

## PERSONAL INFORMATION

Mateja Ferk

Date of birth: February 26<sup>th</sup>, 1984

## EDUCATION

-Ph.D. in Geography; University of Ljubljana, 2014

-Honours degree in Geography; University of Ljubljana, 2009

## ACADEMIC AND SCIENTIFIC RESEARCH TITLES

-Assistant Professor; Postgraduate School ZRC SAZU, since 2016

-Research Fellow; Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU), since 2014

-Assistant; ZRC SAZU, 2010-2014

## EMPLOYMENT

-Fulltime researcher; Anton Melik Geographical Institute ZRC SAZU, since 2014

-Young Researcher Program for Ph.D. Students, Anton Melik Geographical Institute ZRC SAZU, 2010-2014

Throughout my career as a young scientist the main focus of my work was dedicated to geomorphology, specifically karst geomorphology, and palaeoenvironmental and palaeohydrological reconstructions of karst landscapes. I am regularly involved in basic and applied projects on the national and international level targeting topics of physical geography and natural hazards. I am the author or co-author of 21 scientific papers, 3 scientific monographs, and 13 scientific book chapters (H-index: 5).

## GUEST RESEARCHER ABROAD

-Curtin University, Faculty of Science and Engineering, Department of Environment and Agriculture, Perth, Australia, November 28<sup>th</sup> 2014 – March 1<sup>st</sup> 2015

## MANAGEMENT FUNCTIONS AND SKILLS

-Head of the Physical Geography Laboratory, Anton Melik Geographical Institute ZRC SAZU, since 2019

-Member of the executive board of the Geomorphological Society of Slovenia, since 2006 (President 2016-2019, secretary 2011-2016)

-Member of the Organisational Board of the International Scientific Conference *Classical Dinaric Karst* of the Carpatho-Balkan-Dinaric Geomorphological Commission of the International Association of Geomorphologists (IAG/AIG), September 13<sup>th</sup>-17<sup>th</sup> 2016

-Member of the Organisational Board of the International Scientific Assembly *Land degradation in a complex environment: challenges of land management at the contact of four major European geographical units* of the Commission for land degradation and desertification (COMLAND) at the International Geographical Union (IGU), June 23<sup>rd</sup>-27<sup>th</sup> 2016

-Head of the Organisational Board of the Pre-Congress Excursions *Dinaric Karst of Slovenia* at the 16<sup>th</sup> International Speleological Congress of the International Union of Speleology (UIS) held in Brno, Czech Republic, June 21<sup>st</sup>-28<sup>th</sup> 2013

-Member of the executive board of the Speleological Association of Slovenia, Management of the Commission for Cave Protection, 2010-2012

## WORK WITH YOUNG RESEARCHERS

To encourage young researchers for top-quality scientific work, the engagement of Ph.D. Student Jure Tičar in this project is foreseen throughout the entire duration of the proposed research. He has already demonstrated valuable skills in karst geomorphology. With the involvement in the project he will strengthen his knowledge and gain practical capabilities to ease his way to pursue his own career.

To support and motivate young generations to pursue research careers in science, I volunteered as a Co-supervisor of a research project of a high school student, Nuša Kos, for the National Young Scientists Competition; she was awarded with a silver medal for the project, 2018.

### **Current supervision of students**

- Tadeja Babič, co-supervisor of her Master's Degree Thesis at the University of Ljubljana
- Aleš Grlj, co-supervisor of his Ph.D. Thesis at the University of Ljubljana

### **OTHER ACADEMIC ACTIVITIES (a selection)**

- Invited lecture at the Department of Earth and Planetary Sciences, Department of Geography, University of Tennessee, Knoxville, United States of America, 5. 12. 2019; *The use of remote sensing methods in geomorphology: examples from Slovenia and Australia*.
- Invited lecture at the Institut für Geographie und Raumforschung, University of Graz, Graz, Austria, 12. 6. 2019; *Remote sensing in geomorphology: examples from Australia*.
- Invited lecture at the Department of Agricultural Sciences, Faculty of Science, Technology and Engineering, La Trobe University, Melbourne, Australia, 15. 2. 2012; *Palaeofloods on Karst Poljes, Slovenia*.

### **WORK IN EXPERT COMMITTEES**

- member of the editorial board of the scientific journal Acta geographica Slovenica, since 2019
- member of the editorial boards of scientific book series Geografija Slovenije, since 2015
- member of the editorial board of scientific book series Georitem, since 2015
- Management Committee member and representative of Slovenia for the COST Project SAGA, The Soil Science and Archaeo-Geophysics Alliance: going beyond prospection, 2018-2022
- Management Committee member and representative of Slovenia for the COST Project CONNECTEUR, Connecting European connectivity research, 2014-2018
- Head of the Scientific Committee of the 4<sup>th</sup> Assembly of Slovenian Geomorphologists, 2018
- Member of the International Scientific Committee of the symposium Natural Hazards, 2015, 2018

### **RECOGNITIONS AND AWARDS**

- Silver Award for the supervision of a high school student at the Young Scientists Competition in Slovenia, 2018
- Award »Excellent trainee« at the International Training Course on Hydrogeology, Environmental Geology and Ecological Geology of Karst in Kunming, China, 2017
- ZRC SAZU Silver Award for a top-level PhD, 2016
- Scholarship of the Scientific Research Centre of the Slovenian Academy of Sciences and Arts for research work at the Faculty of Science, Technology and Engineering, La Trobe University, Melbourne, Australia, 2012
- Award and Bronze Decoration at the Speleological Association of Slovenia for special achievements in speleology, 2011
- The Prešeren Award for a top-level Honours Degree thesis, Faculty of Arts, University of Ljubljana, 2010.

### **EXPERIENCES WITH PROJECT WORK**

#### **National projects (a selection)**

- P6-0101 Geography of Slovenia, 2009-2014 and 2015-2020
- N6-0070 Possible ecological control of flood hazard in the hilly regions of Hungary and Slovenia, 2017-2020
- J6-6853 Resilience of alpine environment from the perspective of natural hazards, 2014-2018
- L6-6852 Landscape diversity and hot spots in Slovenia, 2014-2017
- L6-4048 Increasing the effectiveness and applicability of research on natural disaster using modern methods, 2011-2014
- J6-0125 Use of Geographical Information Systems for relief classification of Slovenia, 2010-2011

### **International projects (a selection)**

- SAGA, The Soil Science and Archaeo-Geophysics Alliance: going beyond prospection, 2018-2022 (Project Manager on partner level, Management Committee member representing Slovenia)
- KRASn'KRŠ, Preservation and valorisation of heritage and development of sustainable tourism in the cross border Karst region, 2017-2020
- AgriGo4Cities, Urban agriculture for changing cities: governance models for better institutional capacities and social inclusion, 2017-2019 (Financial Manager on partner and project level)
- TRANS-BORDERS, TEN-T passenger transport connections to border regions, 2017-2020
- SHAPETOURLISM, New shape and drive for the tourism sector: supporting decision, integrating plans and ensuring sustainability, 2016-2018
- CONNECTEUR, Connecting European connectivity research, 2014-2018 (Management Committee member representing Slovenia)
- NH-WF, Natural Hazards without Frontiers, 2011-2014
- OTREMED, Tool for the Territorial Strategy of the MED Space, 2010-2013 (Financial Manager on partner level)
- CapHaz-Net, Social capacity building for natural hazards (FP7), 2010-2011

### **SCIENTIFIC PAPERS (selection)**

- Lipar, M., Martín-Pérez, A., Tičar, J., Pavšek, M., Gabrovec, M., Hrvatin, M., Komac, B., Zorn, M., Zupan Hajna, N., Zhao, J., Drysdale, R. N., Ferk, M. 2021. Subglacial carbonate deposits as a potential proxy for a glacier's former presence. *Cryosphere* 15.
- Ferk, M., Ciglič, R., Komac, B., Lóczy, D. 2020. Management of small retention ponds and their impact on flood hazard prevention in the Slovenske Gorice Hills. *Acta geographica Slovenica* 60-1.
- Burnett, S., Lipar, M., Ferk, M., et al. 2020. Etched linear dunefields of the Nullarbor Plain: a record of Pliocene-Pleistocene wind patterns across southern Australia. *Palaeogeography, palaeoclimatology, palaeoecology* 557.
- Ferk, M., Lipar, M., Šmuc, A., Drysdale, R. N., Zhao, J. 2019. Chronology of heterogeneous deposits in the side entrance of Postojna Cave, Slovenia. *Acta geographica Slovenica* 59-1.
- Lipar, M., Stepišnik, U., Ferk, M. 2019. Multiphase breakdown sequence of collapse doline morphogenesis: an example from Quaternary aeolianites in Western Australia. *Geomorphology* 327.
- Lipar, M., Ferk, M., Lojen, S., Barham, M. 2019. Sulfur (34S/32S) isotope composition of gypsum and implications for deep cave formation on the Nullarbor Plain, Australia. *International journal of speleology* 48-1.
- Lipar, M., Ferk, M. 2015. Karst pocket valleys and their implications on Pliocene-Quaternary hydrology and climate: examples from the Nullarbor Plain, southern Australia. *Earth-Science Reviews* 150.
- Stepišnik, U., Ferk, M., Gostinčar, P., Černuta, L. 2012. Holocene high floods on the Planina Polje, classical dinaric karst, Slovenia. *Acta carsologica* 41-1.
- Ferk, M., Lipar, M. 2012. Eogenetic caves in Pleistocene carbonate conglomerate in Slovenia. *Acta geographica Slovenica* 52-1.
- Ferk, M. 2011. Morphogenesis of Rakov Škocjan Basin. *Geographical Bulletin* 83-1.
- Stepišnik, U., Ferk, M., Kodelja, B., Medenjak, G., Mihevc, A., Natek, K., Žebre, M. 2009. Glaciokarst of western Orjen, Montenegro. *Cave and karst science* 36-1.
- Stepišnik, U., Ferk, M., Gostinčar, P., Černuta, L., Peterneš, K., Štemberger, T., Ilič, U. 2007. Alluvial fans on contact karst: an example from Matarsko podolje, Slovenia. *Acta carsologica* 36-2.

### **SCIENTIFIC MONOGRAPHS (selection)**

- Ferk, M. 2016. Palaeofloods in the karstic Ljubljana River Catchment. *Geografija Slovenije* 33, 187 p.
- Ferk, M., Stepišnik, U. 2011. Geomorphological characteristics of Rakov Škocjan. *Georitem* 17, 70 p.

### **CONFERENCE PRESENTATIONS (selection)**

- 2019 - International Karstological School, Postojna. Karst processes and features in Slovenia and Tennessee: a comparison with the focus on karst depressions

2019 - International Karstological School, Postojna. New data about the flowstone age in the side entrance of Postojna Cave, Slovenia

2018 - International Karstological School, Postojna. Relicts of the earliest processes on an emerging carbonate platform

2018 - The Hydrological and Erosional Cycles in Karstic Terrains, Chania, Greece. Contact karst as sediment sink.

2017 - Man and Karst, Zadar, Croatia. Palaeoflood reconstruction based on cave sediments, Dinaric Karst, Slovenia.

2017 - Long-term Environmental Changes, Ljubljana. Palaeohydrological conditions on the Nullarbor Plain in Australia

2016 - Fifth International Paleoflood Conference, Rapid City, South Dakota, United States of America. Cave sediments as a paleoflood proxy.

2013 - IAG; Eight International Conference on Geomorphology, Paris. Late Quaternary extreme floods in the junction between the Alps and the Balkans.

2012 - CELL-50K Workshop, Budapest, Hungary. Recent chronological investigations of palaeoenvironment in Slovenian Dinaric Karst.

2011 - Climate change in the Carpathian-Balkan region during late Pleistocene and Holocene, Universitatea Ștefan cel Mare, Suceava, Romania. Palaeofloods on karst poljes, Slovenia.

2011 - INQUA; 18th Inqua Congress, Bern, Switzerland. Holocene palaeofloods on the Planina Karst Polje, Slovenia.