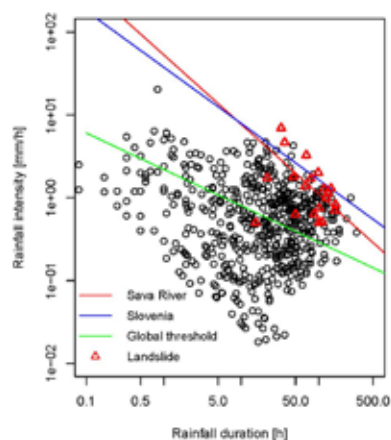


KADER / PERSONNEL

- **Predstojnik**
Head
prof. dr. Matjaž Mikoš
- **Namestnik predstojnika**
Deputy head
doc. dr. Dušan Petrovič
- **Pedagogi**
Teachers
prid. prof. dr. Marko Komac
izr. prof. dr. Tomaž Podobnikar
viš. pred. mag. Jošt Sodnik
izr. prof. dr. Blaž Stres
- **Raziskovalka**
Researcher
Mateja Klun
- **Sodelavci**
Associates
asist. dr. Nejc Bezak
dr. Sašo Petan
dr. Katarina Zabret



Primerjava med dvema lokalnima in enim globalnim pragom intenziteta–trajanje padavin za primer porečja Selške Sore
Comparison between two local thresholds and one global ID threshold for the Selška Sora River catchment case study

INŠTITUT ZA GEO IN HIDRO TVEGANJA (RIGHT)

Inštitut za geo in hidro tveganja (RIGHT) deluje od 2014, ko so ga ustanovile Katedra za kartografijo, fotogrametrijo in daljinsko zaznavanje (KKFDZ), Katedra za matematično in fizikalno geodezijo ter navigacijo (KMFNG), Katedra za geotehniko (KMTal) in Katedra za splošno hidrotehniko (KSH), da bi v njem opravljale raziskovalno delo na področju nevarnosti, tveganj in nesreč v geo in hidro okolju.

Predstojnik inštituta je dr. Matjaž Mikoš, redni profesor za hidrologijo in redni profesor za inženirsko hidrotehniko, namestnik predstojnika je dr. Dušan Petrovič, docent za področje geodezije in geoinformatike.

Pri delu inštituta aktivno sodelujejo pedagogi ustanovnih kateder, zunanji dopolnilno zaposleni raziskovalci drugih raziskovalnih ustanov in podjetij v Sloveniji ter nekateri mladi raziskovalci, ki raziskujejo v programski skupini P2-0180 Vodarstvo in geotehnika: orodja in metode za analize in simulacije procesov ter razvoj tehnologij. Inštitut je samostojna raziskovalna skupina s šifro ARRS 0792-022.

UL FGG že od leta 2008 redno pridobiva naziv svetovnega centra odličnosti za zmanjševanje tveganj zaradi zemeljskih plazov (WCoE – World Centre of Excellence on Landslide Risk Reduction), ki ga na rednih triennialnih svetovnih forumih o zemeljskih plazovih podeljuje Mednarodni program za zemeljske plazove (IPL). Inštitut je po ustanovitvi postopno prevzel večino raziskovalnega dela na tem področju na UL FGG in je fakulteti tudi v obdobju 2017–2020 pridobil naziv svetovnega centra odličnosti.

Inštitut je aktivno vpet v delo Mednarodnega konzorcija za zemeljske plazove (ICL), Kjoto, Japonska. Predstojnik RIGHT je podpredsednik ICL v letih od 2015 do 2020 in eden od izvršnih urednikov revije Landslides (izdaja Springer Nature).

Inštitut RIGHT se s svojim delom aktivno povezuje z delovanjem Unescove Katedre za zmanjševanje tveganj ob vodnih ujmah, ki jo je 2016 ustanovila Univerza v Ljubljani.

Konec leta 2018 se je lotil prenove kletnih prostorov na Hajdrihovi 28, da bi v njih uredil novi Laboratorij za agregate.

Raziskovalno delo

Na inštitutu potekajo različni mednarodni, bilateralni in nacionalni raziskovalni projekti, npr. dvostranska projekta z univerzo Leibniz iz Hannovera v Nemčiji na temo stohastičnih padavinskih modelov za oceno erozivnosti padavin (2018–19) in z univerzo v Chongqingu na Kitajskem na temo vrednotenja naprednih metod rudarjenja po podatkih za napovedovanje hidroloških podatkov: uporabni primeri s Kitajske in Slovenije (2018–2020).

V obdobju 2017–20 potekata na Inštitutu tudi dva temeljna projekta ARRS, in sicer J7-8273 »Prepoznavanje potencialno nevarnih hudourniških vršajev z metodami geomorfometrije in simulacijami nastanka vršajev« in J1-8513 »Preučevanje premikanja plazov od izvornih območij do mesta odlaganja z determinističnim pristopom«.

RESEARCH INSTITUTE FOR GEO AND HYDRO THREATS (RIGHT)

Research Institute for Geo and Hydro Threats has been active since 2004, when it was founded by Chair of Cartography, Photogrammetry and Remote Sensing, Chair of Mathematical and Physical Geodesy and Navigation, Chair of Geotechnics, and Chair of Hydrology and Hydraulic Engineering. The purpose was to implement research work in the areas of hazards, risks, and disasters in geo and hydro environments. The Institute is chaired by Matjaž Mikoš, PhD, full professor in hydrology and full professor in hydraulic engineering. His deputy is Dušan Petrovič, PhD, assistant professor in geodesy and geoinformatics.

Teachers of the founding chairs, external partners and researchers from other research institutions and companies in Slovenia as well as some young researchers involved in the work of the core research group P2-0180 Water Science and Technology, and Geotechnical Engineering: Tools and Methods for Process Analyses and Simulations, and Development of Technologies, all participate in the Institute's work. The Institute is a research group of its own with ARRS code 0792-022.

Since 2008, UL FGG has been regularly awarded the title WCoE – World Centre of Excellence on Landslide Risk Reduction, conferred at regular triennial World Landslide Forums by the International Program on Landslides (IPL). Since its

foundation, the Institute has gradually taken over most of the research in this field of UL FGG and won the title of WCoE also for the period 2017–2020.

The Institute is actively involved in the activities of the International Consortium on Landslides (ICL), Kyoto, Japan. In the period 2015–2020, the Head of RIGHT is Vice-President of the ICL, and he also serves as Associate Editor of the journal Landslides (published by Springer Nature).

With its work, the RIGHT Institute is actively connected to the activities of the UNESCO Chair on Water-related Disaster Risk Reduction, founded in 2016 by the University of Ljubljana.

In the late 2018, the RIGHT Institute started renovating the basement at UL FGG's building at Hajdrihova 28 to establish a new Laboratory for Aggregates.

Research work

Members of the Institute are involved in several international, bilateral, and national research projects, such as bilateral research projects with Leibniz University from Hannover, Germany, on stochastic rainfall models for rainfall erosivity evaluation (2018–2019), and Chongqing University from China on evaluation of intelligent learning techniques for prediction of hydrological data: useful case studies in China and Slovenia (2018–2020).

In 2017–2020, the Institute's researchers have been involved in two national basic projects: J7-8273 »Recognition of potential hazardous torrential fans using geomorphometric methods and simulating fan formation« and J1-8513 »Studying landslide movements from source areas to zone of deposition using a deterministic approach«.

Educational work

Research is the basis for quality teaching at all levels of tertiary education. The Institute's research results are being implemented into curriculum of study programs at UL FGG and at the doctoral study programs Built Environment and Environment Protection. Quality research work of the Institute and supervision of young researchers are important guidelines for its activities. A special place in research will be given to Laboratory for Aggregates that is under construction, which will be a place for research as well as for selected laboratory tutorials for professional courses.

Young researchers Mateja Klun and Matej Radinja continued their work on their PhD theses. In 2017, Senior lecturer Dr. Jošt Sodnik finished his PhD studies, and in 2018, Assist. Dr. Katarina Zabret finished her PhD studies.

The Institute's researchers actively cooperate in various promotional activities of UL FGG,

mainly within technical days for secondary school population, in the Faculty's Open Day, Informativa Fair and in the Information Days for secondary school population.

Exceptional achievements

The Institute and its members contributed considerably to a successful implementation of the World Construction Forum from April 8 to April 11, 2019, in Ljubljana; it was an event organized to celebrate the 100th Anniversary of UL FGG.

Another achievement is publication of two original research papers, namely one in the area of hydrologic research of rainfall-induced landslides:

- Bezak, N., Jemec Auflič, M., Mikoš, M. (2019). Application of hydrological modelling for temporal prediction of rainfall-induced shallow landslides. *Landslides* 16(7), 1273–1283

and one on rainfall erosivity:

- Ballabio, C., Borrelli, P., Spinoni, J., Meusburger, K., Michaelides, S., Begueria, S., Klik, A., Petan, S., Janeček, M., Olsen, P., Aalto, J., Lakatos, M., Rymaszewicz, A., Dumitrescu, A., Perčec Tadić, M., Diodato, N., Kostalova, J., Rousseva, S., Banasik, K., Alewell, C., Panagos, P. (2017). Mapping monthly rainfall erosivity in Europe. *Science of the total environment* 579, 1298–1315.

Pedagoško delo

Raziskovanje je temelj kakovostnega poučevanja na vseh stopnjah terciarnega izobraževanja. Raziskovalni rezultati inštituta se prelivajo v pedagoške vsebine različnih predmetov na študijskih programih UL FGG ter na doktorskih študijskih programih Grajeno okolje in Varstvo okolja. Kakovostno raziskovalno delo na inštitutu in mentorsko delo z mladimi raziskovalci je pomembna usmeritev dela inštituta. Posebno mesto v raziskovanju bo dobil tudi Laboratorij za agregate, ki je v ustanavljanju in bo mesto tako za raziskave kot tudi mesto za izvajanje nekaterih laboratorijskih vaj pri strokovnih predmetih.

Z raziskovalnim delom na doktorski disertaciji sta nadaljevala mlada raziskovalca Mateja Klun in Matej Radinja. Leta 2017 je doktoriral viš. pred. dr. Jošt Sodnik, leta 2018 pa asist. dr. Katarina Zabret.

Raziskovalci inštituta aktivno sodelujejo v različnih promocijskih aktivnostih fakultete, predvsem pri tehniških dnevih za srednješolce, dnevu odprtih vrat fakultete, sejmu Informativa in pri informativnih dnevih za dijake srednjih šol.

Izjemni dosežki

Inštitut je s svojimi sodelavci bistveno pripomogel k uspešni izvedbi Svetovnega gradbenega foruma od 8. do 11. aprila 2019 v Ljubljani; dogodek smo organizirali v počastitev 100. obletnice UL FGG.

Izjemna dosežka sta tudi objavi dveh izvornih člankov, in sicer s področja hidrološkega raziskovanja zemeljskih plazov:

- Bezak, N., Jemec Auflič, M., Mikoš, M. (2019). Application of hydrological modelling for temporal prediction of rainfall-induced shallow landslides. *Landslides* 16(7), 1273–1283

in s področja analize erozivnosti padavin:

- Ballabio, C., Borrelli, P., Spinoni, J., Meusburger, K., Michaelides, S., Begueria, S., Klik, A., Petan, S., Janeček, M., Olsen, P., Aalto, J., Lakatos, M., Rymaszewicz, A., Dumitrescu, A., Perčec Tadić, M., Diodato, N., Kostalova, J., Rousseva, S., Banasik, K., Alewell, C., Panagos, P. (2017). Mapping monthly rainfall erosivity in Europe. *Science of the total environment* 579, 1298–1315.



Soorganizirali smo Svetovni gradbeni forum 2019 v Cankarjevem domu v Ljubljani med 8. in 11. aprilom 2019 – dogodka se je udeležilo več kot 600 udeležencev iz 50 držav sveta

We co-organised the World Construction Forum 2019 in Cankarjev dom in Ljubljana, 8–11 April 2019 – the event attracted more than 600 participants from 50 countries around the world



Mednarodno sodelovanje je pomembno za inštitut – utrinek s sprejema na kongresu INTERPRAEVENT v Toyami na Japonskem oktobra 2018

International cooperation is important for the Institute – reception at the INTERPRAEVENT Congress in Toyama, Japan, October 2018



Obisk univerze v Chongqingu na Kitajskem januarja 2019 v okviru dvostranskega sodelovanja

Visit to the Chongqing University, China, in January 2019 within the bilateral project