

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 (University of Ljubljana, Faculty of Civil and Geodetic Engineering)

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

Boštjan Brank, bbrank@fgg.uni-lj.si

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

2.01.03 Konstrukcije v gradbeništvu (Constructions in civil engineering)

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...).

Mladi raziskovalec se bo usposabljal na raziskovalnem področju numerične mehanike konstrukcij in materialov. Gre za pripravo teoretičnih in numeričnih modelov (z uporabe metode končnih elementov) za opisovanje obnašanja celotnih konstrukcij, posameznih konstrukcijskih elementov, eksperimentalnih vzorcev in majhnih sistemov iz inženirskih materialov, tako pri normalnih kot pri ekstremnih pogojih. Področje med drugim pokriva nelinearne materialne modele, lom materiala, optimizacijo, modeliranje sklopljenih problemov, pripravo surogatov, kvantifikacijo negotovosti, Bayesovo inverzijo ter pripravo lastnih računalniških programov in uporabo raziskovalnih in komercialnih kod. Natančen opis raziskovalne teme mladega raziskovalca v okviru področja usposabljanja bomo določili glede na njegovo motivacijo, trenutno usposobljenost in tekoče raziskave projektne skupine, v kateri bo sodeloval.

Pričakujemo, da bo mladi raziskovalec imel zahtevano diplomsko smeri, matematike ali fizike, da bo imel solidno dodiplomsko znanje s področja mehanike, dobro znanje slovenščine in solidno znanje angleščine ter da bo imel željo resno in predano raziskovalno delati.

The young researcher will be trained in the research field of numerical mechanics of structures and materials. It involves the preparation of theoretical and numerical models (using the finite element method) to describe the behavior of complete structures, structural elements, experimental samples, and small systems made of engineering materials, both under normal and extreme loading conditions. The research field covers, inter alia, nonlinear material models, material failure, optimization, modelling of coupled problems, preparation of surrogates, uncertainty quantification, Bayesian inversion and preparation of own computer codes and use of research and commercial computer codes. The exact description of the research topic of the young researcher in the mentioned research field of training will be determined according to his or her motivation, current qualifications and current research priorities of the project group in which he or she will participate.

We expect that the young researcher will have a required degree in engineering, mathematics or physics, that he or she will have a solid undergraduate knowledge in (structural) mechanics, a good knowledge of Slovenian and a solid knowledge of English, and that he or she will have the desire to work seriously and dedicatedly.