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

1. Članica UL (*UL member)*:

Univerza v Ljubljani, Fakulteta za gradbeništvo in geodezijo (University of Ljubljana, Faculty of Civil and Geodetic Engineering)

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

Gašper Rak; gasper.rak@fgg.uni-lj.si

3. Raziskovalno področje (*Research field*):

2.20 Vodarstvo (2.20 Hydrology)

4. Opis delovnega mesta mladega raziskovalca/ke *(D*escription 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: Izbrani mladi raziskovalec oziroma mlada raziskovalka (MR) se bo usposabljal v okviru raziskovalnega programa P2-0180 Vodarstvo in geotehnika: orodja in metode za analize in simulacije procesov ter razvoj tehnologij (https://www.fgg.uni-lj.si/raziskovalna-dejavnost/programske-skupine/). Področje Programa obsega tehniške in naravoslovne vsebine vezane na vodarstvo in z vodo povezane procese. Predvideno področje dela MR je razvoj in uporaba brezkontaktnih merilnih metod na področju hidrotehnike, ki ključnega pomena za zajem hidravličnih parametrov, dobro poznavanje in simuliranje tokovnih razmer, predvsem bolj kompleksnih hidravličnih pojavov. MR bo deloval v sklopu delovne skupine ARRS raziskovalnega projekta J2-3056; Razvoj optične merilne metode za merjenje gladine turbulentnega dvofaznega toka s prosto gladino ter drugih mednarodnih in domačih raziskovalnih projektih in strokovnih nalogah. Tako bo delo potekalo v interdisciplinarnem okolju, kjer sodelujejo raziskovalci Fakultete za gradbeništvo in geodezijo, Fakultete za strojništvo ter različnih podjetij s področja razvoja merilne opreme in tistimi, ki bi merilne metode uporabljajo v praksi. Prednostni profil MR je izobrazba magistrske stopnje s področja inženirskih znanosti (npr. vodarstvo, (okoljsko) gradbeništvo, geodezija, strojništvo, elektrotehnika) ali naravoslovja (npr. uporabna fizika). Zaželene so izkušnje in poglobljeno znanje s področja hidromehanike/ hidravlike, merilnih tehnik in posebna praktična znanja za izvedbo eksperimentalnega dela disertacije (eksperiment, laboratorij, statistična analiza). Prav tako se od kandidata oziroma kandidatke pričakuje samostojno delo (samoiniciativnost), odlično znanje angleškega jezika (tako pisanje kot branje), inovativnost, sposobnost za timsko delo, komunikativnost, organizacijske sposobnosti, zanimanje ali poznavanje računalniških programov za modeliranje in numerično simuliranje (npr. Simulink, ANSYS), spretnost pri programiranju in poznavanje enega od programskih jezikov (npr. Matlab, Python, C++). Predviden je vpis ali na doktorski študijski program Grajeno okolje ali na program Varstvo okolja.

eng:
Young Researcher (MR) will be trained through research activities under the framework of the Research Programme P2-1080 Water Science and Technology, and Geotechnical Engineering: Tools and Methods for Process Analyses and Simulations, and Development of Technologies (www.en.fgg.uni-lj.si/research/research-programmes/). The Programme covers engineering (technical) and natural sciences aspects in the field of water science and water-related processes. The proposed research area is the development and application of non-intrusive measuring methods in the field of hydraulic engineering, which are crucial for the acquisition of hydraulic parameters, knowledge and simulation of flow conditions, especially the more complex hydraulic phenomena. The MR will work within the working group of the ARRS research project J2-3056; Development of an optical measuring method for measurement of the turbulent two-phase flow with free surface, and other international and national research and applied projects. The work will thus take place in an interdisciplinary environment involving researchers from the Faculty of Civil and Geodetic Engineering, the Faculty of Mechanical Engineering, and various companies involved in the development of measurement equipment, as well as those who apply measurement methods in practise.

Expected MR profile is a MSc degree in engineering sciences (e.g., water resources management, civil engineering, environmental engineering, geodesy, mechanical engineering, electrical engineering) or natural sciences (e.g., applied physics). Experience and in-depth knowledge in the field of hydromechanics/hydraulics, measurement techniques, and specific practical skills to perform the experimental part of the dissertation (experiment, laboratory, statistical analysis) are desirable. In addition, MR should also have the ability to work independently (self-initiative), excellent English skills (both writing and reading), ability to innovate, work in a team, communication and organisational skills, knowledge of computer programmes for modelling and numerical simulation (e.g., Simulink, ANSYS), programming skills and knowledge of one of the programming languages (e.g., Matlab, Python, C++). Foreseen is the enrolment into the PhD study programmes Built Environment or Environment Protection.