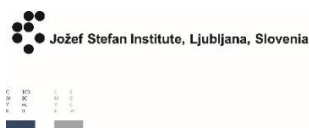
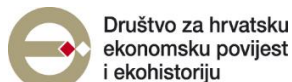


*Summer school **Environmental History and Historical Ecology of the Dinaric Karst**, held in Slovenia, primarily for master's students, Slovenia, 25–30 September 2023*

(arrival on Friday, 22 September, plan to leave on Sunday, 1 October)



ZRC SAZU



Organized by:

University of Ljubljana, Faculty of Arts, Department of History & the research programme Slovene history (P6–0235)

University of Ljubljana, Faculty of Arts, Department of Geography & the research programme Sustainable regional development of Slovenia (P6–0229)

Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU) Anton Melik Geographical Institute & the research programme Geography of Slovenia (P6–0101)

in cooperation with:

Archives of the Republic of Slovenia

Geological Survey of Slovenia

Historical Association of Slovenia

Institute of the Republic of Slovenia for Nature Conservation

Jožef Stefan Institute, Department of Environmental Sciences

Kolpa Landscape Park

Lahinja Landscape Park

Museum of Lake Cerknica

Notranjska Regional Park

Research Centre of the Slovenian Academy of Sciences and Arts, Institute of Archaeology

Research Centre of the Slovenian Academy of Sciences and Arts, Karst Research Institute

Society for Croatian Economic and Environmental History

University of Ljubljana, Faculty of Natural Sciences and Engineering, Department of Geology

University of Maribor, Faculty of Natural Sciences and Mathematics, Department of Biology

University of Primorska, Faculty of Humanities, Department of History

University of Zadar, Department of Geography

University of Zagreb, Faculty of Humanities and Social Sciences, Department of History & Centre for Comparative Historical and Intercultural Studies, Environmental History Laboratory

University of Zagreb, Faculty of Science, Department of Geography

Friday, 22 September 2023:

arrival of participants (please note that student dorms in Ljubljana only enable check-in on Monday–Friday, so during the first weekend of your stay in Slovenia, plan to spend time in Ljubljana or make trips around Slovenia)

Monday, 25 September 2023:

8.00–8.30: registration (University of Ljubljana's Faculty of Arts, Aškerčeva 2, <https://goo.gl/q4y6r7>), lecture room 102 on the first floor

8.30–8.45: opening ceremony, lecture room 102:

Dean of the University of Ljubljana's Faculty of Arts, Prof Dr Mojca Schlamberger Brezar,

Deputy Head of the Department of History, Assoc Prof Dr Kornelija Ajlec,

Head of the Department of Geography, Prof Dr Katja Vintar Mally,

and the summer school organizers

8.45–9.45: *Geomorphology of the Dinaric Karst*, Dr Petra Gostinčar (Geological Survey of Slovenia)

9.45–10.00: discussion

10.00–10.10: break

10.10–11.10: *Recent vegetation history of the Classical Karst or a changing landscape identity*, Dr Mitja Kaligarič (University of Maribor's Faculty of Natural Sciences and Mathematics, Department of Biology) and Dr Danijel Ivajnsič (University of Maribor's Faculty of Arts (i.e., the humanities), Department of Geography)

11.10–11.25: discussion

11.25–11.40: coffee break

11.40–12.40: *Climate and discharge trends, and flood hazard in Slovenia's Dinaric Karst*, Dr Matija Zorn & Dr Mauro Hrvatin (ZRC SAZU Anton Melik Geographical Institute)

12.40–12.55: discussion

12.55–14.40: lunch and walk to the *Geographical Museum*

14.40–15.55: *Cartographic heritage and old maps as a source for environmental history research*, Dr Primož Gašperič & Dr Matija Zorn (both ZRC SAZU Anton Melik Geographical Institute), at the *Geographical Museum*

15.55–16.10: coffee break

16.10–16.40: *Reconstruction of relative sea-level change and climate change using Lithophyllum rims – examples from the eastern Adriatic coast*, Dr Sanja Faivre (University of Zagreb, Faculty of Science, Department of Geography, zoom lecture)

16.40–16.50: discussion

16.50–17.00: presentation of the *European Society for Environmental History*, Dr Žiga Zwitter (University of Ljubljana's Faculty of Arts, Departments of History)

17.00–17.10: break

17.10–18.10: Paleoclimate records from speleothems:

- *Stalagmite analyses in paleoclimate reconstructions: examples from the Dinaric Karst of Slovenia*, Dr Sonja Lojen (Jožef Stefan Institute, Department of Environmental Sciences) & Dr Matej Lipar (ZRC SAZU Anton Melik Geographical Institute)

- *Palaeoenvironmental changes recorded in speleothems from Croatian coastal caves*, Dr Nina Lončar (University of Zadar, Department of Geography, zoom lecture)

Tuesday, 26 September:

University of Ljubljana's Faculty of Arts, Aškerčeva 2 (<https://goo.gl/q4y6r7>), lecture room 102 on the first floor:

8.00–9.00: *Palynological investigations into the Holocene vegetation and land-use history in the northern Dinaric Karst*, Dr Maja Andrič (ZRC SAZU Institute of Archaeology)

9.00–9.10: discussion

9.10–9.20: coffee break

9.20–10.20: *Big environmental changes revealed by tiny animal fossils. The Karst Plateau (SW Slovenia and NE Italy) in late Pleistocene and Holocene*, Dr Borut Toškan (ZRC SAZU Institute of Archaeology)

10.20–10.30: discussion

10.30–10.40: break

10.40–11.40: *The commons as an asset in the integrated peasant economy. Slovenia, Italy and Sweden compared*, Dr Aleksander Panjek (University of Primorska, Faculty of Humanities, Department of History)

11.40–11.50: discussion

11.50–13.30: lunch and walk to the Archives to the Republic of Slovenia

13.30–15.00: *visit to the Archives of the Republic of Slovenia:*

guided tour of the Archives, Dr Gregor Jenuš, historian and archivist (Archives of the Republic of Slovenia)

From archival sources identification to valid results in environmental history research, Dr Žiga Zwitter

University of Ljubljana's Faculty of Arts, Aškerčeva 2 (<https://goo.gl/q4y6r7>), lecture room 102 on the first floor:

15.00–16.00: *Forest histories of the Dinaric Karst:*

- *Deforestation and reforestation of the western Dinaric Karst from the Late Middle Ages to mid-twentieth century*, Dr Hrvoje Petrić (University of Zagreb, Faculty of Humanities and Social Sciences, Department of History),

- *Landscape change and fire risk in the Croatian Dinaric Karst: 19th to 21st century*, Dr Borna Fuerst-Bjeliš (University of Zagreb, Faculty of Science, Department of Geography)

16.00–16.10: discussion

16.10–16.20: coffee break

16.20–17.20: *Hydrogeographical Characteristics of Slovenia with an Emphasis on the Dinaric Karst*, Dr Tajan Trobec (University of Ljubljana's Faculty of Arts, Department of Geography)

17.20–17.30: discussion

17.30–17.40: break

17.40–18.40: *Role and meaning of old hydrological data for understanding climate and water cycle changes*, Dr Mihael Brenčič (University of Ljubljana, Faculty of Natural Sciences and Engineering, Department of Geology)

18.40–18.50: discussion

Wednesday, 27 September:

Meeting at 8:40: University of Ljubljana's Faculty of Arts, Aškerčeva 2 (<https://goo.gl/q4y6r7>), lecture room 102

Acquiring new skills needed for the following groupwork:

8:40–8:50: Introduction to nineteenth-century German palaeography (Žiga Zwitter)

8:50–9:05: Introduction to hydrology and land-use mapping in GIS (MA Lena Kropivšek, University of Ljubljana's Faculty of Arts, Department of Geography)

groups formation

9:10–16:00: Students' group work; results will be relevant for our visit to Lake Cerknica on Friday. Supervisors: MA Lena Kropivšek, Dr Tajan Trobec, Dr Borna Fuerst Bjeliš, Dr Hrvoje Petrić, and Dr Žiga Zwitter:

Making environmental history maps of Lake Cerknica and understanding its historical human uses:

- georeferencing and digitizing selected fundamental human interventions into the bottom of the Lake Cerknica (in the Geographic-Information-Cartographic Laboratory at the Department of Geography; supervised by Lena Kropivšek, Tajan Trobec, and Borna Fuerst Bjeliš),
- early-nineteenth century land-cadastral analysis at the parcel level; mapping the early-nineteenth century land-use categories and quality classes at Cerkniško Polje (Lake Cerknica) in GIS (supervised by Lena Kropivšek, Tajan Trobec, Hrvoje Petrić, and Žiga Zwitter) (in the Geographic-Information-Cartographic Laboratory at the Department of Geography AND in the lecture room 102 at the Department of History),
- students who understand German well and have some experience in archival work with sources in German: understanding the local farm economy based on the early-19th-century land cadastre (supervised by Žiga Zwitter; lecture room 102)

Lunch break at 13:00,

groupwork presentations follow (lecture room 102).

Later, free afternoon in Ljubljana.

3 days of excursions follow: wear hiking boots and be adequately dressed in the case of rainy weather

Thursday, 28 September: Dinaric Karst in the SE Slovenia



Photo by Žiga Zwitter.

8.15–9.30: Ljubljana–Dvor pri Žužemberku: tufa barriers in the Krka river as result of interactions between natural and human-induced processes (Dr Žiga Zwitter)

9.30–11.15: Dvor pri Žužemberku–Krupa: karstic spring of the Krupa River: major chemical pollution with polychlorinated biphenyls in the 20th century as a consequence of interaction between karstic



Plut D. et al., 2014. Regionalni viri Slovenije: Vodni viri Bele krajine (Water resources of Bela Krajina), 15.



Photo by Žiga Zwitter.



Photo by Uroš Rztresen; Lahinja Landscape Park.

hydrology & industrial pollution of the broader surroundings (geographer Matej Simčič, Institute of the Republic of Slovenia for Nature Conservation)

11.15–12.15: lunch

12.15–14.45: walk at Vrhovci near Marindol: historical agricultural use – cultural dolines (Matej Simčič); travel to Marindol, including an hour's walk to litter-raking forests; long-term impacts of litter extraction, lasting for centuries, on soil characteristics, and, consequently, on species composition – and the question of recent vegetation changes in such light forests due to abandonment of litter-harvesting (Matej Simčič, Žiga Zwitter)

14:45–15.00: Marindol–Žuniči

15:00–16:15: visit to the ethnographic museum Šokčev Dvor: meeting with the director of the Kolpa Landscape Park: agriculture in Bela Krajina since the 19th century & crucial recent challenges and solutions in biodiversity conservation in the Kolpa Landscape Park (Boris Grabrijan, director of the Kolpa Landscape Park).

16:15–16:45: Žuniči–Veliki Nerajec

16:45–18.00: the wet meadow complex Nerajski Lugi: former uses & crucial recent challenges and solutions in biodiversity conservation (guided by Gregor Šmalcelj, Lahinja Landscape Park & Matej Simčič, Institute of the Republic of Slovenia for Nature Conservation)

18.00–20:00: travel and return to Ljubljana

Friday, 29 September: The Lake Cerknica (Cerkniško jezero), one of the largest preserved intermittent lakes in Europe



Photo by Tajan Trobec.



Photo by Žiga Zwitter.



Photo by Žiga Zwitter.

8.00–8.45: travel Ljubljana–Postojna

8:45–10.00: Visit to the Karst Research Institute:

- 8:45–9:05: Presentation of the ZRC SAZU Karst Research Institute (Dr Nataša Ravbar)

- 9:05–9.25: Karst research for sustainable use of the Škocjan Caves as UNESCO heritage site (Dr Stanka Šebela)

- 9:25–9:45: Trends in hydrological dynamics on the Cerkniško Polje (Dr Matej Blatnik)

- 9:45–10.00: discussion

- 10:05–10.40: travel Postojna–Dolenje Jezero

10.40–12:00: visit to the museum Jezerski hram:

- explanation how the hydrology of the polje functions (Vekoslav Kebe with his model explaining, how the lake fills and drains)

- the early history of researches into the hydrology of this intermittent lake (Žiga Zwitter)

- Wednesday's groupwork presentation

12.00–13.15: lunch

13.30–18.40: walk on Cerkniško Polje:

visit to several interesting parts of the Lake Cerknica (MA Dejvid Tratnik, Notranjska Regional Park, and Tajan Trobec).

ca. 20.00: return to Ljubljana

Saturday, 30 September: Dinaric Karst in the SW Slovenia: The Classical Karst



Photo by Žiga Zwitter.

8.40–10.10 travel Ljubljana–Dutovlje, waterhole Lokev in Brce at Dutovlje (Dr Žiga Zwitter)

10.10–11.20: Dutovlje–Krajna Vas, land-use changes on the Karst Plateau at Krajna Vas, including also prominent examples of influences of land-use changes on plant species (Žiga Zwitter)

11.20–12.00: travel Krajna Vas– Lipica stud farm, wooded meadows at the Lipica stud farm (with a 4.5-centuries-long tradition)



Photo by Žiga Zwitter.

12.00–12.30: preserved artificial waterholes at Prelože pri Lokvi: hundreds of waterholes on the Karst Plateau as artificially co-created ecosystems, their history & historical waterhole management (Dr Žiga Zwitter)

12.30–13.10: travel to the Divača Kras, a short walk there with an emphasis on its role in the history of karst science; travel to Kačiče Pared

13.10–14.40: lunch

14.40–14.50: travel to the Škocjan Caves

15.00–17.30: guided tour through the Škocjan Caves (on UNESCO's list of natural world heritage sites; in Ramsar Directory of Wetlands of International Importance) (guide from the Škocjan caves regional park), basics of the history of cave researches (Žiga Zwitter)



Photo by Borut Lozej; © arhiv PŠJ.

17.30–18.45: travel to Ljubljana, end of the school

Acknowledgement

Costs of this summer school are covered by the Central European Exchange Program for University Studies (CEEPUS), the University of Ljubljana's Faculty of Art's Student Council, the Department of History of the same faculty, and by the research and education projects and programmes of lecturers' institutions. Many thanks for your kind support of this school and contributions to its programme.

ECTS points

The University of Ljubljana's Faculty of Arts has granted the organisers of this summer school the right to award **3 ECTS** credits to every school participant. Attendees will receive the relevant certificates.