



AGRICULTURAL UNIVERSITY - PLOVDIV
4000 Plovdiv, Bulgaria
12, Mendeleev Blvd.
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Research and Innovation Profile

General information

**Title of the research entity/
group**

**Field of expertise
/in conjunction with Horizon
2020-Societal Challenge
2 (SC2): 'Food Security,
Sustainable Agriculture and
Forestry, Marine, Maritime and
Inland Water Research and the
Bioeconomy'/**

**Research products and services
provided by the entity/group**

Description

PLANT HEALTH

- Food security
 - Sustainable Agriculture and Forestry
 - Plant protection
 - Plant health
 - Innovative plant protection products
 - Phytomediation
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- Identification of pests, plant pathogens, weeds and beneficial organisms;
 - Studies on the biology, development and spread of alien and invasive organisms (pests/diseases/weeds);
 - IPM and Biological control in agroecosystems;
 - Efficacy testing of PPPs;
 - Development of biocidal products
 - Methods and strategies for early detection, prevention and control of pests and diseases;
 - Application of Remote Surveillance Methods for Precision Agriculture and Decision Support System (DSS) for Plant Protection
 - Plant response to abiotic and biotic stress;
 - Soil microbiome;
 - Improvement of phytomediation practices by studying the processes that influence the behaviour of heavy metals in the soil-



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**Participation in previous/
ongoing H2020 or other EU
projects**

- H2020-SFS-2017-2 Stacking of ecosystem services: mechanisms and interactions for optimal crop protection, pollination enhancement, and productivity;
- COST Action FP 0801 "Established and emerging Phytophthora", increasing threats to woodland and forest ecosystems in Europe";
- COST Action № CA15124 "A new Network of European BioImage Analysis to advance life science imaging";
- COST Action CA 17134 "Optical synergies for spatiotemporal sensing of scalable ecophysiological traits";
- ERA 138/01 "Diversity of invading Phytophthora spp. plant pathogens in agro and forest ecosystems in Southeast Europe";
- VII Framework program Project ID: 205941 EU-BALKAN VEGETABLES "Balkan Vegetables Research Centre for transfer of European knowledge, research and practice";
- National Scientific Program "Healthy Foods for a Strong Bio-Economy and Quality of Life" of Ministry of Education and science of Bulgaria
- National Scientific Funds (DN 04/9 - 18.12.2016) "Improvement of phytoremediation practices through the investigation of processes depriving heavy metals behaviour in the soil-soil solution-plant system";
- National Scientific Funds (No H16 / 35, NSF, start of the project 2017) "Agrobiological study on the effect of biostimulants and inorganic products on biocontrol in crops under stress conditions";
- National Scientific Funds (DN-16/4 – 11.12. 2017) "Possibilities for obtaining ecological fruit production from the main crops - plum, peach and cherry";
- National Scientific Funds - bilateral project funded by NSF and Ministry of Science and Technology of China: "Research on sustainable pest and disease management in apple orchards in Bulgaria and China based on precision ecological control methods" (2019-2022).

**Number of researchers involved /
including young researchers e.g.
doctoral, post-doctoral, habilitated,
etc./**

25 scientists, incl. 6 Professors, 7 Associate Professors , 6 Chief As-
sist. Professors, 1 Assistant Professor, 4 PhD students



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Research infrastructure used

The whole infrastructure of the Agricultural University - Plovdiv, (including the Centre for Integrated Disease Management, the Agro-ecological Centre, Certified Laboratory Complex, the Plant Stress Research Laboratory at the Department of Plant Physiology and Biochemistry, Laboratory of Instrumental Methods of Analysis, etc.), experimental fields, orchards and glasshouses of the University

Profile of the leading researchers in entity/group

The leading researchers in the group - Prof. Vili Harizanova, PhD. (Entomology, Biological control); Prof. Svetoslav Bobev, DSc (Phytopathology, Bacteriology); Assoc. Prof. Mladen Naydenov, PhD. (Microbiology, Biological control), Assoc. Prof. Ljubka Koleva, PhD. (Biochemistry and physiology of plants, Plant stress response) and Prof. Violina Angelova, PhD. have experience in studies on the biology, development and spread of pests/diseases/weeds, alien and invasive organisms; studies and development of tools for integrated and sustainable pest/disease management; validation of IPM models in orchards, vegetable crops, vineyards, field crops, etc.; biological control of economically important pests and plant diseases in orchards and glasshouses; investigation on plant response to abiotic and biotic stress; studies on soil microbiome for better nutrition and defence against diseases; efficacy testing of PPPs; methods and strategies for early detection, prevention and control of pests and diseases; studies on the applicability of Remote Sensing Surveillance Methods for Precision Agriculture and the Decision Support System (DSS) for Integrated and Biological Plant Protection; chemical, biochemical and physical methods of analysis of soil and plant samples; phytoremediation of contaminated soils, etc.



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In which calls of Horizon 2020-SC2 or Horizon Europe the entity/group is ready to participate and how

HORIZON 2020:

Call - Sustainable Food Security:

- SFS-01-2018-2019-2020 (RIA): Biodiversity in action: between farmland and the value chain;

C. [2020] From agrobiodiversity to dynamic value chains

B. [2019] Capitalising on native biodiversity in farmland landscape (RIA)

- SFS-04-2019-202 (IA) Integrated health approaches and alternatives to pesticide use

B. [2020] Alternative to contentious pesticides

- SFS-05-2018-2019-2020-continued - New and emerging risks in plant health

- SFS-06-2019-2020-continued - Stepping up IPM

B. [2020] European wide demonstration farm network

HORIZON EUROPE:

Cluster 6: Food, Bioeconomy Natural Resources, Agriculture and Environment; Partnership: AgroEcology - Towards more sustainable farming: agro-ecology living labs and research infrastructures.

Research entity/group contact person /name, postal address, e-mail, phone number/

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