

REVIEW

from Prof. DSc. Ivan Aleksandrov Iliev, University of Forestry,
for the materials, presented for participation in competition for occupation of academic position
“professor” in scientific field 6. Agricultural sciences and veterinary medicine, in professional
direction 6.5. “Forestry”, scientific specialty „Forest plantations, breeding and seed production“,
subject “Forestry”, course “Forest genetics and breeding”, Department of Dendrology, Faculty of
Forestry, declared from University of Forestry в State Gazette (SG) No. 37 of May 7, 2019, code
of the procedure: FOR – P – 0419 – 07.

In the competition for “professor”, declared in SG No. 37 of May 7, 2019 and in the website
of University of Forestry for the needs of Department of “Dendrology”, Faculty of Forestry, as an
applicant participate Assoc. Prof. PhD Peter Zhelev Stoyanov.

1. Short CV data.

Assoc. Prof. PhD Peter Zhelev Stoyanov was born on August 14, 1960. In 1985 he
graduated with Master degree in the University of Forestry, specialty “Forestry”, specialization
„Environmental protection and enrichment“ with mean score of the course of study “Very good” -
5.27 and success of the state exam „Excellent” - 6.00. In the period 1985-1987 he worked as a
forester in State hunting farm „Trakia“ in Plovdiv. In 1992 he acquired the scientific degree PhD.
In the period from 1992 to 1999 he was assistant, senior assistant and assistant professor in the
Department of Dendrology in the Faculty of Forestry of the University of Forestry, and in 1999
was elected for Associate Professor in the same Department. From 2003 to 2007 was Chairman of
Department of Dendrology and from 2007 to 2016 was Vice Rector of the University of Forestry.
He is member of the American Genetic Association, International Plant Propagator’s Society,
Bulgarian botanical Society and Union of scientists in Bulgaria.

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 and general description of the presented materials for participation in the competition.

For participation in the competition Assoc. Prof. PhD Peter Zhelev Stoyanov has presented
total 144 publications. Thirty-two of them were published before the habilitation and 112 are after
the habilitation.

The publications before the habilitation will not be reviewed, but could be classified as the
following:

- Thesis of Dissertation for acquire of scientific degree PhD - 1 number (page 1 of the applied list),
- Publications related with the PhD dissertation – 3 numbers (page 1 of the applied list),
- Publications in journals with Impact factor – 2 numbers (page 2 of the applied list),
- Publications in journals without Impact Factor and annual proceedings of Universities and
Institutes - 9 numbers (page 1 and 2 of the applied list),
- Publications in proceedings of conferences – 7 numbers (page 2 of the applied list),
- Scientific and popular and technical publications – 3 numbers (page 3 of the applied list),

- Published reviews – 4 numbers (page 3 of the applied list),
- Other publications – 2 numbers (page 3 of the applied list),
- Guide for practical training of the students – 1 number (page 3 of the applied list),

3. Scientific activity: general evaluation of the applied scientific production after his habilitation.

The total number of indicated publications by the candidate after his habilitation are 112. According to the Minimal National Requirements to the scientific activity of the candidates for occupy of academic position „professor“ in field of the high education 6. Agricultural sciences and veterinary medicine, in professionally direction 6.5. “Forestry” (Regulations for Development of the Academic Staff in University of Forestry, 2019) they could be separated to the following:

ACCORDING INDICATOR A – 50 points: Thesis of Dissertation for acquire of scientific degree PhD - 1 number (page 1 of the applied list).

ACCORDING INDICATOR B: Dissertation for acquiring scientific degree Doctor of Science – not presented.

ACCORDING INDICATOR C – 146.25 points:

Habilitation work - monograph: not presented.

ACCORDING INDICATOR D – 378.79 points:

Scientific publications: **total 85 numbers.** It gives the impression that 51 of the presented publications are in English and in journals with Impact factor and Impact Rang. He is a single author of 11 of the presented publications (No 52, 92, 97, 98, 99, 105, 106, 107, 108, 109), in 17 of them is first author (No 2, 18, 24, 27, 34, 43, 55, 56, 57, 66, 69, 85, 89, 94, 95, 100, 112), in 39 – second author (No 3, 7, 9, 14, 19, 20, 22, 23, 29, 31, 32, 35, 40, 41, 44, 46, 47, 48, 50, 53, 59, 61, 62, 63, 64, 70, 73, 75, 77, 78, 84, 90, 91, 93, 96, 101, 103, 104, 109), and in the next – in third or next place. They could be classified in the following groups:

- Scientific publications (not less than 10), in issues, which are refereed and indexed in world-famous data bases with scientific information:
 - Publications in journals with Impact factor: **total 23 numbers** (No 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 from the applied list) in English,
 - Publications in scientific journals with Impact Rang – **total 10 numbers** (No 24, 25, 26, 27, 28, 29, 30, 31, 32, 33 from the applied list) in English,
 - Publications in scientific journals, which are not refereed in world-famous data bases with scientific information: **total 24 numbers** (No 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 106, 107, 108 from the applied list). Twenty-three of them are in English and 1 is in Bulgarian (No 38 from the applied list),
 - Publications in proceedings of scientific conferences: **total 18 numbers** (No 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72 from the applied list). Twelve of them are in English (No 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72 from the applied list) and 6 are in Bulgarian (No 55, 56, 57, 58, 59, 60 from the applied list). In proceedings of national conferences are published 7 numbers (No 55, 56, 57, 58, 59, 60, 63 from the applied list), and in proceedings of

international conferences are published 11 numbers (No 61, 62, 64, 65, 66, 67, 68, 69, 70, 71, 72 from the applied list).

- Chapter of books and monographs: **total 12 numbers** (No 73, 74, 75, 76, 77, 78, 79, 80, 83, 84, 85, 86 from the applied list). Six of them are in English (No 73, 74, 83, 84, 85, 86 from the applied list) and 6 are in Bulgarian (No 75, 76, 77, 78, 79, 80 from the applied list).

Popular books: total 4 6p. (No 88, 89, 90, 91 from the applied list) in Bulgarian,

Popular and applied articles and elaborations:- total 14 numbers (No 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105 from the applied list). Three of them are in English (No 96, 103, 104 from the applied list) and 11 are in Bulgarian (No 92, 93, 94, 95, 97, 98, 99, 100, 101, 102, 105 from the applied list).

Popular publications: total 4 numbers (No 109, 110, 111, 112 from the applied list). One of them is in English (No 111 from the applied list) and 3 are in Bulgarian (No 109, 110, 112 from the applied list).

ACCORDING INDICATOR E – 1575 points:

Citation of the scientific publications of the candidate: total 601 numbers. They could be classified in the following way:

- In journals with Impact Factor: **total 270 numbers.**
- In scientific journals without Impact factor: **total 150 numbers.**
- In monographs, books, dissertations and proceedings of scientific conferences: **total 181 numbers.**

From the documented citations 68 are in Bulgarian and 533 in foreign scientific journals, monographs, books, dissertations, and proceedings of conferences.

ACCORDING INDICATOR F – 375 points:

Scientific supervisor of PhD students: total 6 numbers, which are 5 Bulgarian and 1 Lebanese PhD student. Three of them are defended Bulgarian PhD students, 1 Bulgarian PhD candidate with finished studies and right for a defense and 2 enrolled PhD students (1 Bulgarian and 1 Lebanese PhD student).

Participation in projects: total 36 numbers. He has been supervisor of 14 of them and participant in 22 projects. They could be classified in the following way:

- International scientific projects: **total 7 numbers.** He has been supervisor of 4 projects and participant in 3 projects.
- National infrastructural, institutional and educational projects: **total 2 numbers.** He has been supervisor of 1 project and participant in 1 project.
- National scientific projects, funded by Bulgarian National Science Fund: **total 6 numbers.** He has been supervisor of 3 of them, and participant in 3 projects.
- Scientific and applied projects funded from other Bulgarian institutions: **total 8 numbers.** He has been supervisor of 3 projects and participant in 5 of them.
- Scientific projects, funded from the University of Forestry according to the ordinance of MES from January 1, 2017 for the requirements and planning line, apportionment and spending of funds, granted on purpose from State budget intrinsic to State high schools scientific or artistic and

creative activity: **total 5 numbers**. He has been supervisor of 3 of them and participant in 2 projects.

- Applied projects, which were not administered from University of Forestry: **total 8 numbers**, in which he has participated as expert.

Guide for practical training of the students: total 1 number (publication No 87 from the applied list).

OTHER SCIENTIFIC AND LEARNING ACTIVITIES

Participation in Editorial Boards of scientific journals: In journals with Impact Factor: total 2 numbers. To one of them (Propagation of Ornamental Plants) is Assistant Editor and to other is member of the Editorial Board (Applied Ecology and Environmental Research).

Reviewed manuscripts, dissertations, habilitation works, proceedings etc.: He has refereed manuscripts for 12 journals with Impact factor, for 3 journals with Impact Rang and for 6 journals, not refereed in the world-famous data basis. He has participated in 29 scientific juries for competitions for occupation of academic positions (AP) and acquiring scientific degree PhD. In 3 of them - as reviewer for occupation of AP "Associate Professor", and for acquiring scientific degree PhD – in 4 scientific juries. Also, he has participated with written position as a member of 6 scientific juries for competitions for occupation of AP "Professor", for occupation of AP "Associate professor" – in 5 scientific juries, for occupation of AP "Assistant Professor" – in 5 scientific juries, and for acquiring scientific degree PhD – in 6 scientific juries. He has been 4 times chairman of scientific juries for acquiring scientific degree PhD.

Participation in scientific forums (conferences): total 53. He has participated in them with 1 plenary report, 47 reports and 25 posters. In one international scientific conference he has been member of the organizing committee.

Supervisor of successfully graduated students: total 107.

4. Learning activity.

Principal lecturer: total 4 numbers. For Bachelor degree – 2 and for Magister degree – 2.

1. "Forest genetics and breeding" (for subject „Forestry“, full time and part time teaching, Bachelor degree); 2. „Natural plant resources“ (for subject „Business management“ and „Alternative tourism“, Bachelor degree); 3. "Protection of biological diversity" (for subject Forest management, Magister degree) and 4. "Improvement of tree species" (for subject „Forest management“, Magister degree).

Participation in establishment (equipment) of research and training laboratories: total 1 number (University laboratory for biotechnological and molecular-genetically investigations in the agriculture, forestry and veterinary medicine).

5. Expert's activity: total 5 numbers.

As chairman of a group of experts – 1 number: in topic „Climatically changes and biodiversity“ of Bern's convention (European Community) (from 2007).

As member of national and international communities, committees, group of experts and commissions – 4 numbers: of National Council in biological diversity (advisory body of MEW)

(from 2003), of domain committee of program COST "Forests, Their Products and Services (from 2006 to 2014), group of experts in topic „Climatically changes and biodiversity“ of Bern's convention (European Community) (from 2007), National commission in Forest breeding and seed production.

6. Member of scientific councils: total 4 numbers.

He has participated in specialized scientific council in Botany and Mycology of a High Testimonial Committee (HTC) (from 2001 to 2007), scientific council of Institute of Botany at the Bulgarian Academy of Sciences (BAS) (from 2007 to 2010), specialized scientific council in Forestry and Ecology of HTC (from 2007 to 2010), scientific council of Institute of Biodiversity and Ecosystem Research at the BAS (from 2010 to 2019).

7. Some more important scientific and applied contributions.

The basic scientific and research activity after habilitation of Assoc. Prof. PhD Peter Zhelev Stoyanov is systematized in the following basic directions: 1. Characteristic of the level and distribution of genetic diversity in populations and between populations of different tree species, as well as of some genetical processes in the populations, 2. Investigation of the variability in different plant species by morphological and morphometrical signs, 3. Investigations, related with the breeding of tree species, 4. Protection of genetic fund of tree species, 5. Population genetics of wild animals, 6. Dendrological investigations, 7. Ecological investigations and protection of the nature and biodiversity, 8. Investigations of medicinal plants.

The more substantial contributions from the scientific research of the candidate could be classified as the following:

A. Methodical contributions:

- A method for micropropagation of an ornamental cultivar of silver birch has been developed (publication No 58).
- A technical instructions for preservation of genetic resources of *Quercus frainetto* and *Q. cerris* have been developed (publications No 103,104).
- Methods for monitoring of forest genetic resources are developed (publication No 81) as well as on their conservation under climate change (publication No 82).
- A system of measures is proposed for mitigation of the effect of climate change on the forests of Bulgaria (publication No 75). The peculiarities and dynamics of restoration of natural Spruce forests after natural disturbances were established (publications No 21, 45, 48, 74, 86, 102).
- A methodology was developed for identification of forest habitats with high conservation value (publication No 60), which precedes more than three years the official announcements of the Natura 2000 protected zones in Bulgaria. Methods for management of forests within the nature conservation network Natura 2000 are proposed (publication No 76). Additionally, two natural habitats were described (publication No 97).

B. Scientific contributions:

- The variation in the natural populations of the following tree species was studied by means of isozyme gene markers: *Pinus sylvestris* (publications No 4, 25), *P. nigra* (publications No 4, 27),

P. peuce (publications No 2, 66), *P. mugo* (publications No 3, 57), *Quercus robur*, *Q. petraea*, the species of *Q. robur* s.l. group, incl. *Q. pedunculiflora* и *Q. mestensis* (publications No 1, 41), *Platanus orientalis* (publication No 7) and *Betula pendula* (publication No 43).

- The application of DNA markers in the studies of *Abies alba*, *A. cephalonica* and *A. borisii-regis* allowed to demonstrate the distribution of the genetic diversity within and among populations. For *A. borisii-regis* it was proven that it is a result of ancient introgressive hybridization (publications No 12, 28, 30). In *Abies alba* the studies revealed specific adaptation to different environmental conditions determined by the altitude (publication No 16). In *Sorbus torminalis* from Eastern Europe the studies detected relatively high degree of differentiation and significant geographic isolation (publication No 5), and in *S. domestica* the studies revealed moderate population and geographic differentiation (publication No 10). In the Hornbeam (*Carpinus betulus*) on Balkans it was recorded considerably higher genetic diversity in comparison with the other parts of Europe and it was shown that the modern populations originate from different microrefugia on the peninsula (publication No 17). Three geographically distinct groups were identified in *Quercus cerris*: Western, Central and Eastern (publication No 15).

- The influence of environmental conditions on the morphometric traits of needles and on the annual rings in *Pinus heldreichii* was studied (publications No 39, 42). Intermediate inheritance of several morphometric traits was found in hybrids between *Pinus sylvestris* and *P. mugo* (publication No 64), and the level of morphometric variation was documented in the Silver Birch from a natural locality in the Rhodopes (publication No 43).

- Morphometric traits allowed to differentiate between *Sideritis scardica* and *Sideritis syriaca*, and for one populations of *S. scardica* it was hypothesized that probably represents a new taxon (publication No 22).

- It was shown that the heritability coefficient in Scots pine could increase with age (publication No 18). Relatively low heritabilities of height-, diameter- and volume growth were established in 144 full-sib families from Southern Sweden. Another important conclusion from the same study was that genotype \times environment interaction, although often statistically significant, is of minor importance (publication No 24). Height and diameter growth of 11 provenances was studied in two provenance experiments in Belgium established in 1908 and 1909 (publication No 34). Moderate heritabilities of height growth were established in the Silver Fir (publication No 36) and in the Eastern Plane tree (publication No 40).

- Possibilities for gene conservation of *Platanus orientalis* were studied (publication No 63). A survey on the gene conservation of *Populus nigra* in Bulgaria is done (publication No 96) and the Bulgarian experience in the *ex situ* conservation of the Silver Fir was reviewed (publication No 84).

- The Bulgarian populations of *Tetrao urogallus* were identified as belonging to the southern European genetic lineage, but are taxonomically classified as *Tetrao urogallus rudolfii*, like the Carpathian populations. At the same time, however, there is a substantial divergence between the Bulgarian and Carpathian populations, which questions this taxonomic concept (publications No 8, 11, 67). In *Rupicapra rupicapra* the genetic diversity established is relatively low and measures for future management and conservation of the population are recommended (publication No 14).

- The management regime and environmental effect on the penetrance of alien and invasive species was studied in a riverine forest (publication No 9). It is proven that Balkan Peninsula was not a homogeneous glacial refugium, but rather multiple refugia existed here (publication No 52). Different plant communities are inventoried (publications No 19, 26, 37, 46), and the results are included in a specialized database (publication No 13). Four plant communities were described for the purpose of the Red Data Book of Bulgaria, vol. 3 (publications No 77, 78, 79, 80). The natural localities of some rare plant species are described in detail (publications No 27, 31, 50, 69) and some new data about the distribution of Bulgarian plant species are reported (publications No 47, 55). Some aspect of propagation of rare plant species is studied in relation to their ex situ conservation (publications No 54, 72). A survey on the biodiversity conservation and genetic resources under climate change is presented (publication No 85). Different aspects of biodiversity conservation are commented in some popular books and articles (publications No 88, 89, 94, 99, 100).
- An analysis of the systematics, distribution and phytochemical characteristics of the species of genus *Thymus* in Bulgaria are presented (publication No 32). New information about the natural localities, significance and phytochemical composition of some medicinal plants is reported (publications No 22, 23, 27, 31, 33, 50, 51, 68, 69, 70, 71).

8. Evaluation of the personal contribution of the candidate.

The scientific and practical achievements and contributions are personal deal of the candidate. For the joint publication I accept that they are with equally participation of the authors.

According to the Regulations for Development of Academic Staff at the University of Forestry, Assoc. Prof. Peter Stoyanov has presented the necessary documents for the competition. According to the Minimal National Requirements for occupy of academic position „professor“ in scientific field 6. Agricultural sciences and veterinary medicine (Regulations for Development of the Academic Staff in University of Forestry, 2019) collect total 2525.04 points and by this way significantly overfulfil quantitative and qualitative requirements for occupy of the academic position.

9. Personal impressions.

I knows the candidate from 1987 as PhD student in Department of Dendrology. He always manifest big organization and persistence in acquiring of scientific knowledges and conduction of scientific investigations. As teacher and researcher is accurate and exacting both in the teaching of students and the work with his colleagues as well as in conduction of scientific investigations. Assoc. Prof. PhD Peter Zhelev Stoyanov is a man of principles and active teacher, able to manifest consistency, tact and patience in his work with the students and colleagues. He enjoys a good reputation among the students and colleagues.

The significant number of his publications in journals with Impact factor and in refereed journals, as well as their citation in foreign, refereed in world-famous databases for scientific information, and his participation in significant number of research projects is a proof that he is respectable researcher with affinity to the new and modern areas in the contemporary genetics and breeding of forest tree species. The reported citations certify the interest to novelties and scientific

contributions in his research. This impressive factology shows that Assoc. Prof. PhD Peter Zhelev Stoyanov is an established and well-known scientist and teacher.

10. Critical notes and recommendations.

I have the following notes and recommendations to the presented materials for the competition:

1. The presented publications before habilitation are not numbered and the authors are not indicated of publication No 76.
2. He has reviewed and edited more than 90 manuscripts for journal Propagation of Ornamental Plants, but has not presented information for that.
3. He is principal lecturer of the course „Natural plant resources“ (for subject „Business management“ and „Alternative tourism“, Bachelor degree) and author of the curriculum but has not presented information for that. Also, he has not presented list of the courses taught by him.
4. He has not indicated the period when he was member of National commission in Forest breeding and seed production.
5. I evaluate publications No 81 and 82 as large scientific papers, but not as chapter of a books as it is indicated in the reference of the publications.
6. In the applied list of the scientific and applied project after the habilitation are described 36 projects but in the summarized table are indicated 39. For convenience of the reviewers it would be well if the described projects are numbered.
7. In 2017 he was honored as “Scientist of the year” of the University of Forestry but has not indicated that in the presented documents for the competition.

I have no doubt in the presented information but recommend to Assoc. Prof. PhD Peter Stoyanov more comprehensive and accuracy in the preparation of similar documentation.

In connection with the overall assessment of the results from educational, teaching and scientific activity of the candidate I deem that Assoc. Prof. PhD Peter Zhelev Stoyanov meets and for a number of indicators over-performs many times the requirements of “The Law for Development of the Academic Staff in Republic of Bulgaria”, “Regulations for Development of the Academic Staff in Republic of Bulgaria”, “Minimal National Requirements” in scientific field 6. Agricultural sciences and veterinary medicine and “Regulations for Development of Academic Staff at the University of Forestry”. He has correctly and precisely presented the necessary documents and I propose with conviction to the respected scientific jury to award him with the academic position “professor” in professional direction 6.5. Forestry, course “Forest genetics and breeding” in the Department of Dendrology, Faculty of Forestry at the University of Forestry.

August 23, 2019
Sofia

Reviewer: