

## Opis delovnega mesta mladega raziskovalca/ke (*Description of the Young Researcher's position*)

1. Članica UL (*UL member*):

Univerza v Ljubljani, Biotehniška fakulteta  
University of Ljubljana, Biotechnical Faculty

2. Ime, priimek in elektronski naslov mentorja/ice (*Mentor's name, surname and email*):

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3. Raziskovalno področje (*Research field*):

4.03 Rastlinska produkcija in predelava

4. Opis delovnega mesta mladega raziskovalca/ke (*Description of the Young Researcher's position*):

Vključuje morebitne dodatne pogoje, ki jih mora izpolnjevati kandidat/ka za mladega raziskovalca/ko, ki niso navedeni v razpisu za mlade raziskovalce.

*slo:*

V zadnjem desetletju se srečujemo s številnimi izzivi pri trajnostni pridelavi hortikulturnih rastlin, kot so bolezni, škodljivci in ekstremni vremenski pojavi. Pridelovalci so se s težavami primorani soočiti in poiskati nove tehnološke pristope pri pridelavi in si kljub izzivom skladno z naravnimi danostmi in zakonskimi predpisi omogočiti donosno pridelavo. Uporaba biostimulantov se je izkazala za učinkovito orodje pri pridelavi hortikulturnih rastlin v neugodnih razmerah, saj pomaga ohraniti količino in kakovost pridelka. Poleg omenjenega učinka lahko uporaba biostimulantov prispeva k učinkovitejši rabi naravnih virov, saj zmanjšuje potrebo po agrokemikalijah in izboljšuje sprejem vode in hranil v rastlino.

Z rabo biostimulantov, ki so naravnega izvora, se osredotočamo na varovanje in trajnostno rabo naravnih virov, na prilagajanje in blaženje podnebnih sprememb ter ohranjanje biotske raznovrstnosti. Z vključevanjem sonaravnih načinov pridelave bomo skušali rešiti probleme pridelave hortikulturnih rastlin v Sloveniji. Zaradi majhnega obsega pridelovalnih površin je registracija fitofarmaceutskih sredstev (FFS) za uporabo na hortikulturnih rastlin vse manjša. Slovenija se tako kot druge države srečuje s podnebnimi spremembami, kjer so vse pogostejša daljša obdobja z visokimi temperaturami in daljšimi obdobji brez padavin. Problem visokih temperatur, razširjenost namakalnih sistemov in pomankanje vode za namakanje, zaradi obdobji brez padavin, je po do sedaj znanih študijah moč omiliti z uporabo biostimulantov.

Uporaba biostimulantov je deležna velike pozornosti znanstvene skupnosti, zato je bilo izvedenih več študij, ki pa so večinoma izvedene v manjših laboratorijskih poskusih in ne v večjih poljskih poskusih izvedenih v realnih razmerah, kar lahko privede do napačnih zaključkov. Biostimulanti predstavljajo kompleksno temo, ki zahteva večletno nadaljevanje začelih študij, s pomočjo katerih bomo razumeli različne funkcije biostimulantov v rastlinah. Z raziskavami želimo z večletnimi poskusi v poljskih razmerah dodati kamenček v mozaik znanja o biostimulantih, ki jih na omenjeno temo še primanjkuje.

V okviru delovnega mesta bo za opravljanje vseh potrebnih študij poleg celotne raziskovalne opreme na voljo tudi ustrezni infrastrukturni objekti, ki so na razpolago v okviru Razvojno raziskovalnega centra za preučevanje rasti in razvoja kmetijskih rastlin.

Od kandidata se pričakuje dobro poznavanje delovanja rastlin in njihovega metabolizma, kar kandidat dokazuje z opravljenimi ustreznimi izpiti na BSc in MSc stopnji. Zaželeno so izkušnje z delom v laboratoriju, sodelovanje pri raziskovalnem delu in dobro znanje angleškega jezika.

*eng:*

In the last decade, the sustainable production of horticultural crops faced many challenges, such as diseases, pests, and extreme weather events. Growers are forced to face these challenges and find new technological approaches to enable profitable cultivation in accordance with natural conditions and regulatory requirements despite the challenges. The use of biostimulants has proven to be an effective tool in the production of horticultural crops under adverse conditions, as it helps to maintain the quantity and quality of the crop. In addition, the use of biostimulants can contribute to more efficient use of natural resources by reducing the need for agrochemicals and improving the uptake of water and nutrients by the plant.

By using biostimulants, which are mostly of a natural origin, we focus on the protection and sustainable use of natural resources, climate change adaptation and mitigation, and biodiversity conservation. By incorporating sustainable cultivation methods, we will try to solve the problems of growing horticultural crops in Slovenia. Due to a small producing area, the registration of phytopharmaceuticals for horticultural use is declining. Like other countries, Slovenia is affected by climate change, where prolonged periods of high temperatures without precipitation are becoming more frequent. According to the studies known so far, the problem of high temperatures, the spread of irrigation systems, and the lack of water for irrigation due to periods without precipitation can be mitigated by the use of biostimulants.

Their use has attracted a lot of attention in the scientific community, so several studies have been conducted, but mostly in small laboratory experiments rather than large field trials conducted under real conditions, which may lead to erroneous conclusions. Biostimulants are a complex topic that requires several years of continued studies that will help us understand the various functions of biostimulants in plants. With this research, we want to add a stone to the mosaic of knowledge about biostimulants, which is still missing, through several years of experiments under field conditions.

Within the workplace, in addition to all the research equipment, appropriate infrastructure facilities within the framework of the Research Center for Development will be available to carry out all the necessary studies to study the growth and development of crops.

The candidate should have good knowledge of plant functioning and metabolism, which should be demonstrated with exams covering these topics at either BSc or MSc level. Good knowledge of English and experience in laboratory work, as well as in research, is desirable.