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for Research & Innovation

CENTER OF PLANT SYSTEMS BIOLOGY AND BIOTECHNOLOGY

NEWSLETTER

ISSUE 3/ 2022



Mr. Stefan Stoyanov
Deputy Mayor, Plovdiv Municipality:

"Plovdiv is the biggest industrial center in Bulgaria and the right place for the PlantaSYST project"

[READ THE INTERVIEW](#)



PlantaSYST

CPSBB has received funding from the European Union's Horizon 2020 research and innovation programme, project PlantaSYST (SGA-CSA No. 739582 under FPA No. 664620), and the BG05M2OP001-1.003-001-C01 project, financed by the European Regional Development Fund through the "Science and Education for Smart Growth" Operational Programme.





Scientists, pupils, students and teachers from Plovdiv were involved in "European Researchers' Night" 2022

This year, the international initiative "European Researchers' Night" 2022 brought together scientists, pupils, students and teachers demonstrating scientific achievements and research projects to increase young people's interest in science and research career development.

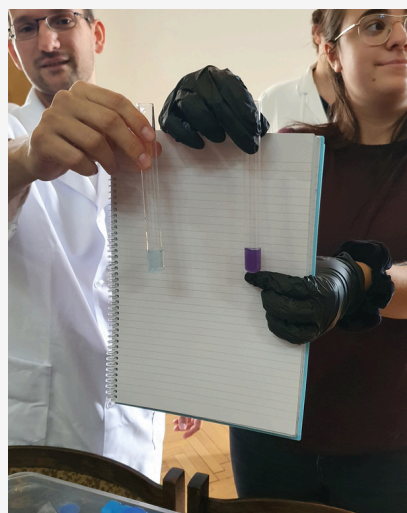
During two consecutive days, the scientists from the CPSBB engaged students and their teachers in scientific experiments, educational lectures and equipment demonstrations.

Observing different microorganisms under a microscope, isolating DNA from strawberries and apples with domestic materials, demonstrating the activity of the enzyme catalase in potatoes, and determining the presence of proteins and starch in food products were some experiments that the participants performed under the guidance of the researchers.



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EUROPEAN RESEARCHERS NIGHT 2022



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EDUCATION AND TRAINING

Something else we should know about organic farming

Dr. Vinelina Yankova and Dr. Tsvetanka Dincheva, both from the [Maritsa VCRI](#), were invited lecturers in the [School of advanced horticulture](#), an initiative within [PlantaSYST](#) project. The subjects of the two lectures were dedicated to organic farming. The lectures were designed to help gardeners, farmers, vegetable producers and growers with alternative and nature friendly methods for plant protection and soil fertility improvement.

Risks in the use of chemical pesticides and how to avoid them with natural products (plant extracts, minerals and essential oils), ways in gardening to improve soil fertility and prevent plants from diseases and pests, composting and compost application, as well as correct crop rotations were some of the main topics of the lectures.



[WATCH THE PRESENTATIONS](#)



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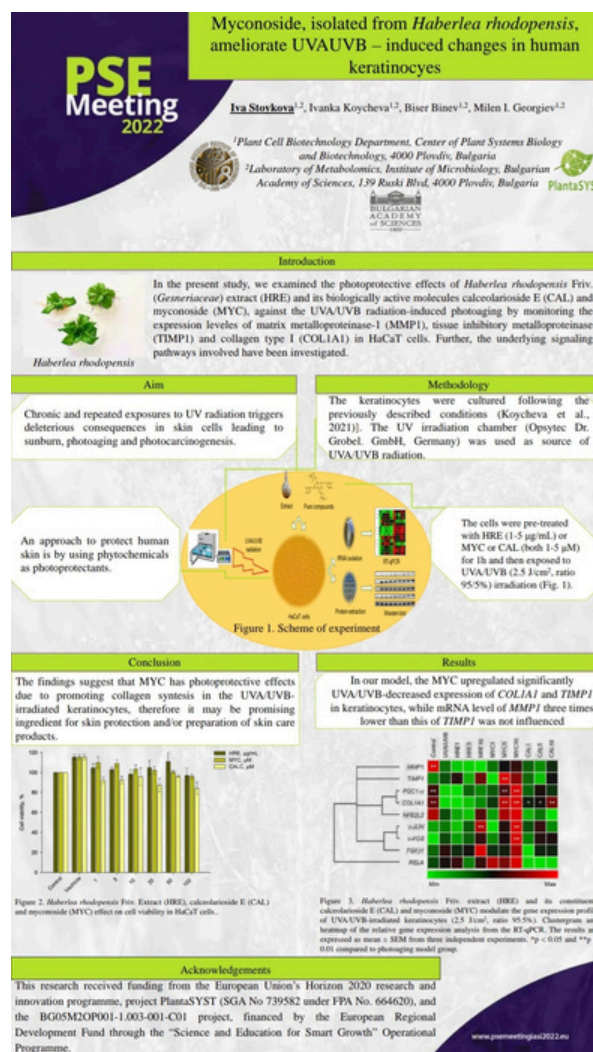


Researchers from the CPSBB received a prestigious e-poster award at the International PSE Conference 2022



The researchers from the [Plant Cell Biotechnology Department](#) of the [CPSBB](#) - [Iva Stoykova](#), [Ivanka Koycheva](#), [Biser Binev](#), and [Prof. Dr. Milen I. Georgiev](#) - were awarded Best e-poster presentation during the International Conference PSE 2022 - Natural Products in Drug Discovery and Development - Advances and Perspectives.

The award was handed by Prof. Dr. Jianbo Xiao, President of the International Association of Dietetic Nutrition and Safety, as a recognition for the best presentation held by a PhD student during the conference.



The e-poster of our team was entitled “Myconoside, isolated from *Haberlea rhodopensis*, ameliorate UVA/UVB – induced changes in human keratinocytes” and it was selected among 101 award applications.

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CPSBB took part in the conference AGRO 4.0



The Director of the [CPSBB](#), [Assoc. Prof. Dr. Tsanko Gechev](#), and [Petar Kazakov](#), Marketing Expert, participated in the first edition of the conference for digitalization of the Bulgarian agriculture – [AGRO 4.0](#).

The event was attended by the Minister of Agriculture Yavor Gechev, the Minister of Innovation and Growth Alexander Pulev and the Chairman of the European Digital Innovation Hub for Agriculture Svetlana Boyanova.

The [CPSBB](#) participated in the event as a member of [AgroHub.BG](#) – the Bulgarian Digital Innovation Hub (DIH) for agriculture and food industry.

[AgroHub.BG](#) is the initiator of the project [AgroDigiRise](#) for the establishment of a **European Digital Innovation Hub** in Bulgaria. The project will play a strategic role in building skills and finding innovative modern solutions for the Bulgarian farmers. It will update them with the agricultural sector's latest machinery and software solutions.

The [CPSBB](#) will contribute to the project with the scientific expertise of all researchers who work in the Center, as well as with the unequaled for Eastern Europe research complex and greenhouses in Plovdiv, equipped with modern technology.

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The CPSBB and the PlantaSYST project were showcased with a photo exhibition



The [PlantaSYST project](#) and the [CPSBB](#) were the main focus of the photo exhibition “Education and Science”, organized in the center of Sofia.

The event was initiated in September 2022 by the [OP “Science and Education for Smart Growth”](#) with the assistance of the Municipality of Sofia.

The photos show scientists who present to students from Plovdiv the scientific activities and interesting ongoing projects of the [CPSBB](#). The students conducted their experiment guided by the researchers.

The CPSBB was presented at Opora Zaden's open field days in Tsalapitsa

The [CPSBB](#) took part in the Open Field Days, organized by the seeds producer [Opora Zaden](#) in Tsalapitsa, Plovdiv.

All guests of the event were able to visit the experimental fields at Opora Zaden, where researchers from the CPSBB displayed amazing results obtained by the priming effect of SuperFifty biostimulant on peppers and lettuces.

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Second training on the project "Science and journalism - together against infodemic" was held in Plovdiv

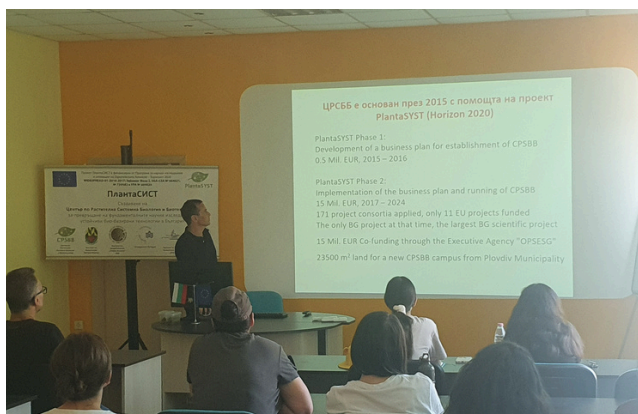
More than 30 journalists and representatives of the academic community took part in the second training on the project "Science and Journalism - Together Against Infodemic" in Plovdiv.

The main goal of the event was to present tools and methodologies for verification and fact checking for the preparation of scientific and journalistic texts on socially important topics.

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Students from Plovdiv University visited the CPSBB



One hundred students from Plovdiv University visited the CPSBB as part of their education in Plant Physiology.

Assoc. Prof. Dr. Tsanko Gechev presented the Center and the students visited the laboratories of plant tissue cultures and plant physiology/molecular biology, as well as the plant growth chambers.

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Teachers from vocational schools in Spain visited the CPSBB



Teachers in Biology and Biotechnology from vocational schools in Spain visited the [CPSBB](#) as part of the [Erasmus + Youth Exchange Programme](#).

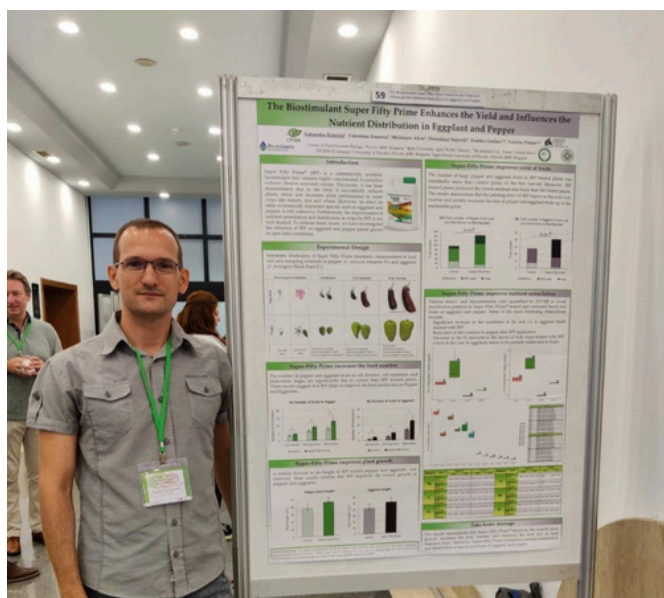
The visit was hosted by [Dr. Nikola Staykov](#), who demonstrated the equipment and some of the ongoing research projects of the [CPSBB](#).

The guests visited the laboratories and plant growth chambers of the [CPSBB](#) and discussed opportunities for exchanging students from Spain who could potentially upgrade their knowledge in plant biology and biotechnology at the research campus of the [CPSBB](#).



INTERNATIONAL EVENTS

A researcher from the CPSBB participated in the International PLANTMETALS Conference in Turkey



Assist. Prof. Dr. Veselin Petrov from the CPSBB took part in the COST Action CA19116 PLANTMETALS Conference “Trace Metal Metabolism in Plants”.

The event took place in Ankara, Turkey.

Dr. Petrov took part in the conference with a poster presentation on the effects of a biostimulant, based on a highly concentrated *Ascophyllum nodosum* (brown seaweed) extract, on the growth and development of eggplants and peppers.

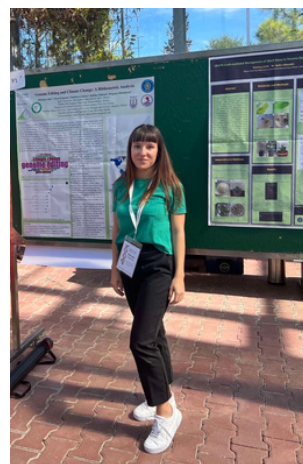
The CPSBB team revealed that the biostimulant significantly enhances the yield of both crops in field conditions and induces redistribution of macro and micronutrients including metal elements like Mg, Zn, Cu, Mn.

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INTERNATIONAL EVENTS

Young researcher from the CPSBB participated in the 3rd PlantED Conference in Germany



The young researcher from [CPSBB](#), [Manuela Stoyanova](#), participated in the 3rd PlantED Conference COST Action (18111) in Germany.

Moreover, [Ms. Stoyanova](#) applied and was endorsed to participate in a Training School on the topic “CRISPR/Cas experiment design”.

This year due to COVID restrictions, the number of physically present delegates was limited, and Ms. Stoyanova was among the 100 selected participants for the conference in Dusseldorf.

The training focused on tools for successful CRISPR design, in silico cloning, vector construction, screening of DNA mutations, and data analysis.

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Betulinic acid counteracts the lipid accumulation in *Caenorhabditis elegans* by modulation of nhr-49 expression

biomedicine AND
PHARMACOTHERAPY

NAC transcription factors ATAF1 and ANAC055 affect the heat stress response in *Arabidopsis*

**scientific
reports**



All scientific publications of CPSBB

Editorial: Discovery, biosynthesis, regulation, transport, release and engineering of plant natural products



Dynamically regulating metabolic fluxes with synthetic metabolons

Trends in Biotechnology | **CellPress**



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First report of cucurbit aphid-borne yellows virus causing yellowing disease on pumpkin (*Cucurbita pepo*) and cucumber (*Cucumis sativus*) in Bulgaria



Comparison of buckwheat genomes reveals the genetic basis of metabolomic divergence and ecotype differentiation



New
Phytologist



All scientific publications of CPSBB



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