

STATEMENT

on the materials for participation in a competition for acquiring of academic position "Associate Professor" in scientific field 6. Agricultural science and veterinary medicine, in professional direction 6.5. Forestry, scientific specialty "Forest management and inventory", subject "Forest management", announced by University of Forestry in State Gazette № 102/08.12.2023 г., code of the procedure: **FOR-AsP-1123-115**.

Applicant to participate in the competition: Dr. Toma Ivanov Tonchev, Senior Assistant

Author of the statement: Dr. Evgeni Ivanov Tsavkov, Associate Professor, Department of Dendrology, University of Forestry

1. Short biography of the applicant.

Toma Tonchev was born on 5 July 1973 in the town of Berkovitsa. He received his secondary education at TMGS - Berkovitsa (1992). He graduated at the University of Forestry with MSc. degree in Forestry in 1997 with very good results and obtained the professional qualification "Forest Engineer". In the period 1998-1999 he worked in "Agrolesproekt" Ltd. In 1999 he joined the University of Forestry as an organizer of educational activities in the Department of Forest Management at the Faculty of Forestry. At the same time, he was a part-time assistant in the subject "Forest Management". Since 2008 he has been a senior assistant in the Department of Forest Management at the University of Forestry. As a part-time doctoral student in the scientific specialty "Forest Management and Forest Inventory" in the Forest Research Institute at the Bulgarian Academy of Sciences, he prepared a PhD thesis "Studies on the Structure and Growth of Coppice Beech Stands in the Stara Planina Mountain". He defended it in 2007, thus obtaining the educational and scientific degree "Doctor" (Diploma №31872, issued on 17.12.2007 by the Higher Attestation Commission).

2. Compliance of the submitted documents and materials of the applicant with those required under the Regulations for Development of Academic Staff at the University of Forestry (RDASUF)

The candidate has submitted all necessary documents and materials, specified in article 60, paragraph 4, including the requirements of paragraphs 5 and 7 of the Regulations for Academic Career Development at the University of Forestry. This was established at the first meeting of the scientific jury and is reflected in Protocol No. 1 of 14.02.2024.

In the documents for participation in the competition, Senior Assistant Toma Tonchev has presented 37 scientific works, including 2 monographs (book and PhD thesis), 7 chapters in collective monographs, and 28 scientific publications. The information provided on the minimum national requirements for the academic position of "Associate Professor" shows that the candidate convincingly meets these requirements, and in some cases exceeds them. The points for the individual indicators are as follows:

- **Indicator A** - The defended PhD thesis for awarding the educational and scientific degree "Doctor", provides the 50 points foreseen in the minimum requirements.
- **Indicator B3** – PhD - monograph, provides the foreseen 100 points.
- **Indicator G** - 266.69 points, compared to the required 200 points.
- **Indicator D** - 365 points, compared to the required 50 points.

In total, for all indicators, with minimum requirements of **400 points**, the candidate has achieved **781.69 points**.

3. Assessment of the applicant's educational activities

Toma Tonchev's lecturer's career began in 1999 as a part-time assistant in forest management. For 16 years he held the position of "Senior Assistant". Since the academic year 2016-2017, he has been a titular lecturer in the subject "Forest Management" for BSc students in "Forestry", regular education. Since 2021-2022, he has been a lecturer in the subject "Forest inventory" for BSc students in "Forestry", part-time education. Since the academic year 2022-2023, Toma Tonchev has been teaching the lecture course and practical exercises in the subject "Growth and Increment of Forests" for postgraduate students in "Forestry", part-time education. In the period 2011-2023, under the guidance of Senior Assistant Tonchev, five diploma theses were developed and defended (2 at Bachelor's level and 3 at Master's level). In the period 1999-2020, he was a reviewer of 61 diploma theses of students in the specialty "Forestry" (27 at Bachelor's level and 34 at Master's level). As a contribution to the teaching activity, it should be noted the updated syllabi of the compulsory subjects "Forest inventory" (for part-time students in "Forestry") and "Forest Management" (for full-time students in "Forestry"). I consider the following to be a contribution to the education of forestry students: the course of lectures and practical exercises in "Forest Management" developed by Senior Assistant Tonchev. A set of tests for the semester exam and current assessment of the same subject in different electronic platforms - Google forms, Zoom, Microsoft Teams, Blackboard. Toma Tonchev is an author of one textbook and co-author of another.

I am convinced that in his teaching activity, Senior Assistant Tonchev has always been conscientious and demanding. The material he teaches is presented at a high academic level and in accordance with the modern trends in the respective subjects.

4. Assessment of the applicant's scientific, applied and publication activities

4.1. Participation in scientific, applied science, infrastructure and educational projects

The candidate's research activity can be judged by his participation in scientific and applied scientific projects. Until 2013, Toma Tonchev participated in 11 research and applied projects at the Research Sector of the University of Forestry, one of which he was the leader of. Since 2013, he participated in 4 scientific projects, 2 of which were international. In the period 2017-2020, he participated in 6 applied scientific projects as a team member.

4.2. Characteristics of published scientific results

The publication activity of senior assistant Toma Tonchev is in conformity with the scientific subject and this one of the competition. He participates in this competition with 37 publications, which could be classified in the following categories:

- **Monograph:** Approaches for optimisation of management and utilisation of forests (2022, 146 pp) (B3.1)
- **Published book on the basis of defended PhD thesis:** „Investigations on the structure and growth of coppice beech stands in Stara planina Mt.“ (2023, 146 pp) (Г6.1)
- **Published chapters of collective monograph – total 7.**
- **Scientific publications – total 28, from which:**
 - o articles in scientific journals, reviewed by Web of Science – 10. Nine from them are in Bulgarian refereed issues (Г7.1-Г7.6, Г7.8, Г7.9 и Г7.10), and one of these articles is published in the scientific journal with impact factor Baltic Forestry, IF

2020-0,772 (Г7.7).

- in non-refereed journals with scientific reviewing or published in edited collective volumes – 18 (Г8.1 – Г8.18).

Publications in Bulgarian predominate – 28 (76%). Three of the publications are self-written, 9 – with one, 9 – with two and 16 – with more co-authors. In the collective publications, Toma Tonchev is the leading author in 9 of them.

Based on the detailed review of Toma Tonchev's scientific production, I consider he is one of our competent researchers in the field of forest management and inventory. His scientific works cover various aspects of this field and entirely responds to the requirements to take up the academic position "Associate Professor".

4.3. Reflection of the applicant's scientific activity in the literature (citations)

The candidate has provided established citations for 14 of his publications, mainly for articles in journals that are refereed and indexed in world-renowned scientific information databases. For these, the candidate has presented a total of 11 citations. Seven citations are in monographs and scientific papers and 11 are in non-refereed journals with scientific reviewing.

In addition to the citations as an indicator that Dr. Tonchev's work is known to the scientific community, both in Bulgaria and abroad, it should also be noted that he has been commissioned to review seven manuscripts for three scientific journals: Forestry Ideas, Forest Science, and Bois et Forêts des Tropiques.

4.4. Contributions in the applicant's work (scientific, applied)

The contributions in Dr. Toma Tonchev's scientific publications are summarized in three areas:

- 1) Forest management organization and optimization of forest management and use
- 2) Structure and growth, increment and productivity of stands
- 3) Ecological characteristics and health status of stands

I believe that the contributions formulated and classified in this way are adequate and fully reflect the directions of the candidate's research.

The monograph "Approaches to optimizing forest planning and uses of forests" deserves special attention. It is written at a high scientific level, with a precise methodology and a deep analysis of the main issues in forest management related to the forms of organization of forest management and use. Dr. Tonchev has thoroughly analyzed the approaches to maximizing yields and optimizing the structure and use of different forms of forest management organization: clear cutting (application of linear and mixed integer programming for poplar plantations), shelterwood (self-thinning models with a link between mean diameter, dominant height, and number of trees for beech seed stands) and selection (optimal circular plots, growing stock, number of trees for different target diameters for mixed stands of Norway spruce, European silver fir, Scots pine, and European beech). A significant part of this monographic study is devoted to various issues of beech seed stand management. Dr. Tonchev has made a thorough analysis of self-thinning models, the correlation between maximum circular area, competition indices, and the correlation between the number of trees with diameter, volume of the average stem, and height. As a result of these studies and based on a complex mathematical apparatus, Dr. Tonchev has derived three scenarios for planning silvicultural interventions in beech seed stands, which I consider to be an important contribution to the management of our beech forests.

The contributions to the development of yield tables by site index using three regression models for the percentage of current volume increment as a function of mean age and mean basal area per 1 hectare stand out from the forest inventory issues. As part of a research team, Dr. Tonchev participated in the development of new site index tables using an original methodology

for various coniferous and broadleaved tree species. Also, in co-authorship, growth tables (site index assortment tables) were developed for Scots pine, Hungarian oak, sessile oak, and European beech, which are of great importance for the quantitative and qualitative assessment of the growing stock in forest management surveys and planning during forest inventory.

I highly appreciate the diversity of tree species included in Dr. Tonchev's research. His research is an important contribution to the assessment of tree growth as an important biological characteristic and its specifics under different ecological conditions. The dendrological diversity in his research covers 9 tree species dominant in our forests: conifers: Scots pine, Norway spruce, European silver fir; broadleaves: genus *Quercus* – Hungarian oak, sessile oak, European beech. I also find a contribution in this direction in the study of some rarer species of our dendroflora – Brutian pine and sycamore maple.

I highly appreciate Dr. Tonchev's contributions as a result of his thorough and high-level work on the research problems. The wide range of tree species, the good mathematical background in the analysis of the research questions, and the thorough analysis of the results give me reason to believe that Dr. Tonchev is a well-prepared lecturer and researcher in his field in Bulgaria.

5. Assessment of the applicant's personal contribution.

The candidate has 3 solo publications and 9 with one co-author. The candidate's personal contribution stands out in all of his publications. The research is a result of his expert knowledge and skills. I am convinced that the contribution to the joint publications is equivalent to a specific personal contribution to them. I highly appreciate the candidate's scientific activity, his deep knowledge, interests, and active work in the field of forest management and forest inventory.

6. Expert Activity

Dr. Tonchev is a representative of the University of Forestry in the expert council of the Executive Forest Agency. He participates in various working groups of the same agency. As a consultant, he participated in the development of a module in the software product "Forest analysis and planning" of "Ksimaps" Ltd. and of the WWF-Bulgaria association.

7. Critical remarks and recommendations.

I did not find any significant gaps in the presented materials. I recommend Dr. Tonchev to separate a distinct group of his contributions as methodological one. I recommend that the candidate adapts and presents some of his results in a popular format, which will contribute to their better understanding by a wider range of the forestry community. Toma Tonchev possesses the skills of an experienced teacher and an in-depth researcher in the field of forest inventory and forest management, which are important subjects for foresters. I believe that Dr. Tonchev's focused work on the preparation of successors (assistants, graduates, doctoral students) will contribute to raising the level of this scientific field in Bulgaria. In his research, Dr. Tonchev has covered the dominant representatives of the Pinaceae and Fagaceae families in our forests, which also increases the importance of his research. I am confident that in his future research, Dr. Tonchev will continue to summarize his achievements and that he will have a leading position, if not an independent one, in future scientific work.

8. Personal impressions

I have known Toma Tonchev since he joined the Department of Forest Management in 1999. We have worked together on various activities, both in teaching and research, and have participated in several courses and trainings together. My impressions of him are entirely

positive, both as a colleague and as a teacher. I have often sought his advice, especially on the biology of tree species and the possibilities for their numerical expression - growth, increment, and other indicators. Recently, we have had more opportunities for in-depth discussions thanks to our joint teaching practice with forestry students, which I lead.

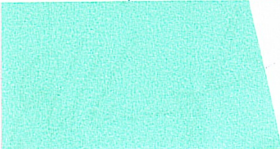
Toma Tonchev has a solid methodological and interdisciplinary background, which gives him confidence in interpreting scientific problems. He is a member of the Faculty of Forestry Council, the Academic Council of the University of Forestry (2012-2020), and participates in various commissions on university and faculty level.

9. Conclusion

Based on the above-mentioned, as well as the comprehensive assessment of the candidate's qualities, his scientific work and activity, and on the basis of my personal impressions, I have reason to conclude that Assistant Professor Toma Tonchev meets the requirements for the academic position of "Associate Professor" set out in the Law on the Academic Ranks and the Regulations of the University of Forestry.

Therefore, I confidently RECOMMEND Assist. Prof. Dr. Toma Ivanov Tonchev to take up the academic position of "Associate Professor" in the subject "Forest Management" in professional field 6.5. Forestry.

Date: 08.04.2024
Sofia

Author of the statement 
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