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## OPINION

on the materials for participation in the competition for occupation of the academic position "Professor", Professional field 6.5. Forestry, scientific specialty "Forest Melioration, Forest Protection and Special Forest Uses ", announced by the Forest Research Institute - BAS, SG. 44 / 04.06.2019.

### **Applicant to the competition is:**

Assoc. Prof. Margarita Ilieva Georgieva, PhD

**Prepared by:** Rumen Ignatov Tomov, PhD, Professor in professional field 6.2 Plant protection from the University of Forestry

### **1. Brief biographical data of the applicant**

Assoc. Prof. Dr. Margarita Ilieva Georgieva graduated from the University of Forestry in 1998 and acquired a Master's degree in forestry engineering. In 2010 she obtained a scientific and educational degree "Doctor" at the Forest research institute, Bulgarian Academy of Sciences, defending a dissertation on "Diseases on Douglas-fir (*Pseudotsuga menziensis* (Mirb.) Franco) and their influence on the species introduction in Bulgaria".

She began her career in 1998 as a forestry engineer at the Forest research institute, Bulgarian Academy of Sciences. In the period 2006-2015 she was an assistant and chief assistant, and since 2015 until now is an associate professor at the same institute. From 2017 until now she is the scientific secretary of the Institute.

During the period 2009-2018 she improved her qualification through her participation in 5 courses as follows: "Molecular taxonomy, phylogeny and ecology", "Detection and Diagnosis of Dothistroma Needle Blight", "Field and laboratory methods for detection of invasive insect pests and pathogens", "Molecular Detection and Population Genetics of Dothistroma Needle Blight Pathogens", "Concepts of biological invasion, EU plant health regulation, and risk analysis". He is a member of the Union of Scientists in Bulgaria, the Union of Foresters in Bulgaria and the National Commission for Forest Protection. Assoc. Prof. Georgieva has 120 publications. Her scientific results are reflected by the scientific community with 190 citations. Her H-index is 9 according to Scopus, and 8 according to Web of Science.

### **2. Compliance of the submitted documents and materials of the applicant with the required ones in accordance with the Regulations for acquiring scientific degrees and holding academic positions at the Forest Research Institute - BAS.**

Assoc. Prof. Dr. Georgieva has submitted all the necessary documents for participation in the competition. The submitted documents and materials are in compliance with the Regulations for acquiring scientific degrees and holding academic positions at the Forest Research Institute at the Bulgarian Academy of Sciences. The presented materials exceed the minimum required points by groups of indicators for holding the academic position "professor" for Professional field 6.5. "Forestry". The candidate has completed 2836 points with a required 650 ones.

### 3. General description of submitted materials

Assoc. Prof. Dr. Georgieva participated in the competition with 71 works, of which 7 are in print. The papers are as follows: 43 scientific publications in journals that are referenced and indexed in world-famous databases with scientific information; 22 Articles and reports published in non-refereed journals with scientific review or published in edited collective volumes; 1 Studia; 4 Popular publications and one methodology.

The scientific publications are 66, of which 47 are in a foreign language. They are published in 20 scientific journals, 11 of which are foreign and in 5 proceedings of scientific forums.

### 4. Main fields in the research work of the candidate and the most important scientific and scientific-applied contributions.

The scientific contributions of Assoc. Prof. Georgieva are indisputable and can be summarized in the following three main fields: (1) *Bioecological characteristics and distribution of insect pests*, (2) *Bioecological characteristics and distribution of pathogens in forest tree species*, (3) *Monitoring and assessment of the health status of forest and urban ecosystems*

*Bioecological characteristics and distribution of insect pests.* The main studies of Assoc. Prof. Georgieva in this direction are focused on the pine processionary moth (*Thaumetopoea pityocampa*). Some biological features and distribution of the species have been clarified (№№67, 74, 82, 100, 57, 69, 72, 80, 89, 90, 95, 110). Mortality factors of the species have been studied. Three new species of entomopathogens have been identified (№№87, 88). The parasitoid complex on the eggs of the pine processionary moth in Bulgaria, France, Bosnia and Herzegovina and the island of Thassos in Greece (№№91, 52, 83, 86, 92), as well as the predators on its eggs (№111) have been studied. The fertility and survival of the northern pine processionary moth *Thaumetopoea pinivora* under laboratory conditions (№109), as well as the structure of the egg clumps and egg parasitism in the pistachio bud moth *Thaumetopoea solitaria* were established.

The scientific contributions of Assoc. Prof. Georgieva related to the role of *Entomophaga maimaiga* as an entomopathogen of *Lymantria dispar* are indisputable (№№55, 56, 77, 93, 99, 102). She contributes to the first successful introduction of the fungal pathogen of gypsy moth in Bulgaria, as well as to the analysis of the results of the introduction and natural spread of the entomopathogen.

Significant are her contributions to the study of mortality factors and other insect pests as well. 18 species of viral, protozoan, microsporidial and fungal entomopathogens have been identified in 27 species of herbivorous insects in the forests. The data on the parasitoids of phytophagous insects in the area of the Plovdiv Forest Protection Station are summarized. A new for the science relationship has been established between *Epidiaspis gennadii* (Leonardi, 1898) (Hemiptera: Diaspididae) and *Zaomma lambinus* (Walker, 1838) (Hymenoptera: Encyrtidae).

The scientific results of Assoc. Prof. Georgieva in this field have been published in 32 publications. (50, 51, 52, 54, 55, 56, 57, 64, 67, 69, 72, 74, 77, 80, 82, 83, 86, 87, 88, 89, 90, 91, 92, 93, 95, 96, 99, 102, 109, 100, 110, 111).

*Bioecological characteristics and distribution of pathogens in forest tree species.* The contributions from the conducted studies of the pathogens on the following tree species are significant: (1) The pathogens *Allantophomopsis pseudotsugae* (Wilson) Nag Raj and *Phaeocryptopus gaeumannii* (Rohde) Petrak were studied on Douglas fir (№№58, 103); (2)

The phytopathogens *Lecanosticta acicola*, *Dothistroma septosporum* and *Dothistroma pini*, *Sphaeropsis sapinea*, *Fusarium circinatum* have been studied on trees of the genus *Pinus*; (3) *Sirococcus conigenus* on *Picea abies* (L.) Karsten; (4) *Botryosphaeria* spp. on poplar saplings and (5) *Cryphonectria parasitica* (Murr.) Barr. on *Castanea sativa* Mill. Assoc. Prof. Georgieva has a significant contribution to the monitoring of invasive alien fungi species. The scientific results of Assoc. Prof. Georgieva in this field have been published in 18 publications (№№58, 103, 60, 59, 81, 68, 61, 62, 66, 94, 78, 84, 119, 85, 79, 63, 104, 73).

*Monitoring and assessment of the health status of forest and urban ecosystems.* Studies of the health status of economically important forest tree species - beech (№№1, 76, 105), oak (№№97, 101, 112), chestnut (№№53, 108, 113), coniferous crops (№№106, 107, 114), as well as tree and shrub vegetation in urban areas (№№65, 115) have been conducted.

The most significant scientific and applied contributions of Assoc. Prof. Georgieva are as follows: (1) A methodology for monitoring of invasive alien species of fungi has been developed in connection with the improvement of the information system to the National Biodiversity Monitoring System; (2) Classifications of harmfulness of insect pests and fungal pathogens have been developed by using three main categories based on the physiological condition of the host plants and the place of damage; (3) For the first time in Bulgaria a combined approach for assessment of the health condition of the tree and bush vegetation in urban environment has been tested by using remote monitoring methods; (4) An innovative method for remote monitoring of forest plantations in hard-to-reach areas in two reserves in the Western Stara Planina (Upper Bark and Chuprene) has been tested. The scientific results of Assoc. Prof. Georgieva in this field have been published in 17 publications (№№53, 65, 70, 71, 75, 76, 97, 101, 105, 106, 107, 108, 112, 113, 114, 115, 120).

## **5. Reflection of the applicant's scientific activity in the literature (Citation)**

The scientific results of Assoc. Prof. Dr. Margarita Georgieva have received a wide response at home and abroad. A total of 141 citations of 35 of her works are detected, as follows: in refereed in Web of Science and Scopus journals - 90, in a monograph - 7, in collections of scientific forums - 7, in non-referred journals - 37.

## **6. Participation in research projects**

Assoc. Prof. Dr. Georgieva has participated in 23 projects, 18 of which are national, funded by various sources, as follows: NSF - 6, the Budget Subsidy of BAS - 3, Southwestern State Enterprise - Blagoevgrad - 2, EEA - 2., South Central State Enterprise - Smolyan - 1, North Central State Enterprise - 1, MES - 1, RIEW Montana - 1, National Scientific Program "Environment" - 1.

Her participation in international projects is as follows: Bilateral cooperation Bulgaria-Norway - 2, EPSON - 1, INTERREG V-A Greece-Bulgaria - 1, INTERREG Bulgaria - Serbia -1.

Assoc. Prof. Georgieva is the leader of a project funded by the Ministry of Education and Science, of 3 thematic tasks, to projects financed from the budget subsidy of BAS, to 1 funded by the Southwestern State Enterprise - Blagoevgrad, of 1 subproject to the National Scientific Program "Environment" F1.1.4., as well as the team of IG-BAS in a project from the INTERREG Bulgaria - Serbia program. In addition, Assoc. Prof. Dr. Georgieva has participated in five COST Actions.

## **7. Assessment of the applicant's educational activity**

Assoc. Prof. Dr. Margarita Georgieva was a scientific consultant of 1. successfully defended diploma paper of graduate at the Faculty of Forestry, University of Forestry. She was the scientific supervisor of 2 doctoral students (part-time and full-time) in the scientific specialty "Forest Melioration, Forest Protection and Special Forest Uses "

## **8. Assessment of the applicant's personal contribution**

The personal participation of Assoc. Prof. Margarita Georgieva in the conducted scientific and applied developments and published 71 materials is indisputable. Five of the publications are stand-alone (№№ 58, 81, 103, 109, 118). She is the first author of 14 of the published materials (№№ 60, 67, 68, 74, 76, 82, 88, 91, 94, 101, 104, 108, 113, 114), second author of 8 of publications (№№ 59, 63, 73, 93, 98, 100, 115, 116), and third and subsequent author of 44 publications (№№ 50, 51, 52, 53, 54, 55, 56, 57, 61, 62, 64, 65, 66, 69, 70, 71, 72, 75, 77, 78, 79, 80, 83, 84, 85, 86, 87, 89, 90, 92, 95, 96, 97, 99, 102, 105, 106, 107, 110, 111, 112, 117, 119, 120). 44 of the publications have five and more authors. Most of the publications of are the result of her participation in research projects and network.

## **9. Critical notes and recommendations**

I have no critical comments on the submissions

## **10. Personal impressions**

Based on my professional contacts with Assoc. Prof. Margarita Georgieva, I would define her as a highly motivated and focused, researcher and expert in the field of forest protection against diseases and pests.

## **11. Conclusion**

Based on above mentioned I SUGGEST the candidate Assoc. Prof. Margarita Ilieva Georgieva, PhD, to occupy the academic position of "Professor" in professional field 6.5. Forestry, scientific specialty "Forest Melioration, Forest Protection and Special Forest Uses "

Prepared by:

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