Name of the faculty/ institute/ center

Faculty of Agricultural Sciences and Biosystems Engineering

Projects received with foreign grants

Appendix 2

№	Project Funding	Project Name	Project start and end years	Project coordinator	Amount	Status completed/in progress	Grant code
1	Erasmus+	DUGEOR - (Capacity building in the field of higher education) -	2023-ongoing	Mirko Savic Project performers: Giorgi Kvartskhava, Tamar Sachaneli, Nino Lomidze, Zviad Tiginashvili	89 543.00 €	Ongoing	101081771
2	HORIZON	Natural Microbial interactions in winemaking-associated ecosystems as a tool to foster wine innovation	2023-Ongoing	David Maghradze performers: Giorgi Kvartskhava, Tamar Sachaneli, Nino Chkhatishvili	216,352.8 €	Ongoing	101119480
3	FAO	,, climate expected Assessment of the impact of changes in wheat yield and irrigation on water demand through the Aquacrop (FAO) model (Lomtagora for example)".	2021 -2023	მ.ლომიშვილი	48.200	მიმდინარე	YS-21-444
4	Erasmus+	VitaGlobal - "Establishment of global networks in agricultural sciences and viticulture	2020-2023	Elizabeth Colucci Performers: Tamar Sachaneli,	924.859,00 €	Completed	598507-EPP1-2018-1-ES-

		in winemaking: internationalization through joint programs".		Nino Chkhartshvili, Lia Amiranashvili			EPPKA2-CBHE-JP
5	Development and Environment Foundation	Phytosanitary study of green plantations in the frame of the Tbilisi Urban Forest Project.	01.07.2020 - 08.10.2020	Irine Danelia Performers: Nino Zakariashvili, Lia Amiranashvili, Nino Lomidze, Eka Tskitishvili, Guram Aleksidze, Giorgi Kvartskhava, Gulnara Badridze	67. 330	Completed	

Abstracts :

1.

The main goal of the project is to change the strategic framework to ensure the introduction of dual education in the higher education system of Georgia. The overall goal of the project is to: raise the competencies of graduates in accordance with the needs of employers in Georgia, increase the employment of graduates and motivate them to study, improve access to higher education for students from low-income families. Dual higher education (DHE) will allow students to acquire more relevant knowledge and skills by combining classical education with knowledge and skills acquired in the workplace. Consequently, this will provide them with competencies and skills that are more relevant to the needs of employers and will significantly increase their employability. With the cooperation and active involvement of Georgian Technical University and Forestry Agency, needs and specific requirements will be identified and a flexible dual higher education model will be developed to support the different needs and interests of all stakeholders.

Creating recommendations to HEIs in Georgia on how to implement DHE

2.

The Eco2Wine project aims at providing a new generation of PhD graduated employees for the wine sector who will be able to manage winemaking-associated ecosystems, protect and control the biodiversity, and use this knowhow to reduce unsustainable interventions in natural environments while improving wine sustainability and “natural wine” production. Winemaking-associated ecosystems are complex environments in which more or less stable and evolutionary relevant interactions among species, and between each species and abiotic components, are established. In recent years the direct manipulation of these ecosystems has gained considerable interest in wine science because of the need of boosting sustainable, socially relevant and ecofriendly choices for the wine production while meeting the growing consumer demand for more diverse wine styles. To better map and exploit the natural biodiversity of winemaking-associated ecosystems, the understanding of

the relevant microbiota, the various ecological interactions within those biota and of the molecular mechanisms involved in interactions is essential. Such studies will allow to describe how these ecosystems work and how their intelligent exploitation can benefit the wine world. The training program is divided in 4 areas of interest: wine ecology, wine innovation, wine business and wine science communication. The consortium includes 9 beneficiaries and 12 partner organizations that possess complementary competencies and are working with success in wine research. The level of quality of these institutions, the long-term collaborations established in the past joint European project, YeSVitE (GA612441), and the appropriate exchange scheme of training with private companies will sustain an efficient transfer of knowledge between PhD students, the broader scientific community and the relevant social and economic actors. The project will have a relevant impact on the wine research field, winemakers and all potential stakeholders.

3.

Assessing the Impact of Expected Climate Change on Wheat Yield and Irrigation Water Demand Using the Aquacrop (FAO) model (for example Lomtagori) Wise use of water resources is one of the main directions in water management. In order for water resources to be used as much as possible in the national economy, it is necessary to carry out complex measures along the water line. Since agriculture is the largest consumer of water, rational use of irrigation water will save both water resources and promote normal plant growth and development. To achieve these results, the aim of our study is to determine the parameters of irrigation regime taking into account the plant water demand (evapotranspiration), water-air regimes, soil-ground characteristics and natural-climatic factors, ensures optimal use of irrigation water, obtaining a program crop and maintaining the maximum balance of agroecosystems.

4.

promote and strengthen agricultural and viticulture curricula. Consolidation of a diverse international network of higher educational institutions (HEIs), which will contribute in the future, both in terms of the development of educational academic cooperation and industrial partnership relations; Strengthening the capacity of the VETs to contribute to the local development of the viticulture and wine sector through multi-directional knowledge transfer and collaboration with industry and other socio-economic partners. Developing opportunities to develop joint programs in agriculture, viticulture and enology at master's and doctoral levels to internationalize and integrate curricula, expand opportunities for student and staff mobility, and ultimately internationalize the university's contribution to local development. The coordinators of the project are: "Obreal Global" and the Spanish University of Tarragona. Partner universities are the universities of South America and Africa and Georgia; From the European side, there are leading universities in the direction of viticulture and winemaking - from Portugal, Spain, Bordeaux, and Bologna. The project started in 2018 and it was for three years, however, due to the current pandemic situation, the completion date of the project was extended by one year, and therefore its completion period is November 2022. Within the framework of the project, the Technical University developed: 1. In the process of developing the syllabus "New trends in microbiology" (enhanced course of microbiology), France - Bordeaux University, and in

particular Prof. Pierre-Louis Tissedre, who heads the direction of microbiology in terms of viticulture and enology. 2. In the process of developing the syllabus: "Wine Tourism", the professor of the University of Tarragona in Spain and the heads of this direction were consulted: Antonio Russo, Salvador Antoni and Vinka Woldarski. Tamuna Sachaneli in the direction of microbiology and Nino chkhartishvili in the direction of wine tourism were involved in the development process. Tamar Sachaneli and Nino Chkhartishvili gave presentations about the developed syllabi at an online meeting with the project coordinators. The project was introduced to various audiences, including students. Coaching according to directions was also conducted online, within the framework of which separate 5-5 meetings were held online; Within the framework of the project, a video was developed in the direction of microbiology. An international scientific conference was held within the framework of the project and also for the 100th anniversary of the university

5.

The study was conducted of the causes of mass morbidity and wilting of coniferous in Tbilisi and its environs; the study was of a complex nature and included microbiological, entomological and phytohelminthological directions. Out of more than 30 pathogenic fungi isolated in the frame of mycological studies, 9 dominant species were identified (Alternaria alternata, Curvularia spp., Diplodia sapinea, Epicoccum nigrum, Dothiorella iberica, Didymella, Phoma odoratissimi, Sordaria lappe). The picture of their co-infection is massively observed: 4-5 or more pathogens are fixed on one tree. According to the phytohelminthological study, Bursaphelenchus xilophilus was not detected. Entomological studies have established the dominant pests: Tomicus piniperda L., Tomicus minor Hart., Ips acuminatus Eichn., Dioructria splendidella H. - S., Monochamus galloprovincialis Ol., Ips sexdentatus Boern. No hazardous pests were found on cypresses, cedars, other coniferous and deciduous species. According to the forest pathological studies, the phytosanitary condition of coniferous plantations in the project area was assessed as unsatisfactory. Recommendations have been prepared against both pests and pathogens.