

Opis raziskovalnega dela (Research work description)

1. Članica UL (UL member):

Univerza v Ljubljani, Fakulteta za gradbeništvo in geodezijo

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

Anka Lisec, anka.lisec@fgg.uni-lj.si

3. Raziskovalno področje (Research field):

2.17 Geodezija

4. Opis raziskovalnega dela (Research work description):

Vključuje morebitne dodatne pogoje, ki jih mora izpolnjevati kandidat/ka za mladega raziskovalca/ko, ki niso navedeni v razpisu za mlade raziskovalce (It includes any additional conditions that the candidate for a young researcher must meet, which are not listed in the call to tender for young researchers.).

Slov.:

Mladi raziskovalec/-ka se bo usposabljal/-a v okviru raziskovalnega programa P2-0406 Opazovanje Zemlje in geoinformatika (www.fgg.uni-lj.si/raziskovalna-dejavnost/programske-skupine/).

Področje raziskovalnega dela je napredno 3D in 4D modeliranje mest in pokrajine v okoljih GIS za namene geoprostorskega digitalnega dvojnika, s posebnim poudarkom na optimizaciji procesa naprednega prostorsko-časovnega modeliranja na temelju integracije različnih podatkovnih virov. Raziskava bo usmerjena v razvoj koncepta geoprostorskega digitalnega dvojnika – tako s podatkovnega kot procesnega vidika. Pri razvoju koncepta geoprostorskega digitalnega dvojnika bomo sledili predvsem zahtevam glede funkcionalnosti, ki jih mora v sodobnih državah in skupnostih podpirati napredna uradna prostorska informacijska infrastruktura na področju upravljanja prostora. Raziskovalno delo bo vključevalo tudi razvoj metod pridobivanja in obdelave podatkov za vzpostavitev, delovanje in posodabljanje geoprostorskega digitalnega dvojnika, modeliranje prostora s temi podatki in uporabo metod prostorske analitike.

Pričakovani profil kandidata je magistrska izobrazba na področju (geo)informacijskih ali širše tehničnih in naravoslovnih znanosti (geodezija in geoinformatika, informatika, računalništvo, fizika, matematika, geografija ...). Prednost pri izbiri bodo imeli kandidati z izkušnjami na področju geoinformatike in prostorske analitike, programiranja ter poznavanjem izzivov upravljanja prostora in s tem povezanim odločitvenim procesom.

Predviden je vpis na doktorski študij Grajeno okolje.

Eng.:

The young researcher will be trained as part of the research program P2-0406 Earth Observation and Geoinformatics (<https://www.en.fgg.uni-lj.si/research/research-programmes/>).

The field of research is advanced 3D and 4D city and landscape modelling in GIS environment for the purpose of geospatial digital twin, with a particular emphasis on process optimisation of advanced spatial-temporal modelling based on various data integration. The research will focus on the development of the geospatial twin concept, where data and process views will be

considered. When developing the concept of a geospatial digital twin, the requirements and expected functionalities of an advanced geospatial information infrastructure will be considered as expected in modern states and societies. The research work will include the development of methods for data acquisition and modelling for the implementation and maintenance of the geospatial digital twin as well as the use of advanced geospatial analytical methods.

The expected candidate profile is a master's degree in the field of (geo)information or broader technical and natural sciences (geodesy and geoinformatics, computer science, physics, mathematics, geography ...). Priority will be given to candidates with experience in the fields of geoinformatics, spatial analytics, and programming, as well as candidates who are familiar with the challenges of spatial development and related geospatial decision making.

It is envisaged to enrol in the doctoral study Built Environment.

5. Priloge, ki jih kandidat priloži k prijavi (*Documents that the candidate submits with the application*):

- ☒ **diplomska listina/potrdilo o zaključku študijskega programa** (*diploma certificate for study programme, with which the candidate has enrolled/ will enroll in a doctoral degree programme*)
- ☒ **priloga k diplomii/ potrdilo o opravljenih obveznostih** (*official transcript of all the grades for study programme, with which the candidate has enrolled/will enroll in a doctoral degree programme*)
- ☒ **potrdilo o do sedaj opravljenih obveznostih z ocenami študijskega programa, s katerim se bo kandidat prijavil na študij** (*official transcript of all the grades the candidate has received so far for the study programme, with which the candidate will enroll to a doctoral degree programme*)
- ☒ **nagrade** (*awards (e.g. Prešeren Prize of the University of Ljubljana, Prešeren Prize of a University of Ljubljana member and/or another equivalent award)*)
- ☒ **bibliografija** (*bibliography*)
- ☒ **življenjepis** (*CV*)
- ☒ **motivacijsko pismo** (*motivation letter*)
- ☒ **opis dosedanjega sodelovanja pri raziskovalnem delu** (*description of the candidate's research work*)
- ☒ **osnutek idejne zasnove raziskovalnega dela** (*preliminary research proposal*)
- ☐ **priporočilno pismo** (*letter of recommendation*)
- ☐ **druge priloge** (*other attachments*)