



OPINION

on the materials for participation in a competition for the academic position “Associate Professor”, professional field 6.5. Forestry, scientific specialty “Sylviculture incl. dendrology” announced by the Forest Research Institute of Bulgarian Academy of Sciences in State Gazette № 103 / 12.12.2023

Candidate for participation in the competition: Asst. Prof. Dr. Dimitar Petrov Dimitrov

Author of the opinion: Assoc. Prof. Dr. Tatiana Vassileva Stankova

1. Synopsis of the biographic data of the candidate

Asst. Prof. Dimitar P. Dimitrov graduated from the University of Forestry in professional specialty “Ecology, conservation and restoration of the natural environment” in 2002, defending a MSc thesis related to the management of young beech stands on the northern slopes of the Central Stara Planina Mountains. He gained his work experience at the Forest Research Institute of Bulgarian Academy of Sciences, where from 2002 until now he has been holding the academic position of assistant professor in the "Forest Ecology" department. In 2019, he obtained a PhD degree in the scientific specialty "Ecology and ecosystem protection", and the subject of his dissertation was a dendrochronological analysis of European beech forests. He completed 2 specializations at the prestigious Wageningen University in the Netherlands.

2. Compliance of the submitted documents and materials of the applicant with those required under the Regulations for development of the academic staff (RDAS) at the FRI - BAS.

All necessary for participation in the competition, according to Art. 13(5) of the Regulations for development of the academic staff (RDAS) at the Forest Research Institute - BAS, references, lists, forms and copies of documents are submitted by the applicant. According to the self-assessment report for compliance with the minimum requirements for holding the academic position "Associate Professor", the candidate fulfills and exceeds the minimum thresholds by groups of criteria. The candidate is the lead or sole author of eleven of the scientific papers submitted for participation in the competition, and only 2 of the publications (8%) are “in press”, thus satisfying the specific requirements of the Forest Research Institute for applying for the position. The publications selected for habilitation work (Criteria Group B) are accompanied by the required extended habilitation reference. The rest of the scientific works (Group criteria C) are also accompanied by a report on the contributions based on them. In category E scientometric indicators, the candidate has chosen to present his participation in projects from the period 2020-2022, and in category D - 11 citations from the period 2016-2018. Although sufficient to pass the minimum thresholds for categories D and E, the above-mentioned information is still incomplete, considering that some of the publications presented for the competition are related to research projects not included in the category E list. No data on participation in forums, teaching and reviewing activities of the candidate or other information according to the additional indicators, formulated in the RDAS at the Forest Research Institute, are submitted, which although optional, would have a positive effect on the assessment and on the candidate's image as a scientist.

3. Description of the submitted materials

The applicant participates in the competition with 26 scientific papers, of which 1 article in an impact factor journal (IAWA journal), 12 articles in the journal Nauka za gorata (Forest Science, Sofia), 6 articles in Silva Balcanica journal, 1 article in a peer-reviewed journal, 3 reports in edited volumes and three co-authored chapters of collective monographs. Ten of the articles are presented as a habilitation work, united under the title "Climate impact on forests". Eleven citations of the candidate's scientific works are presented, 8 of which are in publications indexed in Scopus or WoS (Criteria Group D). Evidential material for participation in 4 projects with national funding has been presented for Group E criteria.

4. Applicant's main areas of research and the most important scientific and applied contributions.

Asst. Prof. Dimitar P. Dimitrov is a scientist with interests in the areas of dendrochronology and tree anatomy, with prominent expertise in the fields of dendroclimatology and dendroarchaeology. The contributions in his scientific publications submitted for participation in the competition are primarily related to enrichment of the scientific knowledge or to obtaining of confirmatory data in these scientific fields. Some conceptual and applied methodological contributions are also proposed.

- The specific impact of a set of stress factors - drought, cold, frost, landslides - has been studied on the annual rings development during the growing season and through specific anatomical formations (light, frosty, partial, double, missing rings, reaction wood, traumatic resin channels and resin pockets) in the wood of the main tree species in our country.

- Periods of permanent growth depression and their relationship with the changes in the main climate parameters have been established for Scots pine, black pine and common beech stands in the Balkan mountain range. The influence of the seasonal dynamics of the climate components on the formation and width of the annual rings of some principal tree species has been studied.

- The spatio-temporal dynamics in the structure of beech stands in relation to their management and in the structure of mixed Norway spruce - Macedonian pine stands at the upper treeline have been studied.

- The dynamics of the main components of the climate has been studied in stationary conditions and the critical conditions for the development of the forest stands, related to continuing droughts and frequent climatic anomalies, have been established.

- An 84-year-old floating chronology of oak wood has been built for the first time in our country.

- Archaeological wood from underwater props of a submerged prehistoric settlement from the mouth of Ropotamo River and from the medieval fortress "Rakhovets" has been taxonomically identified.

- A combined methodological approach for reconstruction of past climatic events has been applied, combining dendrochronological analysis and analysis of historical sources, through which two unfavorable climatic periods have been identified at the end of the 18-th century in our country.

- An interdisciplinary approach has been formulated for a complex study of the upper treeline extension upward, combining geographic information systems, silvicultural and

dendrochronological methods.

- A methodological approach for dendrochronological dating of erosion processes has been proposed, based on a comparative analysis of radial chronologies from the same root - reference (normal) chronology and reaction wood chronology.

5. Impact of the applicant's scientific activity in the literature.

The list of citations of the candidate's works shows that his publications have been reflected in articles by foreign authors in prestigious specialized journals from the Web of Science Core Collection database such as *Dendrochronologia* and *Frontiers in Plant Science*, in monographs in Bulgarian language of his fellow dendrochronologists and in articles of interdisciplinary nature. The fact that in just a two-year period (2016 - 2018) publications of the candidate scored 11 citations is a positive indication. For example, for the 2011 article on Scots pine in *Silva Balcanica* journal, of which the candidate is the lead author, in addition to the 2 citations in the submitted list of citations, other citations can also be found with Google Scholar: 2 citations in journals from the Web of Science Core Collection database (*Dendrochronologia* 2019, *European Journal of Forest Research* 2014), a citation in a journal from Scopus database (*Silva Balcanica* 2013), a citation in a dissertation from 2017 in Estonia and a citation in a monograph in our country from 2023. I recommend to the candidate to make an effort and spend some time to synchronize the information available about him as an author in the databases of Scopus, Web of Science, ORCID, etc., which will increase the visibility of his scientific works and his profile as a scientist to the international scientific community.

6. Participation in scientific projects.

The candidate documented his participation in four projects led by his colleagues at the Forest Research Institute, but I am also aware of his participation in interdisciplinary projects and inter-institutional consortia with the University of Forestry, Sofia University, the Institute of Archeology of BAS, etc. Until 2016 Asst. Prof. Dimitar P. Dimitrov has been also a member of the Management Committees of several COST Actions. My impressions of the candidate are that he is sought after as an expert and is able to be part of interdisciplinary and international scientific teams.

7. Teaching activities (PhD student supervisor / consultant, student training, etc.)

The candidate has not submitted a reference for his educational and training activities, but in connection with a research project led by me, he was engaged as a consultant in the collection, processing and reading of increment cores. Asst. Prof. Dimitar P. Dimitrov is willing to share knowledge and skills, as well as to provide advices and consultations on controversial topics in the field of dendrochronology.

8. Assessment of the applicant's personal contribution.

The scientific style of Asst. Prof. Dimitar P. Dimitrov is recognizable, with a clear and consistent presentation, leading to the conclusion that his individual works are a result of his own research and analysis. I believe that in the collective works the candidate has explored the issues related to his competences.

9. Critical remarks and recommendations.

My principal recommendation to the candidate is to pursue more ambitious goals when publishing the results of his research work. In connection with the increasing influence of the climate change, especially in the last decade, the dendrochronological method has gained a particularly high popularity and exposure, benefiting experts in the field with the opportunity to publish in numerous reputable journals included in the Web of Science Core Collection and Scopus databases. I recommend to Asst. Prof. Dr. Dimitar P. Dimitrov to prove that he has reached professional maturity as a researcher in this scientific field by publishing his articles in the near future both in highly-rated specialized journals such as Dendrochronologia and Tree-ring Research, and in other prestigious journals in the field of ecology and forestry.

10. Personal impressions.

I have known the candidate since the beginning of his research career at the Forest Research Institute of BAS as a communicative, but also dedicated researcher. I highly value his responsiveness, his willingness to cooperate and his consistency in fulfilling his commitments.

11. Conclusion.

In connection with the above, I propose the candidate Asst. Prof. Dr. Dimitar Petrov Dimitrov to take the academic position "Associate Professor" in the scientific specialty "Sylviculture incl. dendrology" of the professional field 6.5. Forestry.

Date 15/04/2024

Member of the Scientific Jury:

/Assoc. Prof. Dr. Tatiana V. Stankova/