

Kratek opis usposabljanja mladega raziskovalca (*Short description of the Young Researcher's training*)

1. Raziskovalna organizacija (*Research organisation*):

Univerza v Ljubljani, Biotehniška fakulteta

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

Aleš Snoj

3. Šifra in naziv raziskovalnega področja (*Research field*):

1.03 Biologija/ Biology

4. Kratek opis usposabljanja mladega raziskovalca (*Short description of the Young Researcher's training*):

Navedite tudi morebitne druge zahteve, vezane na usposabljanje mladega raziskovalca (npr. znanje tujih jezikov, izkušnje z laboratorijskim delom, potrebne licence za usposabljanje...).

slo:

Doktorska naloga bo v prvi vrsti temeljila na raziskovanju molekulskega ozadja, ki je odgovorno za pojav dveh sladkovodnih form potočne postrvi (*Salmo trutta*), ki se pojavljata v Sloveniji, to sta rečna in jezerska forma. Glede na študije na šarenki (*Oncorhynchus mykiss*) bi lahko dejavnike, ki vplivajo na pojav ene ali druge forme pripisali razlikam v genetski adaptivnosti, diferencialni ekspresiji genov, epigenetiki, mikrobiomu, okolju ali kombinaciji omenjenih dejavnikov.

Kandidat/kandidatka bo v okviru doktorske naloge izvajal/a genetske analize med obema oblikama potočne postrvi, vzorčenih v divjini in ribogojnici. Ugotavljal/a bo tudi karakteristične fenotipske znake obeh form. Genetske vzroke za fenotipske značilnosti obeh form bo iskal/a v interakcijah med genomom in transkriptomom gostitelja in genomoma črevesne mikrobiote (raziskovanje holobionta).

Kandidat/kandidatka se bo tekom svojega doktorskega usposabljanja ukvarjal/a s sodobnimi naravoslovnimi področji kot so tehnologije sekvenciranja naslednje generacije (NGS) vključno z bioinformatiko, in tudi s povsem praktičnim delom v ribogojnici, pri čemer bo prihajal/a v neposreden stik z objektom svojih raziskav. Zato se od kandidata/kandidatke pričakuje izobrazba s področja biologije, biotehnologije ali mikrobiologije. Prav tako so zaželeno izkušnje z laboratorijskim delom, z delom na terenu in usposobljenost rokovanja z ribami.

eng:

The doctoral thesis will in the first place base on the research of molecular background, which is responsible for the appearance of two freshwater forms of brown trout (*Salmo trutta*), which occur also in Slovenia, i.e. the riverine and lacustrine form. According to the studies on the rainbow trout (*Oncorhynchus mykiss*), factors possibly influencing the occurrence of one or the other form could be attributed to differences in genetic adaptability, differential gene expression, epigenetics, microbiome, environment, or a combination of these factors.

As part of the doctoral thesis, the candidate will perform genetic analyses of the two forms of brown trout sampled in the wild and in the fish-farm. The candidate will also determine the characteristic phenotypic traits of both forms. The genetic causes for both forms will be sought

in the interactions between the genome and the transcriptome of the host and the genomes of the intestinal microbiota (holobiont research).

During her/his doctoral training, the candidate will deal with modern branches of science such as next generation sequencing technologies including bioinformatics, as well as purely practical work in the fish-farm, coming into direct contact with the object of the research. Therefore, the candidate is expected to have a degree in biology, biotechnology or microbiology. Experience with laboratory work and field work and fish handling skills are also desirable.