport", "Traction Machines", "Operation of Forest Transport Equipment", "Technological Design in Logging", "Repair and Maintenance of Equipment". In the period from 2016 to 2020, he is the Deputy Dean for Academic Activities of the Faculty of Forestry, and from 2020 to 2024, he is the Deputy Dean for Scientific and Research Activities of the Faculty of Forestry. He is proficient in office software and statistical software. He has good knowledge of the use of biomass, internal combustion

engines, automotive equipment and strain gauges measurement. He holds a category B motor vehicle driving license. He is fluent in English and Russian.

Assoc. Prof. Dr. Stanimir Stoilov is a member of: "Association for Energy Utilization of Biomass"; Organizing Committee of the International Scientific Conference "Forestry – Bridge to the future", Sofia, 2021; Editorial Board of the special issue "Decision Analysis and Optimal Strategies for Forest Operations and Management" 2025 of the journal "Forests", IF (2023) =2.4; Q1.; Scientific Committee of the 4th International Conference "Wood - Science - Economy. Sustainable forestry and forests – opportunities and constraints under climate change", 14-16 September 2022, Poznań, MTP Poznań Expo; Scientific Committee of the international conference "100 years Forestry Education in Bulgaria CENFORKNOW2025", Sofia, Bulgaria.; Scientific Committee of the international scientific conference "Risks in biomass processing and use", 2025, TU-Zvolen, Slovakia. He was on specializations in 2022. at the Università Mediterranea di Reggio Calabria, Italy and in 2023 at the Technical University of Zvolen, Slovakia.

2. Correspondence of the submitted documents and materials of the applicant to the Regulations of Development of academic staff at the University of Forestry.

The materials submitted by Assoc. Prof. Dr. Stanimir Stoilov for the competition for "professor" fully comply with the required documents according to the Regulations for Development of Academic Staff (DAS) at the University of Forestry and the Law on the Development of Academic Staff in Republic of Bulgaria (LDASRB), namely:

- European-style CV;
- Announcement in the State Gazette No. 7/2025;
- Diplomas: of higher education; of scientific title "associate professor"; of educational scientific degree "doctor";
- Document of an academic position;
- Medical certificate;
- Certificate of criminal record;
- Certificate of internship in the specialty;
- Self-assessment report for fulfillment of minimum scientific requirements;
- Habilitation report;
- Report on contributions;
- List of scientific and publication activities in accordance with Minimum scientific requirements for "professor" and for the Educational scientific degree "doctor";
- Classification of publications;
- List of professional and creative activities;
- Official note from the Scientific and Research Sector, University of Forestry;
- Official note of educational projects;
- Academic Position Information Card-BG
- Academic Position Information Card-EN

- Publication Summaries

The candidate has submitted, on paper and electronically, a list of his works and publications and a reference for their summaries in Bulgarian and English, as well as a list of citations of his publications with supporting material. He has also submitted a reference for the contributions in his works, a list of textbooks and teaching manuals, as well as official notes on his teaching activities and an established curricula. The submitted diplomas are notarized.

3. Assessment of the candidate's educational and pedagogical activities (work with students and PhD students)

Assoc. Prof. Dr. Stoilov has submitted an official note from the University of Forestry for his teaching activities for the academic year 2024/2025, which is mainly in the specialty "Forestry". The total planned teaching workload for the academic year 2024/2025 is 535.4 hours, of which 373 hours are classroom hours and 162.4 hours are extracurricular. Over the past 5 years, Assoc. Prof. Stoilov has fulfilled the workload stipulated in the regulations of the University of Forestry. His teaching workload ranges from 348.5 up to 569.6 hours.

The candidate has provided an official note with information about the 5 curricula developed by him and co-authored (2 for the Educational Qualification Degree "Bachelor" and 3 for the Educational Qualification Degree "Master") in the disciplines taught by him:

Educational Qualification Degree "Bachelor"

- "Forest Transport", specialty "Forestry", full-time and part-time education;
- "Traction Machines", specialty "Forestry", full-time and part-time education;

Educational Qualification Degree "Master"

- "Operation of Forestry Transport Techniques", specialty "Forestry Management and Economics in Forestry", full-time and part-time education;
- "Technological Design in Logging", specialty "Forestry Management and Economics in Forestry", full-time and part-time education;
- "Repair and maintenance of equipment", specialty "Forest management and economics in forestry", full-time and part-time training.

Assoc. Prof. Dr. Stanimir Stoilov was the scientific supervisor of one doctoral student, who defended his thesis in 2017. He was the thesis supervisor of 41 students, of which 23 are from the specialty "Forest use and Economics in Forestry", 15 are from the specialty "Forestry" and 3 are from the specialty "Forest Management". He participated in the scientific jury for the defense of a doctoral dissertation in the specialty; "Technology, Mechanization and Automation of Forestry and Wood Harvesting". He was the chairman of the scientific jury and prepared a statement on a dissertation for the award of the educational and scientific degree "Doctor".

The 2 textbooks and the manual published by him help training students in the academic disciplines taught by him.

4. Assessment of candidate's scientific, scientific-applied and publishing activities

General description of the presented materials

Candidate Assoc. Prof. Dr. Stanimir Stoilov participated in the competition with:

- Monographs - 0;
- Textbooks - 2;
- Learning materials - 1;
- Books - 1;
- Publications – 33;
- Projects - 9.

4.1 Participation in scientific, scientific-applied and educational projects

The candidate Assoc. Prof. Stoilov participates in the competition with a total of 9 projects, of which: 5 scientific and 4 educational. Of all the scientific projects, one is international (Bulgarian-Slovak) research project, funded by the National Fund "Science Research" - Ministry of Education and Science - CSTC/Slovakia, and he has participated as a member of the team (E19). The other 4 scientific projects are funded by the Scientific Research Sector at the University of Forestry, and he is the leader of 3 of them (E20). Of all the educational projects, 2 are national, funded under Operational Programs by the Ministry of Education and Science. He has participated as a member of the team and 2 are "Student Practices" projects, funded by the Operational Program "Human Resources Development", co-financed by the European Social Fund. The candidate has participated as an academic mentor (E18).

4.2 Characterization of published scientific results

The publications can be classified as follows:

By type:

- Publications in scientific journals - 19, of which 1 is a study;
- Publications in proceedings of scientific forums - 14;
- Scientifically popular publications - 0.

By significance

- Articles in magazines with Impact Factor - 12;
- Articles in journals referenced and indexed in Web of Science and SCOPUS - 4;
- Articles in journals without Impact Factor - 4;
- Papers in proceedings of scientific forums - 13;
- Plenary reports - 0.

Place of publication:

- Articles in Bulgarian and foreign journals referenced in Web of Science and SCOPUS- 14;
- Articles in Bulgarian and foreign journals referenced outside the Web of Science and SCOPUS - 1;
- Articles in non-referenced Bulgarian and foreign journals - 16;
- Publications in proceedings of international scientific forums - 14;
- Publications in proceedings of national scientific conferences, sessions and seminars- 0;

- Publications in scientific annals of universities and institutes - 0.

Publishing language:

- In Bulgarian - 10;
- In a foreign language - 23;

Number of co-authors:

- Individual - 4;
- With one co-author - 12;
- With two co-authors - 9;
- With three or more co-authors - 9.

- Habilitation report on the topic: "Research on machines for close transport of wooden materials" (B3). The report is based on 10 scientific publications in journals that are referenced and indexed in world-renowned databases of scientific information, of which 8 in 6 journals indexed in Web of Science and Scopus, all with impact factor (IF) and impact rank (SJR), and 2 in one journal indexed in Scopus with SJR. The report is up-to-date and useful for studying the use of specialized equipment to protect small trees in the forest. When using combined machines, a dense road network is necessary, as well as compliance with safety at work. A study has been made of the use of cableways, tractors and specialized (combined) machines. The contributions of convective and combined machine technologies are given. The reference is useful for both students and specialists working in logging.

- Co-authored studies on the topic: "GIS technology in transport development of forest territories". Forest Science, suppl. 1, 92 p. ISSN 0861-007X. Web of Science (G10). It examines modern technologies and tools for developing the forest road network, which is necessary when using specialized transport equipment in logging. The studies can be used by engineers, forestry specialists, PhD researchers and students.

- Textbooks – 2, individual (E22). The textbooks are written according to the curricula of disciplines in which the candidate lectures. One of them completely coincides with the discipline of the competition "Forest Transport", and the second has been dropped from the curriculum for now.

- Textbook – 1, individual (E23), which is according to the dropped textbook.

The above mentioned, together with the information filled out by Assoc. Prof. Stoilov in Appendix 2 of the National Center for Information and Documentation (NCID) on the compliance of his materials with the Minimum Scientific Requirements (MSR), shows that the candidate's scientific, applied scientific and publication activities are significant both in quantity and quality, namely:

- In the group of indicators "A" he collects 50 points, out of 50 points required;
- In the group of indicators "B4" he collects a total of 158.2 points, with 100 points required, which is nearly 1.6 times more (160%).
- In the group of indicators "G" he collects a total of 230.6 points, with 200 points required, which is 1.15 times more (115%).

No plagiarism was noticed in the materials published by the candidate in the competition.

4.3 Reflection of Candidate's Scientific Publications in Literature (known citations)

- Total - 82 citations.

By type of citations:

- In referenced journals and proceedings of scientific forums - 72 citations;
- In manuals, monographs, dissertations, etc. - 10 citations.

Of the 34 publications submitted in the competition for professor by Assoc. Prof. Stanimir Stoilov, 22 of them are cited in publications by other authors.

According to the group of indicators "D", Assoc. Prof. Stanimir Stoilov collects a total of 1135 points, with 100 points required, in which the excess is multiple (over 11 times).

The candidate's scientific and applied scientific activity is well reflected in Bulgaria and abroad.

4.4 Contributions to the candidate's work (scientific, scientific-applied, applied)

In this review, the habilitation report (10 publications), 22 scientific publications and studies are subject to evaluation. The presented report on the candidate's contributions is structured thematically in the following areas:

- Research on machines for short-distance transport of wood materials;
- Research on the transport development of forest territories;
- Research in the field of utilization of wood biomass for energy.

Assoc. Prof. Stanimir Stoilov has claimed 17 scientific, 25 scientific-applied and 10 applied contributions. The most important scientific, scientific-applied and applied contributions are:

• *Scientific contributions*

- The existing knowledge on the productivity and costs of short-distance cableway transport during forced felling in coniferous plantations has been refined (B4.1, B4.4, B4.5).
- It has been established that during forced felling with low logging intensity, the operation of a specialized 4×4 cable skidder is effective from a silvicultural, technical and economic point of view (B4.6).
- The loading conditions for increasing the productivity of a specialized 4×4 cable skidder with a hydraulic boom crane have been established (B4.7, B4.9).
- Recommendations have been given for weight distribution between the axles, which improves the operation (reduces slippage) of a 4×4 cable skidder (G7.5).
- From a comparison of land and river transport, priority is given to river transport (G8.11).
- It has been proven that rolled ropes with extended lubrication intervals are more suitable than tractor winch traction ropes (G8.12).
- It has been established that a slope of 45 to 55% is an upper limit for the use of wheeled machines. A large slope has an adverse effect on their productivity (G8.13).
- The mathematical solution to the navigation problem of delta-shaped rope systems using odometry methods has been defined (G8.17).

- After analysis, preference is given to a forwarder in renewable logging over maintenance logging (G8.13).
- An assessment of occupational accidents in logging with ropeways has been made (B4.3).
- The economic and environmental efficiency of close transport in broadleaf forests with the use of a combined assortment tractor in gradual felling has been proven (B4.10).

- ***Scientific and applied contributions***

- Recommendations for reducing tractor slippage have been given (G7.5).
- The productivity of a ropeway in abiotically disturbed forests has been studied (B4.1).
- The performance of mobile ropeways when carrying out group-gradual fellings in deciduous forests has been studied (B4.4, G7.4).
- The productivity and profitability of close transport with a specialized 4×4 cable skidder tractor when carrying out forced and “ordinary” felling have been established (B4.6).
- The factors that influence the duration of the working cycle of a ropeway without downtime and with downtime have been established (B4.8).
- The working cycle and productivity of assortment tractors have been studied (B4.9).
- Mathematical models have been derived for the duration of the transport cycle in the short-haul transport of wood materials (G8.1, G8.3, G8.8).
- A methodology has been developed for the experimental study of the operational performance of specialized wheeled tractors for short-haul transport in a semi-loaded position in real operating conditions. (G8.2).

- ***Applied contributions***

- An analysis of the cableways manufactured in the Czech Republic has been made (G8.14, G8.9).
- Recommendations have been made for the use in Bulgaria of expensive and complex processor cableways, which require qualified personnel (B4.5, G8.15). The causes of accidents and damages from them have been established (B4.3).
- Remote control of the trolley, the mechanism for forced lowering of the traction rope and radio-controlled cable skidders lead to an increase in occupational safety in close transport with cableways (B4.1, B4.6).
- The use of a combi-forwarder improves the working conditions of workers (B4.10).

5. Assessment of the applicant's personal candidate

The documents, scientific papers and evidence presented by Assoc. Prof. Dr. Stanimir Stoilov are well structured and no significant gaps have been found.

I accept that most of the scientific results achieved in scientific research activities, in the materials presented in the competition for "professor" by Assoc. Prof. Stoilov, are his personal work. He has presented an independent book based on his dissertation on electronic media, 4 independent scientific articles, 2 textbooks and 1 manual, and in those co-authored he has a leading role (first place in 17 publications, second place in 10 publications and the studies). He was the head of 3 projects funded by the Scientific Research Sector - University of Forestry. I believe that the contributions presented by Assoc. Prof. Stoilov are also his

work. He has also had significant success in teaching activities (the evidence of that are the 2 textbooks and the published manual). The achieved scientific, scientific-applied and applied contributions are significant for the scientific specialty in which the competition is announced and will be useful for science and practice. Assoc. Prof. Dr. Stanimir Stoilov is a highly qualified specialist and scientist.

6. Critical remarks

In the evaluated works I did not find any fundamental omissions, such as incorrect approaches, methods, generalizations and conclusions of the obtained study results. All publications are well-formed with an introduction, exposition, conclusion and cited literature. While positively assessing the entire scientific and teaching activity of the candidate, I consider it necessary to make the following recommendations:

- To present in a more generalized form his future scientific and research contributions.

- To continue his creative and teaching activities and to pass on his experience to students, PhD students and specialists in the practice.

7. Personal impressions

I have known Assoc. Prof. Stanimir Stoilov since his student years, as his lecturer, and I have excellent impressions of him. He is well-mannered, sociable and ethical. As a lecturer, he is responsible, communicative and active, respected by his colleagues and students. In a professional sense, he is well-prepared with significant scientific and research activity in quantity and quality. In his work, he strives to apply new modern methods and means for training students. His participation in international scientific forums and large number of citations prove his authority in our country and abroad.

8. Conclusion

The relevance and significance of the scientific and pedagogical results achieved by Assoc. Prof. Dr. Stanimir Stoilov, their importance for the educational process and practice, their citations in scientific publications abroad and in Bulgaria give me reason to assess that all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its implementation at the University of Forestry for the academic position of "professor" have been exceeded. The total number of points for all groups of indicators is significantly high, 1898.8, with a required 550, i.e. there is an overfulfillment of 3.45 times (345%).

Considering the above, I propose Assoc. Prof. Dr. Stanimir Yordanov Stoilov to be elected as a „Professor“ in the discipline "Forest Transport" in Professional field 6.5 "Forestry", scientific specialty „Machines and equipment in forestry, logging, woodworking and furniture industries”.

Signature of the reviewer:
(Prof. Dr. Slavcho S