

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

1. Raziskovalna organizacija (*Research organisation*):

Univerza v Ljubljani, Fakulteta za gradbeništvo in geodezijo

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

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

2.01 Gradbeništvo

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 angleškega jezika, izkušnje z laboratorijskim delom, potrebne licence za usposabljanje...).

slo:

Mladi raziskovalec/-ka se bo usposabljal/-a v okviru raziskovalnega programa P2-0185 Potresno inženirstvo (www.fgg.uni-lj.si/raziskovalna-dejavnost/programske-skupine/).

Področje raziskovanja je dejanska dolgotrajna obstojnost betonov v armiranobetonskih elementih infrastrukturnih objektov. Ti betoni so pripravljene s slovenskimi karbonatnimi agregati in so izpostavljeni različnim pogojem okolja. Poudarek je na vplivu različnih agresivnih kemijskih substanc, ki so lahko prisotne v talni ali površinski vodi, ali pa jih vnašamo v betonske elemente s soljenjem prometnic v zimskem času. Kandidat bo preverjal učinkovitost in primernost različnih pospešenih testov za ovrednotenje odpornosti betona v okoljih XA in XF4 (standard SIST EN 206). Poleg tega bo spremljal in analiziral fizikalne, kemijske in mineraloške spremembe na nivoju mikrostrukture betona, zaradi delovanja okolij XA in XF4. Te spremembe bo povezal z odzivom betona na makro nivoju, ki se odraža v spremembah fizikalnih, mehanskih in reoloških lastnosti betonskih preizkušancev.

Pričakovani profil kandidata je magistrska izobrazba na področju tehničnih in naravoslovnih znanosti (gradbeništvo, kemijsko inženirstvo, geologija, kemija, vodarstvo in okoljsko inženirstvo, ...), z veseljem do laboratorijskega dela. Kandidat mora imeti znanje angleškega jezika stopnje vsaj B2. Prednost pri izbiri bodo imeli kandidati, ki imajo izkušnje z mikroskopskimi analizami ter drugimi kemijskimi in mineraloškimi analizami, ki se uporabljajo na področju materialov s cementnimi vezivi. Izbira ustreznega kandidata bo temeljila tudi na uspešno opravljenem intervjuju.

Predviden je vpis na doktorski študij Grajeno okolje.

eng:

The young researcher will be trained as part of the research program P2-0185 Earthquake Engineering (<https://www.en.fgg.uni-lj.si/research/research-programmes/>).

The field of research is the actual long-term durability of concrete and reinforced concrete elements of infrastructural facilities. These concretes are prepared with Slovenian carbonate aggregates and are exposed to various environmental conditions. The emphasis is on the influence of various aggressive chemical substances, which can be present in ground or surface water, or they can be introduced into concrete elements by thawing salts in winter. The candidate will study the effectiveness and adequacy of various accelerated tests to evaluate the resistance of concrete in environments XA and XF4 (standard SIST EN 206). Furthermore, he/she will monitor and analyze physical, chemical and mineralogical changes at the level of concrete microstructure, due to the XA and XF4 environmental impact. He/she will link these changes to the concrete response at the macro level, which is reflected in the time dependant physical, mechanical and rheological properties of the concrete specimens.

The expected candidate profile is a master degree in technical and natural sciences (civil engineering, chemical engineering, geology, chemistry, environmental engineering, ...), with affinity to laboratory work. The candidate must have a level of English proficiency of at least B2. Priority will be given to candidates with experience in microscopic analyses and other chemical and mineralogical analytical techniques used in the field of cementitious binder materials. The selection of a suitable candidate will also be based on a successfully conducted interview.

The enrolment in the doctoral program Built Environment is envisaged.