

The Center of Plant Systems Biology and Biotechnology (CPSBB) in Plovdiv, Bulgaria, offers the following position:

PhD student in Plant Biotechnology, (First Stage Researcher – R1), Professional field 5.11 Biotechnologies;

Topic: Natural variation in the tomato and pepper fruit metabolome: an integrated metabolomics-GWAS approach to dissect fruit quality and tolerance to drought, salinity and biotic stress.

Occupation: Full-time

Period: Fixed-term contract

Apply no later than: June 30, 2026

CPSBB, a plant science Center of Excellence in Plovdiv, Bulgaria, seeks a motivated PhD student to work on the project NatGenCrop “Employing the natural variation to improve the nutritional properties and stress tolerance in vegetable crops” (<https://natgencrop.com/>). The project aims to enhance nutritional properties and stress tolerance in tomatoes and peppers by exploring genetic and phenotypic variations. Using genetics and genomics approaches like GWAS and QTL, the research will identify and characterize genes linked to high yield and stress tolerance. The project also examines the impact of abiotic stress on fruit quality through metabolic and transcriptomic analyses. The PhD student will join the metabolomics team. The candidate will be trained in high-throughput mass spectrometry approaches in order to profile primary metabolites, secondary metabolites and aroma volatiles across a panel of diverse accessions. Genotypes will be evaluated under optimal growth conditions and under controlled drought, salinity and biotic-stress treatments, as well as at defined developmental and postharvest stages. The resulting metabolic profiles will be integrated with existing genomic (GWAS, QTL), transcriptomic and phenotypic datasets to perform metabolite GWAS / mQTL analyses and to identify candidate genes and metabolic biomarkers highlighting fruit flavor, postharvest shelf life, nutritional value, and tolerance to stresses.

Work place:

The workplace is CPSBB in Plovdiv, Bulgaria (www.cpsbb.eu), a new plant science institute with a modern campus and growing international reputation.

Job Requirements:

- Master’s degree in biology, biochemistry, or a related field.
- Background in metabolomics, with hands-on experience of LC-MS and GC-MS data analysis.
- Experience working with primary and specialized plant metabolites or protein biochemistry.
- Statistical and bioinformatics skills, for example: multivariate analyses (PCA, PLS-DA, OPLS-DA, hierarchical clustering), univariate testing with multiple-testing correction, and pathway enrichment (KEGG, MetaCyc, PlantCyc), working knowledge of R (MetaboAnalystR, ropls, mixOmics, ggplot2) and/or Python (pandas, scikit-learn) will be an advantage.
- Excellent English presentation and communication skills (written and oral).

Main responsibilities:

- Conduct cutting-edge plant science research related to the NatGenCrop project.
- Participation in other project events and activities.

We offer:

- Gross salary of 2100 EUR, including social contributions from the employer and the employee.
- Career development in an internationally competitive research institution.
- Work in a friendly team on a large project funded by the European Commission.
- CPSBB is an equal opportunity employer.

Applicants interested in the position should send the following documents until **30 June 2026**:

- Application letter including a statement about why you apply for this position.
- CV including a list of published and accepted publications (if any).
- Contact information, including email addresses, of a minimum of one reference person.

Send your application documents as a single pdf-file to secretary@cpsbb.eu. For more information, please visit the CPSBB website: www.cpsbb.eu