



RIVERINE LANDSCAPES AS COUPLED SOCIO-ECOLOGICAL SYSTEMS

*6TH BIENNIAL SYMPOSIUM OF THE
INTERNATIONAL SOCIETY FOR RIVER SCIENCE*

8 -13 SEPT. 2019 - VIENNA, AUSTRIA



WELCOME TO THE 6th ISRS SYMPOSIUM **Sept. 8-13, 2019**

University of Natural Resources and Life Sciences
Vienna, Austria



Welcome to ISRS2019

We welcome you to the 2019 edition of the biennial symposium of the International Society for River Science at the University of Natural Resources and Life Sciences in Vienna, Austria!

"Riverine landscapes as coupled socio-ecological systems"

This years symposium emphasizes research related to the use and protection of water resources with a focus on complex and large river systems as well as highly modified riverine landscapes.

The event incorporates research at different trophic, temporal and spatial scales to serve as a wide platform for the exchange of ideas and experiences between science and practice. Building bridges between ecology, geomorphology, hydrology, biogeochemistry, social sciences, environmental engineering, technology and economics.

As organizers, we are eager to provide a memorable experience of your attendance at ISRS 2019.

CONTENTS

host information	p. 4
organizing committee	p. 4
scientific committee	p. 5
ISRS	p. 6
tribute to Geoff Petts	p. 7
venue information	p. 8
registration desk, WIFI, lunch	p. 9
public transportation	p. 10
presenter information	p. 10
social events	p. 11
keynote talks	p.12
workshops	p. 14
poster session	p. 15
sessions	p.16
program at a glance	p.18
detailed schedule	p.20-41
posters	p. 42
excursions	p. 44

The hosts

ISRS2019 is hosted by the Institute of Hydrobiology and Aquatic Ecosystem Management at the University of Natural Resources and Life Sciences (BOKU) in cooperation with the International Association for Danube Research (IAD), the I.S. Rivers conference (Integrative sciences and sustainable development of rivers) and the International Conference on the Status and Future of the World's Large Rivers.



The University of Natural Resources and Life Sciences (BOKU), the Alma Mater Viridis, is a teaching and research center for renewable resources, which are essential for human life. It is the university's objective to make a considerable contribution to the conservation and protection of resources for future generations by providing diversity in its fields of study. Connecting natural sciences, engineering and economic sciences, we wish to increase knowledge of the ecologically and economically sustainable use of natural resources to provide a harmoniously cultivated landscape. BOKU is committed to international benchmarking in research and teaching and to co-operations across regional and national boundaries and to initiate open-mindedness to new developments.

The Institute of Hydrobiology and Aquatic Ecosystem Management (IHG) is located in the 18th district of Vienna. Key areas of research at IHG deal with the functions, processes, and structures of aquatic ecosystems and connected landscape elements. Research and training focus on hydro-morphological dynamics, nutrient cycles, food chains, habitat demands, biodiversity, biotic interactions, aquaculture and fisheries as well as ecosystem management.

Organizing committee

Thomas Hein, Chair
Full Professor
University of Natural Resources and Life Sciences

Gabriele Weigelhofer, Co-Chair
Senior Scientist
University of Natural Resources and Life Sciences

Pablo Rauch
Research associate
University of Natural Resources and Life Sciences

Stefan Auer
Research associate
University of Natural Resources and Life Sciences

Lisa Schülting
Research associate
University of Natural Resources and Life Sciences

Martin Seebacher
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University of Natural Resources and Life Sciences

Susanne Karl & Patricia Romanofsky
University of Natural Resources and Life Sciences

Scientific committee

Bernd Cyffka
Aueninstitut Neuburg a.d. Donau, International
Association for Danube Research – Germany

Michael Delong
Winona State University, USA; ISRS

Christophe Douady
Laboratoire d'Ecologie des Hydrosystèmes
Naturels et Anthropisés, France; IS Rivers

David Gilvear
University of Plymouth, UK; ISRS

Wolfram Graf
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Sciences, Austria

Helmut Habersack
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Sciences, Austria; Worlds Large Rivers

Christoph Hauer
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Susanne Muhar
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Herve Piegay
ENS de Lyon, France; IS Rivers

Cristina Sandu
Institute of Biology Bucharest; International
Association for Danube Research, Romania

Stefan Schmutz
University of Natural Resources and Life
Sciences, Austria

Martin Thoms
University of New England, NSW, Australia;
ISRS

Herwig Waidbacher
University of Natural Resources and Life
Sciences, Austria

Gabriele Weigelhofer
University of Natural Resources and Life
Sciences, Austria

Christian Wolter
Leibniz-Institute of Freshwater Ecology and
Inland Fisheries, Germany; ISRS

International Society for River Science

ISRS is a global society without political, national, or other social or cultural affiliations. The ISRS exists to foster and develop scholarship in all disciplines contributing to knowledge and wise stewardship of rivers and streams as vital natural and managed ecosystems.

The society will strive to maintain an international reputation as a highly reliable and independent source of information and advice on river science and related environmental issues.

Our society seeks to promote a basic understanding of the structure (biological, chemical, and physical) and functioning of lotic ecosystems, particularly rivers, through disciplines contributing to the emerging, integrative field of river science; these include, but are not limited to, aquatic and floodplain ecology, civil and environmental engineering, environmental chemistry, environmental policy, fisheries, geographic information systems analysis, geomorphology, hydrology, landscape ecology, mathematical modeling, river conservation and rehabilitation, social sciences and economics, technology applied to river management, and water quality studies.

Objectives of ISRS are:

- Wise stewardship of our natural resources and informed environmental policy, especially as each relates to streams and rivers;
- A strong role in the professional development of river scientists, including students and early-career members who wish to be involved in society activities as participants and leaders;
- Education and training, by encouraging the free exchange of ideas and factual material among teachers, students, and others;
- Communication among members, using the internet, scientific journals, and science conferences.

Membership is open to all persons and groups with interests in river science and a willingness to become both an active participant in ISRS and a supporter of its basic goals.

For further information, please visit: www.riversociety.org



A tribute to Professor Geoffrey (Geoff) Petts

In August 2018 the ISRS lost one of its most, if not the most, liked and respected of its members. The Society without Geoff Petts will never quite be the same as he seemed to be at the centre of everything whether it being planning a new research initiative, writing a research paper, creating a new vision for river science or just being at the bar ordering drinks.

Geoff Petts dedicated his academic life to enhancing our knowledge of firstly impounded rivers and latterly river science. Following his early research at the Universities of Southampton, Bournemouth and Loughborough in the UK examining morphological changes below impoundments Geoff had the vision to produce a book *Impounded Rivers*. This book was notable in that it was truly multi-disciplinary and holistic including hydrology, geomorphology, water quality, and ecological aspects including vegetation, macroinvertebrates and fish. It was a 21st century book written in the 1980s. At this time Geoff also presented at the 1st International Symposium on Regulated Streams (ISORS) and through this community became recognised as an international expert and leader in what we would now call river science. He also hosted the ISORS Conference in Loughborough in 1988 reflecting his ambition to help create a global community of scientists studying natural and managed rivers systems. This ambition was further illustrated by his launching of the *International Journal Regulated Rivers* which later became the journal we know today as *River Research and Application*.

Following his time at Loughborough University where he was made a Professor in 1989 Geoff was appointed Professor of Geography in 1994 at the University of Birmingham also becoming Director of Environmental Science and Management. From 2001 to 2007 he was appointed Pro-Vice Chancellor and then made a move to the University of Westminster as Vice Chancellor and Rector. With regard to recognition in the discipline of river science, Geoff was a member of several scientific advisory committees including the International Council for Science Scientific Committee on Water Research, UNESCO IHP Eco-Hydrology Programme and US Department of the Interior, Fish and Wildlife Service, Long-Term Monitoring Programme for the Upper Mississippi River. In 2007 he was also awarded the Busk Medal of the Royal Geographical Society for his contributions to interdisciplinary research on river conservation. His last appointment of recognition was his Presidency of the British Hydrological Society and even when he knew his time here on planet earth was coming to his end he made sure the 2018 annual British Hydrological Society Conference was going to be a success by organising the programme. This illustrates his dedication to river science.

The International Society for River Science was launched in 2006 and Geoff was immediately made Vice President serving as President from 2011 to 2013. In 2009 he received a Lifetime Achievement Award from the Society. Without the vision and work of Geoff our conference here in Vienna this week would not quite be the same. Many individuals here were Geoff's research students, research collaborators, co-authors but most importantly of all his friends. He will be missed but in his memory we should all strive to advance the subject of river science.

David Gilvear

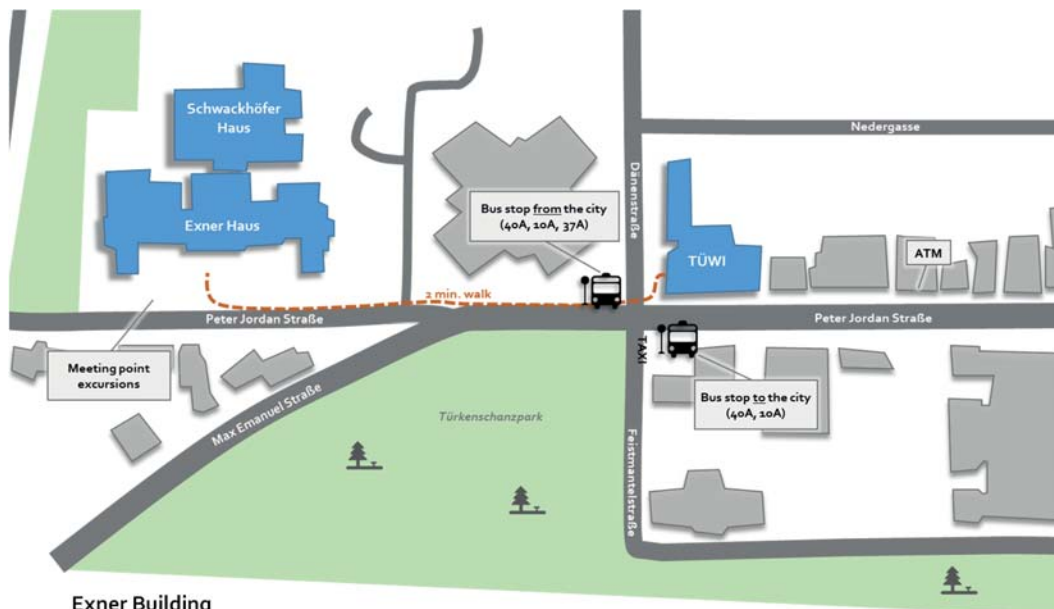


CONFERENCE VENUE

ISRS2019 is taking place at the „Türkenschanze“ area in the 19th district of Vienna. Most conference activities are held at Exner- and Schwackhöfer House, whilst the opening ceremony and keynote lectures are held at the TÜWI building.

Exner- & Schwackhöfer Building
Peter Jordan Straße 82, 1190 Vienna

TÜWI Building
Peter Jordan Straße 76, 1190 Vienna



Exner Building

- all sessions
- ground floor – room 01
- 1st floor – room 02 & 03
- 2nd floor – room 04 & 05

Schwackhöfer Building (enter through Exner)

- **assembly hall:** coffee breaks, poster session, social events (except conf. Dinner)
- registration desk

TÜWI Building

- **auditorium** (opening ceremony, keynote lectures)
- lunch (ground floor)

Bus stops (station: Dänenstraße) are located at the corner of Dänenstraße/Peter Jordan Str.. Lines 40A (city center), 10A and 37A will bring you to and from the venue.

Registration office

The registration office is located on the groundfloor of Schwackhöfer-building, next to the assembly hall. The desk will be attended at all times during the conference.

Please pick up your name tag upon arrival at the conference venue. Delegates arriving on Monday, Sept. 09 are asked to register after the opening ceremony and keynote talk taking place in the main auditorium.

Registration desk opening hours:

Sunday, Sept. 8	17:00-20:00
Monday, Sept. 9	09:00-18:15
Tuesday, Sept. 10	09:00-19:00
Wednesday, Sept 11	09:00-17:30
Thursday, Sept. 12	09:00-18:00

WIFI

WIFI access is available throughout the conference venue.

Lunch & coffee breaks

Lunch will be available from Monday to Thursday for all registered delegates on the ground floor of TÜWI building. Lunch tickets will be handed out upon registration.

During coffee breaks, drinks and light snacks are available in the assembly hall of Schwackhöfer building, next to the registration desk.

Public transportation

Vienna offers reliable, safe and convenient public transportation throughout the city. All trains, trams, buses and subway lines are operated by WienerLinien. Tickets are valid on all lines within the city (except tourist-sightseeing busses) and can be purchased at every subway station, in each tram (little more expensive) and in frequently found tobacco stores („Trafik“) or online (www.wienerlinien.at) There are different ticketing options available. A weekly pass (valid from Monday to Sunday) is available for € 17,10.

To reach the conference venue from your accommodation, the most convenient option is probably to take bus 40A which connects BOKU to the city center of Vienna, bus 10A or bus 37A. All busses stop at station Dänenstraße, almost directly in front of the conference venue.

Airport connections:

A trip from the airport to the city center will take between 20 and 40 min. Go to www.viennaairport.com/en/ for more details.

- ÖBB (train): frequent connections from the airport to the city (Bahnhof Meidling & Wien Hauptbahnhof/main station). Find your connection at: www.oebb.at
- City Airport Train (CAT): connecting the airport and station Wien-Mitte (16 min. non-stop). www.cityairporttrain.com/en/home
- ViennaAirportLines: various bus connections to the city www.viennaairportlines.at/en/. Single trip tickets cost €8.
- Taxis will cost about €40 for a single trip to or from the city.

Presenter information

Oral presentations are organized in 15-minute slots: 12 min. presentation, 3 min. discussion/question. Please prepare your presentation according to this schedule to ensure a smooth functioning of the program. Session chairs will be asked to strictly implement the time limits.

All presenters are required to bring their presentation (powerpoint or pdf format) to the registration desk on a USB drive one day prior to their allocated time slot.

Posters can be set up upon arrival at the conference. Mounting tools for posters (pins, adhesive tape, etc.) as well as technical assistance are available at the registration desk. Posters can remain on the poster walls until Thursday, Sept. 12, 17:00. After this time, remaining posters will be removed by the ISRS staff.

Welcome reception

Sunday, Sept. 8 // 17:00-20:00 // assembly hall

Join the Welcome reception on Sunday for registration, get together with other participants and enjoy a drink accompanied by the BOKU-brass band.

Movie screenings

Monday, Sept. 09 // 18:00-20:30 // assembly hall

Dr. Dave Tickner - Chief freshwater advisor of WWF-UK - will present key messages from the freshwater emergency action plan. Furthermore, the movie "Blue Heart" will be screened in attendance of RiverWatch CEO Uli Eichelmann. The movie tells a story about rivers in the balkan peninsula and the impending destruction of some of Europe's last remaining natural riversystems. Watch the trailer: <https://www.youtube.com/watch?v=LadIBg9bmfg>

Tuesday, Sept. 10 // 19:00-20:30 (after the poster session) // assembly hall

On Tuesday, the documentary "Love Flows" by the World Fish Migration Foundation will be presented in attendance of Herman Wanningen at the assembly hall. Watch the trailer: <https://www.youtube.com/watch?v=jHf7lv9SYQ8&feature=youtu.be>

Conference dinner

Wednesday, Sept. 11 // 18:30-22:30 // town hall Vienna

Rathaus Wien (entrance via Lichtenfelsgasse); 1010 Wien
google maps link: <https://goo.gl/maps/DuzHPziwqUxL7qBC7>

Seize the opportunity to dine inside Vienna's famous historic town hall. As one of the most splendid amongst the numerous monumental buildings along Vienna's Ringstraße, it was designed by Friedrich Schmidt (1825-1891) and erected between 1872 and 1883.

Easy to reach:

Subway: **U2** (Station Rathaus),

Tram: **1, D** (Station Burgtheater)

Calculate approximately 15-20 minutes travel time from conference Hotels.

Keynote lectures

1 Monday, Sept. 9 // 09:30-10:30 @ auditorium TÜWI

Courtney Flint

Department of Sociology, Social Work and Anthropology, Utah State University

A Social Ecology of Rivers: Comparing Human-River Relationships in the U.S. Intermountain West

What is the social ecology of rivers? Recent decades have seen a proliferation of terms that refer to an integration of ecological or hydrological, technological, and social dimensions. Tracing the goals and disciplinary origins of these terms and approaches creates a complex mosaic of approaches. Out of this mosaic, this presentation will explore a broadly conceived social ecology approach guided by four core principles – multidimensionality, diverse methodologies, systems of influence, and transdisciplinarity. Using these principles as a framework, this presentation will examine rivers in the Intermountain West of the United States at both regional and local scales. The data stories that unfold highlight variations in human-river relationships and river-related action contexts. Opportunities and challenges for transdisciplinary research and practice will also be discussed.

3 Wednesday, Sept. 11 // 09:00-10:00 @ auditorium TÜWI

Hervé Piégay

National Center for Scientific Research (CNRS)

Is Geomorphology really an issue in river restoration?

Since the end of the 1980s, River restoration becomes progressively a critical issue in river management. Improving river status was (and is still) a social expectation, translated in legal texts and water policies. The Water Framework Directive in Europe is a good example of such evolution. We are progressively moving from a period where we fought rivers to improve our well-being to a period where we try to live with nature to avoid collapsing, promoting integrated strategies to sustain or be resilient to changes. River restoration is therefore an emerging domain for which we had almost no real experiences and feedbacks, and monitoring effort is then a critical step to learn from our errors and improve our actions. Restoration, at least in its early stages, was mainly based on ecological knowledge. Why then should we consider geomorphology in river restoration? The aim of this talk is therefore to explore and discuss this issue.

Successful restoration is often demonstrated by monitoring ecological indicators.... But the sustainability of restoration is also a condition of success, on which geomorphology can say something. Some examples from the Rhône restoration implemented in the mid 1990's and still monitored will serve to illustrate the purpose. Some rivers are not static but responsive, sensitive and can react to restoration so that after a few years the (re)created ecological habitats are not always the ones we expected. Once again geomorphology can provide knowledge to assess restoration actions that can be appropriate, determine if it is meaningful to play with forms (habitats) or processes, to promote active or passive restoration. Geomorphology is then useful for diagnosing rivers, understanding how they are changing and also why evaluating their current behavior and determining if we can mimic past functioning or imagine a new one based on these new conditions. A large numbers of rivers are "novel ecocomplexes" that cannot recover their past conditions. Restoration is still very opportunist, we restore reaches for which local stakeholders are motivated to act, without evaluating all the problems existing at a regional or national scale to target priorities, and without taking into account river responsiveness. These different points will be illustrated by a series of examples from Belgium, France and Italy.

Keynote lectures

2 Tuesday, Sept. 10 // 09:00-10:00 @ auditorium TÜWI

Klement Tockner

Leibniz-Institute of Freshwater Ecology & Inland Fisheries (IGB) & Austrian Science Fund (FWF)

An engineered water future?

We most likely are just at the beginning of the "great acceleration" of the Anthropocene and therefore underestimate the immense environmental alterations we will face in the near future, in particular in the water sector. For example, humans re-engineer the global hydrological network through the construction of large dams, water transfer megaprojects, and other engineering projects. However, many engineering projects—in particular so-called megaprojects—are high-risk projects because they require major financial investments, demand long time frames from planning to completion, and have major socio-economic and ecological ramifications. Hence, we need internationally agreed criteria to assess the ecological, social and economic impacts of megaprojects; and freshwaters need to be managed as hybrid systems, i.e. as a resource for human use as well as extremely valuable ecosystems.

4 Thursday, Sept. 12 // 09:00-10:00 @ auditorium TÜWI

Núria Bonada

Department of Evolutionary Biology, Ecology and Environmental Sciences at the University of Barcelona

Challenges and opportunities for research and management in Mediterranean-climate rivers

Mediterranean climate conditions are found in five large regions of the world. Rivers in these regions (med-rivers) are unique ecosystems because of their predictable winter flooding and summer drought regimes. These characteristics are key drivers of aquatic and riparian organisms, and the ecosystem functions and services they provide. Med-rivers are hotspots of biodiversity, supporting species adapted to both floods and droughts or using them for part of their life histories. At the same time, flow seasonality drives fluxes of nutrients and organic matter and, consequently, food web dynamics. Med-rivers have been affected for centuries, in some cases millennia, by multiple human activities that increasingly threaten these ecosystems worldwide. These threats include changes in land use, nutrient loads, heavy metal concentrations, salinity, water withdrawals, invasive species and, more recently, xenobiotics or emerging organic pollutants. In addition, future climate change scenarios predict increases in drought conditions and in the occurrence of extreme events, such as floods, heat waves, and wildfires. The diversity of aquatic organisms is declining more rapidly in med-rivers than in rivers anywhere else in the world and, for some taxonomic groups, Mediterranean regions have more introduced than native species. River management in med-rivers requires innovative approaches to account for both natural and human disturbances. Most research conducted in med-rivers has focused on the effects of flow seasonality and human pressures on biodiversity and ecosystem processes; however, there is a still large gap in linking basic and applied research knowledge and in engaging the general public into conservation and management practices. Little ecological and biological information is also available in several Mediterranean regions, and consequently these regions are being slow on implementing sustainable river management policies and species conservation programs.

Workshops

Tuesday, Sept. 10 // 13:45

All workshops at ISRS2019 are held at the main venue (Exner- & Schwackhöfer Building). Delegates need to be signed onto the participants list to take part in a workshop.

If you have not reserved a slot online, check with staff at the registration desk if spots are still vacant.

WORKSHOP 01

Nature-based solutions at different scales in urban and rural river basins

Organized by: Jochen Hack (TU Darmstadt) & Barbara Schröter (Leibniz Centre for Agricultural Landscape Research)

Nature-based Solutions aim to address societal challenges more effectively and adaptively than merely technical solutions, while simultaneously providing human well-being and biodiversity benefits. This workshop starts with Introductory Talks by international experts followed by a World Cafe in order to interactively discuss and gain key insights from inter- and transdisciplinary research and practice on Nature-based solutions to socio-ecological problems in urban and rural riverscapes.

WORKSHOP 02

Critical assessment of techniques for evaluating stream and river temperature and their control factors at multiple scales

Organized by: Moatar Florentina (IRSTEA - France) and Hervé Piégay (University of Lyon CNRS)

Thematically linked to session SP10 "Links between thermal dynamics, hydromorphology and freshwater ecology", this workshop will consist of various short talks and discussions.

Despite advances in stream temperature data collection, analysis and modelling, we still often lack stream temperature data at scales appropriate for evaluating biological processes, managing natural resources (water, fish communities, riparian forest) and targeting restoration and preservation actions. This workshop will focus on a critical overview of techniques available for studying stream temperature and assessing the contribution of drivers. The aim is to address strengths and limitations of techniques, and assess how they can be combined to better understand stream temperature patterns.

Planned schedule:

- Two introductory talks (10 min. each):
(1) issues of the workshop, why is stream temperature a challenging stake? (2) Summary of key-issues raised by the seminar and related to the workshop focus.
- Five short talks (10+5 min. each):
Modelling; field measurements; archived data; optic fiber; airborne/satellite IRT
- Collective discussion (1,5 h)
- Final conclusions (15 min.)

WORKSHOP 03

A socio-ecological perspective to enhance successful river restoration and conservation strategies

Organized by: Gertrud Haidvogel (BOKU IHG) and Susanne Muhar (BOKU IHG)

In recent years, it has become widely accepted that river restoration and conservation depends on the successful integration of the ecological and the societal spheres. Numerous case studies and review papers have been published suggesting a variety of conceptual approaches as well as planning and management strategies. Often, history serves as a baseline to define restoration and conservation targets and to evaluate success. However, a historical perspective involves among others identifying river trajectories or acknowledging that our present river systems have been shaped by past environmental dynamics, ecological changes and societal decisions and their interaction. Previous interventions into river systems not only left environmental legacies such as severely altered river habitats, new species communities or pollution. Often, previous projects created societal or cultural legacies, for example when expectations of local and regional communities have not been met and restoration and conservation projects are subsequently refused.

Based on this observations, the workshop aims at offering an exchange platform for scholars from the ecological and social sciences as well as stakeholders involved in river restoration and conservation. We envisage to discuss different approaches and experiences as well as the benefits and shortcomings of socio-ecological approaches. In particular, we want to address the gains of integrating a historical perspective.

Planned schedule:

- Two introductory talks (10 min. each):
- Three short statements (5 min each):
- Plenary discussion (approx. 30 min)
- Working groups (50 min)
- Plenary discussion & Final conclusions (approx. 40 min.)

Poster session

Tuesday, Sept. 10 // 17:00-19:00 // assembly hall

The poster session will take place at the assembly hall on Tuesday afternoon, displaying a variety of interesting topics on around 50 posters. Also, drinks will be available during the poster session.

All poster presenters are asked to attend their posters throughout the poster session!

Sessions

Regular sessions:

- GS01: Impacts of climate change and mitigation measures
Chair: Andy Large
- GS02: Land use effects
Chair: Katrin Attermeyer
- GS04/06: Invasive species and multiple stressor effects
Chair: Maria Alp
- GS07: Hydrological and morphological impacts
Chair: Gabriele Weigelhofer
- GS08: Monitoring and assessment
Chair: Christian Wolter
- GS09/10/15: Aquatic ecosystem restoration, conservation and management
Chair: Peter Downs & Mateusz Grygoruk
- GS13/14: Environment-biota interaction
Chair: TBA
- GS16: New methodological approaches
Chair: Stephanie Natho
- SP03: Freshwater biodiversity: networks, monitoring, data compilation and publishing
Chair: Astrid Schmidt-Kloiber
- SP04: The environmental flow and water management nexus: implementation challenges, strategies, and outcomes of environmental flow programs
Chair: Sarah Yarnell
- SP05: Role of aquatic plants in river biogeochemistry from source to mouth
Chair: Jonas Schoelnyck
- SP06: Riverine landscapes under pressure - how much complexity is needed to perform integrative research?
Chair: Bernhard Pucher
- SP07: Ecosystem services along rivers and floodplains - an integrative tool to assess and optimize river and floodplain management
Chair: Barbara Stammel
- SP08: Towards the integration of interdisciplinary research networks in restoration projects for riverine landscapes
Chair: Christiane Schulz-Zunkel

Special sessions:

- AJWI: Austrian Joint Water Initiative
Chair: Robert Konecny
- SP01: River rehabilitation and floodplain restoration: methods and measures for sustainable success
Chair: Bernd Cyffka
- SP02: Fish Ecology in Rivers: ecosystem functions and impacts
Chair: Hubert Keckeis

Sessions

- SP11: Rivers in the industrial era
Chair: Gertrud Haidvogel
- SP12: Saving Large Rivers as Ecological Corridors - Management and Restoration
Chair: Thomas Hein
- SP13: Emerging challenges for wild fish populations and their implications in the context of fisheries management
Chair: Günther Unfer
- SP14: Mitigating ecological impacts in a flow-altered world
Chair: Daniel S. Hayes
- SP15: Natural small water retention measures: can we assess impacts on a catchment scale? (Interreg CE Projekt FramWat)
Chair: Tomas Okruszko
- SP16: Rivers: from Source to Sea
Chair: Chris Bradley
- SP17: S.M.A.R.T.: Science for the Management of Rivers and their Tidal systems. Outcomes from a 9-years international doctoral programme in interdisciplinary river science
Chair: Guido Zolezzi
- SP18: Ecological and social landscape-scale drivers of freshwater biodiversity: Novel findings and future challenges
Chair: Rafaela Schinegger
- SP19: Characterising riparian vegetation status and pressures
Chair: Marta Gonzalez del Tanago
- SP20: Riparian ecosystems management and restoration
Chair: Ragnhildur Sigurdardottir
- SP21: Educated future: teaching about rivers and its implications for sustainable river management
Chair: Joanna Zawiejska
- SP22: River resilience and the Anthropocene
Chair: David Gilvear
- SP23: "Future visions" for large rivers
Chair: Clifford A. Ochs
- SP25: Nature-based solutions at different scales in urban and rural river basins
Chair: Jochen Hack

PROGRAM AT A GLANCE

Sunday Sept. 08																			

Monday Sept. 09		09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30
	room 01	Opening ceremony @ auditorium TÜWI		Keynote Courtney Flint @auditorium TÜWI		location change: coffee break, registration @assembly hall		---		SP04a		lunch @ TÜWI building								
	room 02																			
	room 03																			
	room 04																			
	room 05																			

		09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30
Tuesday Sept. 10	room 01	Keynote Klement Tockner @auditorium TÜWI				location change: coffee break @ assembly hall				---						lunch @ TÜWI building				
	room 02									GSo4/o6										
	room 03									SP10b										
	room 04									SP17c										
	room 05	SPo5																		

Wednesday Sept. 11		09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	
		room 01	Keynote Hervé Piégay @auditorium TÜWI				location change: coffee break @ assembly hall				SPo1a				lunch @ TÜWI building						
		room 02									SPo7a										
		room 03									SPo19a										
		room 04									AJWI										
		room 05					GSo1														

Thursday Sept 12		09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30
	room 01	Keynote Klement Tockner @auditorium TÜWI				location change: coffee break @ assembly hall				GS09/10/15a					lunch @ TÜWI building					
	room 02									GS02										
	room 03									GS08										
	room 04									SP13										
	room 05						SP15													

Friday, Sept. 13																			
	tours and excursions (check individual schedule)																		

PROGRAM AT A GLANCE

	17:00	--	20:00	
	Welcome reception, registration @ assembly hall // Schwachhöfer building			

	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	--	20:30
lunch @ TÜWI building	---		SPo4b		coffee break		GS13/14		movie night // drinks @ assembly hall											

	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	--	19:00	19:00	--	20:30
Workshops @ Exner/Schwachhöfer building														Poster session // drinks @ assembly hall			movie night // drinks @ assembly hall		

	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00		18:30	--	22:30
	SPo1b						SPo8							Conference dinner @ Rathaus (town hall Vienna)				
	SPo7b						SPo9											
	SP19b						SP2o											
	SPo2a						SPo2b											
	SP16						SP21											

	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45
	GS09/10/15b						coffee break	---						closing ceremony location TBA			
	SP14a							SP14b									
	SP18a							SP18b									
	SP12							SP25									
	GS16							SP06									

09:00-09:30	Opening ceremony @ auditorium TÜWI
09:30-10:30	Keynote – Courtney Flint @ auditorium TÜWI
10:30-11:30	coffee break, registration @ assembly hall

	Room 01	Room 02
	--	SPo4a
11:30-11:45		Fiona Dyer Designing flow regimes for ecological outcomes - contrasting case studies
11:45-12:00		David Tickner Implementing environmental flows: Insights from international experience
12:00-12:15		Piotr Parasiewicz A Pan-European Environmental Flow Concept
12:15-12:30		Robyn Watts Environmental flow trials in a regulated river in southern Australia: integrating biophysical and social research
12:30-12:45		Anna Rallings Functional Flow Classification for Sustainable Hydropower Operations: Exploratory Applications in the Yangtze River Basin of China
12:45-13:00		Nikki Thurgate Managing environmental flows in Australia: how do we leap from science to management?

Room 03	Room 04	Room 05
SP22a	SP11	SP23
Jason DeBoer: Functional Change in a Large River Ecosystem - the Anthropocene Through a Resilience Lens	Gonçalo Duarte: Requiem for a Migratory Dream - Functional connectivity impairment of diadromous fish species historical distribution throughout the 20th century	Murray Scown: Future coastal river deltas are critical social-ecological systems for achieving global Sustainable Development Goals
Ian Fuller: Geomorphology and river resilience: a wheel reinvented?	Severin Hohensinner: What has remained of the former Alpine rivers?	Martin Tschikof: Evaluation of ecosystem services in the course of hydro-morphological floodplain restoration measures along a large alpine river east of Vienna, Austria
Maciej Liro: Conceptual model of river ecosystem functioning in backwater fluctuation zone of dam reservoir	Gertrud Haidvogel: The Industrialization of River Ecosystem Services - Danube fish and Vienna's fish supply 1880 - 1914	Elisabeth Bondar-Kunze: The importance of heterogeneous shoreline habitats and reconnection of side- arms for ecosystem functions in regulated rivers
Martin Thoms: Resilience, social-ecological systems and risk: the ineffectiveness of water management in the Murray Darling Basin, Australia	Konstantin Ochs: Model based reconstruction of the succession dynamics of a large river floodplain	Frank Collas: Longitudinal training dams - river training of the 21st century
David Gilvear: Resilience as a basis for river management in the Anthropocene - a geomorphic and river science perspective	Lucile De Milleville: Defining hydrogeomorphological changes related to urbanization: the making of a typology of sections from peri-urban watercourses in Paris' region.	Christina Gruber: The Big Muddy - hydrophone recordings to capture invisible feature of rivers
	Emilie Schoofs: Artificial fish shelters: a solution for urban rivers?	

13:00-14:15

Lunch break @ Tüwi building

14:15-14:30

14:30-14:45

14:45-15:00

15:00-15:15

15:15-15:30

15:30-15:45

15:45-16:15

Room 01	Room 02
--	SPo4b
	Sarah M. Yarnell: Stakeholder Engagement in the California Environmental Flows Framework
	Belize Lane: Decision Support Tools for the California Environmental Flows Framework
	Robert Lusardi: Developing ecological flow recommendations for natives fishes when quantifiable relationships are lacking
	Eric D. Stein: Establishing Environmental Flows for Urban Watersheds under the California Environmental Flows Framework
	Martin Doyle: Using conservation finance to incentivize streamflow restoration: the design of an environmental impact bond in the Yakima Basin, Washington
	Xinan YIN: Priorities of Environmental Flow Allocation in A River Basin Considering Waterbird Conservation

coffee break @ assembly hall

Room 03	Room 04	Room 05
SP22b	SP17a	SPo3a
Andy Large: Living Deltas	India Mansour: Interdisciplinary Opportunities in River Microbiome Research	Kurt Lichtenwoehrer: Long-term monitoring of springs in the Berchtesgaden National Park to determine the impacts of climate change
Melissa Parsons: Monitoring and assessing for river resilience: opportunities and challenges for river science	Maja Grubisic: Assessing effects of nocturnal LED illumination on aquatic primary producers	Leopold Füreder: Monitoring alpine rivers as a measure of freshwater biodiversity and change
Simon Dufour: Socio-ecological approach of agricultural practices modification in riparian areas, the example of Brittany, France	Fengzhi He: Diversity and risk patterns of freshwater megafauna: A global perspective	Georg H. Niedrist: Real-time warming of high altitude streams: winners and losers among the invertebrates
Karen Trebitz: Who talks to whom in lake basin management in the Columbia River system: relating communication network dynamics with indicators of water quality and fisheries	Stefano Brighenti: Streams fed by active rock glaciers: habitat, biota and conservation value	Antoni Mas-Ponce: Building socio-ecological indicators to evaluate Global Change effects on Mediterranean river basins. The study cases of la Tordera and Besòs river basins, NE Spain
Jeroen Rijke: The circular economy: a useful perspective for sustainable river management?	Emilio Politti: Effects of an ecological flood on the mesohabitat of an Alpine regulated river	Gertjan Geerling: Near real-time monitoring and prediction of floodplain vegetation development on river reach scale using Sentinel-2 data and Google Earth Engine
Joseph Flotemersch: Mapping stressors to watershed functions using the Index of Watershed Integrity	Giuditta Trinci: Understanding how hydrogeomorphological factors influence fish habitat: a case study of the River Wandle, UK.	Alexandra Zieritz: Status and fate of freshwater mussel biodiversity in Borneo

	Room 01	Room 02
	GS13/14	GS07
16:15-16:30	Stefano Larsen: Testing the River Continuum Concept with geostatistical stream-network models	Michael DeLong: A Framework for Defining the Role of the Hydrogeomorphic Template in Determining Community Composition
16:30-16:45	Dorota Puśłowska-Tyszevska: River-fen interaction as a driver of stress in wetland ecosystems. Case study of Upper Biebrza, Poland	Ulrich Pulg: Quantifying the effect of river morphology on salmonid habitat in post glacial streams
16:45-17:00	Paraskevi Manolaki: Stream bryophyte communities across a gradient of thermal regimes in Arctic streams, Disko island, Greenland.	Ewa A. Dembowska: Phytoplankton development during hydrological extremes in the Lower Vistula oxbows
17:00-17:15	Yanran Dai: Water temperature and water depth shape macrophyte-bacterioplankton interactions in a groundwater-fed river	Peter W. Downs: Multi-year, high resolution data on coarse bedload transport: implications for river science
17:15-17:30	Andrew F. Casper: Comparing the relative importance of biotic versus abiotic factors in large floodplain rivers - Insights from response of fluvial zooplankton to the arrival of the Silver carp, <i>H. molitrix</i> , in the Illinois River	Walter Bertoldi: Sediment transport, grain size distribution and morphodynamics of glacier-fed rivers
17:30-17:45	Paul McInerney: Basal resource quality and energy flow in a lowland river food web	Nikhilesh Singh: Soil Loss Estimation of Mandakini River Watershed of Central India using Universal Soil Loss Equation
17:45-18:00		Ashwani Agnihotri: Evaluation of Morphometric analysis utilizing Geo-informatics techniques for an Indian catchment
18:00-20:30	movie night @ assembly hall	

Room 03	Room 04	Room 05
SP10a	SP17b	SP03b
Stefania Erba: Ecological status and morphological impairment: the evaluation of invertebrate response in rivers affected by bank and channel reinforcement and resectioning	Angela Gurnell: Rivers and Plants: Perspectives on their interactions from the SMART programme	Thapanee Pholdee: Application of Fish-based Index of Biotic Integrity of Aquatic Resources Environment: Case Study of Maengud Somboonchon Dam, Chiang Mai
Ana Juarez: Assessing the impact of hydropeaking utilizing 2D-hydraulic models	Matej Faller: Influence of invasive Himalayan balsam on the structure of native vegetation communities and morphological processes on river banks	Jyoti Verma: Benthic communities of Bundelkhand Rivers with reference to the Proposed Ken-Betwa link
Baptiste Marteau: Assessing the role of weirs and riparian cover on river longitudinal temperature profiles using airborne TIR in a lowland agricultural catchment	Seyed Hossein Mohajeri: An introduction on the Biot-Savart law applications in open-channel discharge estimation	Gonçalo Duarte: Raiders of the Lost Sources - The PHish Database
Roser Casas-Mulet: Assessment of potential thermal refuges based on UAV thermal imagery: a case study of the river Owens, Australia	Marco Redolfi: Coupled morphodynamics of river bifurcations and confluences	Astrid Schmidt-Kloiber: The Freshwater Information Platform: an online network to facilitate monitoring, data compilation and publishing
Laurent Schmitt: Coupling thermal-infrared remote sensing and hydrological modelling to study surface-subsurface water exchanges of a restored side channel of the Rhine River	Federico Monegaglia: Linking theory, remote sensing and data analysis to understand the bedform dynamics of large natural meandering rivers	Sonja C. Jähnig: The Alliance for Freshwater Life: introducing the initiative and ideas for freshwater biodiversity research from local to global scales
	Alyssa Serlet: Scientific impact of a nine-year doctoral program in river science	

09:00-10:00	Keynote – Klement Tockner @ auditorium TÜVI
10:00-10:45	coffee break @ assembly hall

	Room 01	Room 02
	--	GSo4/06
10:45-11:00		Pedro Segurado: Different stressor gradient portions affect detection and identification of stressor interactions in river basins
11:00-11:15		Daniel S. Hayes: A first description of the effects of hydropeaking on the population of cyprinid fishes in Austrian rivers
11:15-11:30		Konrad Górski: The effects of multiple stressors on fish in temperate river systems of central Chile: community responses
11:30-11:45		Nicole Colin: Integration of lipid profile and body condition as diagnosis tool of multi-stressor effect on a native silverside in temperate river systems of central-southern Chile
11:45-12:00		Geta Rîşnoveanu: Response of leaf litter decomposition to invasive plant species <i>Fallopia japonica</i> in streams affected by multiple stressors
12:00-12:15		Christian Pichler-Scheder: Alien species in two tributaries of the Danube - different colonisation pathways and threats to the native communities
12:15-12:30		Claudia Nogueira Tavares: Invasion dynamics of non-native gobies along the Elbe River in Germany

	Room 03	Room 04	Room 05
	SP10b	SP17c	SP05
	Aurélien Beaufort: Modification of regional river water-air temperature relationships by landscape and hydrological controls	Maria Cristina Bruno: Contribution of large-scale mesocosm experiments in interdisciplinary river science: an overview of the SMART experimental activities	Raffaella Balestrini: Groundwater-dependent ecosystems in agro-environments of the Po valley, Italy: Their role in the nitrogen cycling
	Hanieh Seyedhashemi: Simulating water temperature at a regional scale to study the spatial structuration of aquatic communities (The Case of Loire Catchment)	Jaime Gaona: Integrating point and distributed techniques with flow and heat transport modelling for upscaling the identification and quantification of hyporheic processes	Stefen Preiner: Effects of macrophytes on organic carbon cycling in a groundwater-fed lowland river.
	Jochem Kail: Not cool but less warm: An empirical study on the effects of woody riparian vegetation on water temperature	Milad Niroumand-Jadidi: Enhanced Retrieval of Lake Water Quality Parameters from Satellite Imagery by Extraction of Novel Spectral Features	Rosanne Reitsema: Effects of elevated CO ₂ and DOC concentrations on growth, biomass allocation, chlorophyll content and nutrient stoichiometry of submerged macrophytes
	Davide Vanzo: Local river water temperature dynamics of an Alpine river under hydropeaking conditions: a modelling approach	Gregorio A. López Moreira M.: Integrated river basin management in developing countries. Lessons learned from an international intersectoral interdisciplinary effort to better manage the Salado River Basin, Paraguay	Takashi Asaeda: Longitudinal distribution of <i>Egeria densa</i> in a gravel river channel and the ecosystem engineering process for the higher colonization
	Kunio Takatsu: Hydropower thermal effects on the early life stages of brown trout	Klement Tockner: Promoting creativity and teamwork in science	Jonas Schoelynck: Does silicon content of aquatic macrophytes affect bacterial and herbivore decomposition?

12:30-13:45

Lunch break @ Tüwi building

Workshop 01

@ SR Ingenieurbiologie – Schwachhöfer building 3rd floor

13:45- 17:00

Nature-based solutions at different scales in urban and rural river basins

Organizers: Jochen Hack, Barbara Schröter

Duration: approx. 2,5h

17:00-19:00

Poster session // drinks
@ assembly hall

19:00-20:30

Movie night
@ assembly hall

Workshop 02

@ SR Raumplanung – Exner building, 3rd floor

Critical assessment of techniques for evaluating stream and river temperature and their control factors at multiple scales

Organizers: Moatar Florentina, Hervé Piégay

Duration: approx. 3,25h

Workshop 03

@ room 05

A socio-ecological perspective to enhance successful river restoration and conservation strategies

Organizers: Gertrud Haidvogel, Susanne Muhar

Duration: approx. 3h

09:00-10:00	Keynote – Hervé Piégay @ auditorium TÜWI
10:00-10:45	coffee break @ assembly hall

	Room 01	Room 02
	SP01a	SP07a
10:45-11:00	Ian Fuller: An index to assess the success of river and floodplain restoration	Ryan Morrison: Quantitative Assessment of Floodplain Functionality Using an Index of Integrity
11:00-11:15	Frederic Gob: A tool to optimize understanding of hydromorphological characteristics for river management and restauration, Carhyce	Agnieszka Sendek: A broader perspective of floodplain ecosystem functions. Applying measures of multifunctionality in a riparian restoration project.
11:15-11:30	Gregory Pasternack: Using Geomorphic Covariance Structures In River Builder Software To Rehabilitate Whole River Corridors	Seema Karki: Assessment of provisioning and regulating riverine ecosystem services under different network topology
11:30-11:45	Anna Rallings: Biophysical Monitoring of Floods and Floodplains: Spatiotemporal Analysis of the McCormack Williamson Tract Restoration in California's Delta	David Gilvear: A new approach to assessing river ecosystem services and its application to rivers with and without nature conservation designations
11:45-12:00	Evelyne Tales: Toward more effective stream restoration : a demonstration site network to assess efficiency	Barbara Stammel: The River Ecosystem Service Index RESI - a new tool for sustainable floodplain management tested along the Upper Danube
12:00-12:15	Todd Caplan: Rehabilitating channel-floodplain connectivity in highly regulated river systems: A case study from the Middle Rio Grande, New Mexico USA	Christine Fischer: River Ecosystem Service Index RESI -method and application of regulating ecosystem service „habitat provision“

Room 03	Room 04	Room 05
SP19a	AJWI	GS01
Anna Kidová: Riparian vegetation dynamics of the multi-thread river system in Slovak Carpathians	Thomas Hein: Austrian Joint Water Initiative – the situation of aquatic ecosystem management in Austria and future visions	Paweł Napiórkowski: The impact of extreme hydrological conditions on zooplankton of floodplain lakes of a large river; Vistula River, Poland
Stephanie Natho: Do boundaries of Flood Hazard Maps reflect vegetation characteristics?	Robert Konecny: Biotic monitoring for the management of gravel column waters along the March/Thaya-alluvial zones from Rabensburg to Marchegg - Biological baseline survey including chemical and isotope water analysis and an additional eDNA approach	Gerben Van Geest: The effects of extreme water level fluctuations on aquatic vegetation in floodplain lakes along the Lower Rhine
Marta González-Del-Tánago: COST Action CONVERGES : A network approach of riparian vegetation assesement at European scale	Yvonne Spira: IRIS - Integrated River Solutions in Austria	Gabriele Weigelhofer: Effects of drying and re-wetting on biofilm processes in temperate headwater streams
Florian Betz: Biogeomorphology from space: Using optical satellite imagery time series for analyzing the dynamic interaction of vegetation and hydromorphology along the Naryn River, Kyrgyzstan	Norbert Kreuzinger: The next step in wastewater treatment - Removal of toxicological effects by wastewater treatment plants	Florian Borgwardt: Climate change as driver of multiple stressors in riverine ecosystems: interactions of thermal regimes and emerging pathogens stressing brown trout populations in the future
Kasey Moran: Coexisting with cottonwood: a flood-dependent species in a flood-intolerant world	Roland Psenner: tba	Christiane Zarfl: Future hydropower dams threaten freshwater megafauna species worldwide
Carolyn Seele-Dilbat: Short-term temporal and spatial dynamics of herbaceous vegetation and their drivers in a highly regulated floodplain system.		Hiranya Jayasanka Senavirathna: Effects of short duration exposure of different salinity levels on Ceratophyllum demersum

12:15-13:45

Lunch break @ Tüwi building

	Room 01	Room 02
	SP01b	SP07b
13:45-14:00	Bernd Cyffka: Restoration of Floodplain Ecosystem Functions: Case Study of the Danube Floodplain between Neuburg and Ingolstadt, Germany	Mauro Carolli: River hydromorphology and ecosystem services: the HyMoCARES approach
14:00-14:15	Thomas Chrobock: Three Projects - One Goal: Restoring The Lower Rhine's flood plain	Mathias Scholz: Challenges in using Ecosystem Services in Floodplain and River Restoration: Example of the - Case Study Lebendige Luppe" - Revitalization Project in Leipzig's Urban Floodplain Forest - Elbe Catchment"
14:15-14:30	Jeroen Rijke: Principles for sustainable floodplain management in the Netherlands	Bernd Cyffka: Putting riparian ecosystem restoration and flood risk management together: Analyzing ecosystem services in the context of the Danube Floodplain Project
14:30-14:45	Afua Owusu: Re-operating dams to provide environmental flows: From recommendation to practice	Laszlo Galambos: Stakeholders participation in the process of development of protected area management plans using the Analytic hierarchy process - AHP and the concept of ecosystem services
14:45-15:00	Twan Stoffers: Temporal changes in sensitive rheophilic fish communities: the effects of 20 years of floodplain management in the lower river Rhine, the Netherlands	Kerstin Böck: Ecosystem services - an integrative approach to link river landscape management with society's demands
15:00-15:15	Armin Lorenz: Continuous biodiversity changes in a ten-years-post-restoration-study - causes and pitfalls	

15:15-15:45

coffee break @ assembly hall

Room 03	Room 04	Room 05
SP19b	SP02a	SP16
Tanya Doody: A spatially and temporally dynamic riverine vegetation model to inform environmental flow management	Ruben van Treeck: Fish species sensitivity classification for environmental impact assessment, conservation and restoration planning	Sina Bold: DANUBIUS-RI: A pan-European Research Infrastructure for Advanced Studies on River-Sea Systems
Lena Kretz: From the leaf scale to the floodplain: Effects of herbaceous vegetation structure on sediment retention	Ana Sanchez-Perez: Functional response of fish assemblage to multiple stressors in a Mediterranean river	Mario Eckert: Effectiveness of Vertical Slot Fishways under experimental non-uniform flows
Takashi Asaeda: Application of hydrogen peroxide indicator to evaluate the habitat preference of plant species in the riparian zone	Heiko Schmidt: Comparing fish Species Distribution Models on different scales as a tool to optimize river restoration projects	Chris Bradley: Linking Rivers to Seas: key challenges in developing a research infrastructure spanning freshwater and marine systems.
Andreas Gericke: How do riparian buffer zones affect nutrient emissions and loads in river systems? A new modelling approach applied in two German catchments	Gregory Pasternack: Relative Resilience of Pacific Salmonid Lifestages to Physical Habitat Loss	Mark Stone: An Investigation of Restoration Alternatives in the Colorado River Estuary
Paraskevi Monolaki: Global overview of ecosystem services in riparian vegetation	Daniel Dail: Evaluation of fish migration patterns in the lower reaches of the River Enns using passive integrated transponder tags: results after 3 years of experience	

	Room 01	Room 02
	SPo8	SPo9
15:45-16:00	Christiane Schulz-Zunkel: Challenges in the implementation and scientific monitoring of restoration measures along large rivers using the Lower Mulde as an example	Didier Pont: Fish-eDNA sampling strategy in river: sampling effort and spatio-temporal representativeness
16:00-16:15	Mario Brauns: Organic matter sources in riverine food webs: Importance of hydromorphology and season	Frédéric Rimet: Use of DNA-metabarcoding for diatom monitoring: from proof of concept to routine use.
16:15-16:30	Renata Pinto: Understanding the effects of hydrology on nitrogen cycling and nitrous oxide emissions in riverine landscapes	Phil Davison: Using eDNA surveys to map distributions of non-native fishes in river basins
16:30-16:45	Christine Anlanger: A novel scaling concept to relate abiotic diversity to biodiversity in lotic ecosystems	Philippe Blancher: Scenario and action plan for the deployment of genomic for water quality biomonitoring in France
16:45-17:00	Ingo Schnauder: River Mulde, Germany - Transient storage of wake flows induced by large woody debris	Tamara Schenekar: Fish diversity assessment in the headwaters of the Volga River using eDNA metabarcoding and species-specific qPCR
17:00-17:15	Cedric M. Gapinski: River restoration using wood: Does the use of quantified and monetized ecosystem service information increase acceptability for the measures?	
18:30-22:30	Conference dinner @ Vienna town hall (Rathaus)	

Room 03	Room 04	Room 05
SP2o	SPo2b	SP21
Delphine Jaymond: First analysis of a large panel of restoration operations on riverbanks with bioengineering techniques in France	Tobias Epple: The upstream migration of juvenile and adult grayling <i>Thymallus thymallus</i> through five fish-bypass channels correlated to environmental factors.	Eva Feldbacher: Learning about rivers - examples, approaches and experiences of education-research-cooperations from pre-school to high school
Bartłomiej Wyzga: Spatial variation and seasonal differences of ground beetle assemblages in a mountain river subjected to restoration	Michael Schabuss: Fish-ecological monitoring of the near-natural fish bypass at the Greifenstein hydro-power plant on the Austrian Danube -results of the first monitoring year.	Joanna Zawiejska: Formal education about rivers and its significance for sustainable river management
Xiaoya Deng: Impact of surface runoff and temperature on the radial increment of <i>Populus euphratica</i> in arid region, China	Håkon Sundt: Physical instream characteristics in two Norwegian rivers with European grayling observations	Tomasz Padło: Danube as a Symbol of Europe. Perception of the River from Varied Spatial Perspectives
Molly Van Appledorn: Characterizing inundation regimes in space and time to inform floodplain forest management in the Upper Mississippi River System, USA	Amina Price: Riverscape recruitment: a conceptual synthesis of drivers of fish recruitment in rivers	Jan Fliervoet: A collaborative game to enhance sustainable river basin management in Indonesia
Patricia María Rodríguez-González: Status and needs on genetic resources conservation across European riparian ecosystems	Hubert Keckeis: Effects of side-arm reconnection in a large river on hydro-morphological conditions and main trophic levels.	James Vonesh: Building a framework for the River-based Immersive Education & Research Field Studies Network
Roland Jansson: Analysing socio-ecological responses to riparian vegetation degradation across Europe through the CONVERGES COST Action Network		

09:00-10:00	Keynote – Núria Bonada @ auditorium TÜWI
10:00-10:45	coffee break @ assembly hall

	Room 01	Room 02
	GSo9/10/15a	GSo2
10:45-11:00	Cybill Staentzel: What do we learn from transition matrix modeling applied to river science?	Sarah Mager: Can land use predict particulate organic matter in New Zealand rivers and its influence on turbidity and suspended sediment relationships?
11:00-11:15	Michael Blazewicz: Fluvial Hazard Zone Mapping: Hazard Planning with Secondary Benefits	Gabriele Weigelhofer: Effects of agricultural land use on the quality of dissolved organic matter in streams and its degradation by benthic microorganisms
11:15-11:30	Katrin Teubner: Response of phytoplankton and zooplankton to restoration and climate warming in urban Alte Donau over more than 20 years	Frank M. Thomas: Growth and water relations of riparian poplar forests in Central Asia
11:30-11:45	Jeroen Rijke: Towards a plastic free Mekong delta	
11:45-12:00	Austin Mtethiwa: Occurrence and extent of infection of intermediate hosts snails of Schistosomiasis by Schistosoma cercariae in the communal water reservoirs in Malawi	Ankit Tewari: Studying the effect of urban development on Varuna River at Varanasi, India – a case study
12:00-12:15	Apinun Suvarnarsaksha: Sustainability of Protein Sources Security and Fish Diversity in the Northern Thailand.	

	Room 03	Room 04	Room 05
	GSo8	SP13	SP15
	Ashwani Kumar Agnihotri: Modelling channel planform dynamics of Ramganga River, India	Maria Alp: Spatio-temporal dynamics of brown trout dispersal at different life-stages: combining several sources of evidence.	Mateusz Grygoruk: Pros and cons of the use of land reclamation systems for increasing water retention capacity in a large lowland catchment
	Nilendu Das: Periodic monitoring of thermal variation in rivers using satellite images	Günther Unfer: Proliferative kidney disease - PKD, a new threat for native brown trout - Salmo trutta - populations in Austria	Ignacy Kardel: Methodology of Landscape Valorisation for Planning of Natural Small Water Retention Measures
	Leonardo Zoltan: Verification of a macroinvertebrate field screening method at three hydropeaking affected Austrian rivers	Paul Meulenbroek: Ecological Responses of Fish to Engineered Mitigation Measures at the Danube Hydropower Impoundment Vienna, Austria	Dorota Puśłowska-Tyszevska: Static Tool - a concept for assessing the effects of natural, small water retention measures
	David Farò: Testing unsupervised 2D hydraulic modeling-based techniques to model fish habitats at the meso-scale in the Mareit-Mareta River, NE Italy	Festus Idowu Adeosun: Effect of seasonal variation on abundance and sex ratio distribution of the fish fauna of Ikere Gorge, Oyo State, Nigeria	Dorota Mirosław-Świątek: Coupled hydrological and hydraulic model as a tool to assess NSWRM for flood mitigation - the Kamienna River case study in Poland
	Salar Ali: Ecological health assessment of alpine lotic ecosystems in Khunjerab National Park, Upper Indus Basin, Gilgit-Baltistan, Pakistan	Catherine Boisseau: Catfish density estimation using unnamed aircrafts census and underwater observations	Damiano Baldan: Catchment scale implementation of natural small water retention measures to improve river habitat and reduce siltation risk
	Elisabetta De Vito-Francesco: Investigative monitoring of surface water quality using autonomous surface vehicles equipped with innovative detection technologies	Steven Weiss: Eurasian otter Lutra lutra population estimates in Carinthia and Styria: a success story and a dilemma – reflections on predator-prey relations in a cultivated landscape	Primož Banovec: Spatial, temporal and institutional integration of water retention measures in complex catchment

12:15-13:45

Lunch break @ Tüwi building

	Room 01	Room 02
	GS09/10/15b	SP14a
13:45-14:00	Tom Buijse: Riparian zone recovery following the large-scale removal of bank protection in a large impounded and navigable river	Alban Kuriqi: Shifting e-flows Determination Paradigm in Run-of-River Hydropower Plants
14:00-14:15	Marylise Cottet: "It's dry, it has less charms!": how do perceptions of intermittent rivers influence the management of these complex socio-ecological systems	Daniel S. Hayes: A national assessment of the response of European grayling, <i>Thymallus thymallus</i> , in hyporhithral rivers to hydropeaking
14:15-14:30	Jean-Nicolas Beisel: Post-restoration dynamics of habitats, aquatic vegetation and benthic macroinvertebrates following a unique controlled erosion action in the Upper Rhine	Miguel Moreira: Hydropeaking mitigation through a diversion Hydropower plant scheme: the GKI study-case [Tyrol, Austria]
14:30-14:45		Lisa Schülting: Macroinvertebrate drift following hydropeaking simulations considering trait-specific responses
14:45-15:00		Ana Adeva-Bustos: A framework to identify cost-effective mitigation measures using Bayesian Networks
15:00-15:15		

15:15-15:45

coffee break @ assembly hall

Room 03	Room 04	Room 05
SP18a	SP12	GS16
Rafaela Schinegger: A cross-continental evaluation of the response patterns of fish assemblages to landscape-scale human stressors in European' and United States' major freshwater habitats	Céline Le Pichon: Historical changes in the ecological continuity of the Seine River for diadromous and freshwater fish: focus on physical and chemical discontinuities since the middle of the 18th century	Allen Curry: Remotely sensed, high resolution, catchment scale habitat mapping for rivers
Jared Ross: Assessing Condition of Stream Fish Habitats throughout the Mississippi River Basin	G. Frank: The Danube WILDislands Ecological Corridor - Protection, Management and Restoration	Keigo Nakamura: Booming three-dimensional planning for river restoration
Craig Paukert: Linking Local to Landscape Metrics to Aquatic Biodiversity to Prioritize Streams in a Diverse Landscape	Maroš Kubala: Modelling of potential sturgeon habitats in the Danube river and its tributaries	Piotr Parasiewicz: Conceptual model of ecological impacts of barriers in EU considering fish habitat selection criteria for running waters
Joanna Whittier: The influence of best management practices on stream biota	Ladislav Pekárik: Reconnecting potential of the river sections with the historical occurrence of sturgeons in Slovakia	Carina Seliger: Strategic tools for eco-sustainable hydropower development
Mickaël Le Gall: The effect of woody riparian buffer strips on river macroinvertebrates: A comparative and complementary study on two large datasets from Central Europe - a focus on general effects in a French dataset	Daniel Trauner: From Source to Sea – Comparing Driver-Pressure-State Relations in the Upper, Middle, and Lower Danube	
Martin Palt: The effect of woody riparian buffer strips on river macroinvertebrates: A comparative and complementary study on two large datasets from Central Europe - a focus on specific effects in a German dataset	Thomas Hein: Challenges in the management of large rivers – the importance of floodplains at whole river scale	

	Room 01	Room 02
	--	SP14b
15:45-16:00		
16:00-16:15		Paulo Branco: Ecohydraulics of non-uniform flows in Vertical Slot Fishways
16:15-16:30		Susana D. Amaral: Passage performance of potamodromous cyprinids negotiating low-head ramped weirs
16:30-16:45		Paulo Branco: Improving fish transit times: An experimental approach to develop a holistic fish passage
16:45-17:00		Bernhard Wegscheider: Modelling existing and future fish habitat under variable management scenarios in a large regulated river
17:00-17:15		Simon Führer: Spawning channels - an innovative restoration concept to secure key habitats in heavily modified water bodies?
17:15-17:30		
17:30-18:00	Closing ceremony Location TBA	

Room 03	Room 04	Room 05
SP18b	SP25	SP06
Kamila Belka: European Fish Community Macrohabitat Types - a baseline for river management.	Patrick Meire: Nature based solutions crucial to manage an estuary in times of global change	Joanna O'Keeffe: Climate change impact assessment on the hydrological regime of rivers and the availability of habitats important for water birds
Petr Zajicek: All kinds of inland navigation significantly add to multiple pressures on fish in large rivers	Barbara Schröter: How to integrate different governance levels for NBS? - the example of a River Basin Organization in Costa Rica	Martin Schönhart: Integrated scenario analysis of water quality policies in Austrian agriculture under climate change
Markus Venohr: AQUATAG - Preferences, dynamics and ecological consequences of water-bound recreational activities	Jochen Hack: Nature-based solutions of different spatial scales to improve the urban water cycle	Matthias Zessner: A novel integrated modelling framework to assess the impacts of climate and socio-economic drivers on land use and water quality
Hossein Mostafavi: Survey riverine landscape in the Caspian Hyrcanian Mixed Forests ecoregion in Iran- toward expanding river restoration knowledge in Iran	Mario Brillingner: The uptake of nature-based solutions in German flood risk management plans: Comparing institutional structures and plan outcomes within three different governance regimes	Christiane Zarfl: Global Dam Watch - a one-stop shop to provide critical information on the location and characteristics of dams and reservoirs on a global scale
Yushun Chen: Challenges in restoring aquatic biodiversity in the Yangtze River Basin under multiple human landscape stressors	Gonzalo Pradilla: Social-ecological assessment of tropical urban rivers and restoration opportunities: blue-green infrastructure for Jarabacoa, Dominican Republic	Stephanie Natho: Quantifying ecosystem services in floodplains on landscape scale - under consideration of floodplain condition and catchment characteristics
William W. Taylor: Assessing the importance of riverine fisheries as metacoupled human and natural systems	W. Cully Hession: Nature-based Restoration of a Small Urban Stream in Blacksburg, VA, USA	Poster presentation and discussion of HR21 doc-students
Dana Infante: Assessing the contribution of protected landscapes for conserving river fishes across the United States	Veronica Alejandra Neumann: Costa Rica's readiness in the implementation of Nature-Based-Solutions: A methodology of policy assessment	

Posters

GS01

Laura Coulson: Effects of drought length on the hyporheic microbial processes of intermittent streams

GS02

Elmira Akbari: The effects of a forested channel section on the phosphorus buffering capacity of fine sediments in an agricultural stream, Thayatal National Park region, Austria

Tania Sosa: The effects of different DOM sources on stream bacterial activity

GS07

Selin Kubilay: Anthropogenically altered flow affects compositional variance of dissolved organic matter.

GS08

Ioana, Perşoiu: Environmental Impact Assessment along Someşul Mic River (Transylvanian Depression, Romania) from an historical perspective

GS09/10/15

Ana Sanchez-Perez: Use of fish passes in a highly regulated Mediterranean river: experience of LIFE+ Segura-Riverlink

Cybill Staentzel: Improving habitat quality through restoration: a key for the protection of aquatic biodiversity and its related ecosystem services

GS13/14

Christiane Zarfl: High-throughput sequencing reveals dynamics of a river plankton bloom in response to a strong nitrogen pulse

GS16

Shishir Gaur: Modelling Of River Water Level Using Artificial Neural Network Algorithm and WA-SVR Model

Felix Dacheneder: From drone flight to numerical model: Comparison of the application of two photogrammetric softwarepackages

SP01

Bartłomiej Wyżga: Changes in fluvial processes induced by the restoration of an incised mountain stream

Stefania Erba: In-stream substrate and invertebrates assemblages: the importance of microhabitat mosaic in defining the Ecological Potential in heavily modified rivers

Thomas Wippick: Wilde Mulde Restoration Project: Looking at the Effects of Floodplain Reconnection on Nutrient Retention

SP03

Gonçalo Duarte: The River Network Toolkit - a software for freshwater ecology

SP04

Felix Neuendorf: Sustainability assessment of agricultural water use as part of a remote sensing management and monitoring tool

Ewelina Szalkiewicz: Impact of hydromorphological alteration on environmental flow assessment for macroinvertebrates

SP05

Philipp Mayer: Effects of macrophytes on nutrient cycling in a groundwater-fed lowland river

Stefan Lötsch: Effects of Macrophytes on nutrient cycling and metabolism in lowland rivers of lower Austria

SP06

Damiano Baldan: An integrated modeling framework to track the impact of agricultural activities on riverine ecosystems

Matthias Pucher: Assessing the necessary complexity and effort to quantify nutrient uptake processes in river systems using different modelling approaches

Lena Simperler: Integrative framework for communicating pluvial flood risks

Melanie Haslauer: Integrative water resource management on the example of freshwater fish aquaculture - An overview of methods and parameters used in studies on production potentials

SP07

Gonçalo Duarte: Project CERES, Forest and riparian landscape connectivity at Southern Europe - SUDOE - space

Gonçalo Duarte: Project Optimus Prime - Optimal greening of irrigated farmland to achieve a prime environment

Miriam Glendell: Modelling the risk of water pollution impacts on ecosystem services in the

SP09

Estelle Lefrancois: Implementation of genomic tools in water quality biomonitoring: comparison between the French and the English model.

SP10

Matteo Redana: Thermotolerance: a GAM-DLNM Approach to Navigate Between Natural and Dammed Sites in Different Climatic Conditions.

SP11

Christiane Zarfl: Wastewater treatment plant effluents change microbial communities in river bed sediments

Frédéric Gob: The PARISTREAMs Project

SP12

Polona Pengal: Migratory fish habitat mapping in Mura River in Slovenia

SP13

Karoline Waldner: Newly emerging effects in riverine ecosystems: combined effects of climate change and malacosporean infections on brown trout

SP14

Miguel Moreira: LUNKERS-type structures as potential hydropeaking flow-refuges for Iberian barbel (*Luciobarbus bocagei*) in experimental conditions

Erik Van Rooijen: A New Method for Predictive Mesohabitat Modelling

Alban Kuriqi: A Global Overview on Ecological Impact of Small-Scale Hydropower Plants

SP16

Jana Friedrich: River-born and climate drivers control summer hypoxia on the North-Western Black Sea Shelf

Paulo Branco: Managing river barriers at both sides of the Atlantic - a research plan

SP17

Tarun Bisht: Meandering and hydraulic patterns in a dynamic lowland river

Cagri Gokdemir: Stochastic model of tunnel discharge impact on land surface vegetation

Roshni Arora: Thermal discontinuities along a lowland river: the role of land use

Guido Zolezzi: SMART Research: Outcomes of a nine-year international interdisciplinary doctoral programme in river science

Milad Niroumand-Jadidi: Advanced Methods for Remote Sensing of Fluvial Hydromorphology

SP19

Anna Kidová: Riparian zone changes and trends of development on national level - Slovakia

Jiri Jakubinsky: Riparian habitat quality evaluation in the Czech Republic - development of a new methodological approach

SP20

Paweł Mikuś: Island development in a mountain river as an effect of channel renaturalization: the Raba River, Polish Carpathians

Maciej Liro: Changes in river-forest-human interactions in a dam reservoir backwater zone of a Carpathian stream

SP21

James Vonesh: Using riverine rock pool communities for collaborative course-based research experiences in biodiversity and spatial ecology

SP22

Karol Witkowski: The man impact on channel patterns transformation

Maria Cristina Bruno: Hyporheic zone and resilience in intermittent mountain streams

Elena Shestakova: Resilience assessment of the large river basins in the Russian Arctic

Excursions

Friday, Sept. 13 // meeting point for all excursions in front of Exner building

All tours are held on Friday, Sept. 13. Tickets for the tours have to be purchased in advance. Remaining tickets are offered at the registration desk on a first come – first served basis. Buses will take and bring delegates to the conference venue. Please be at the meeting point (in front of Exner building) in time to ensure a smooth procedure.

TOUR 01 - Integrated river engineering strategies at the Danube river

organized in cooperation with via donau

The boat-trip will pass various river engineering measures realized within the "Catalogue of Measures for the Danube east of Vienna", designed to stabilize the decrease in water levels, preserve the unique habitats of the Danube floodplains and create a waterway infrastructure that fulfills the requirements of safe and economic navigation.

In order to achieve these goals, viadonau continually carries out maintenance and conservation activities and implements river engineering optimisation projects. This Catalogue of Measures is the result of an integrative planning process and is based on the findings of optimised waterway and traffic management, as well as the multi-year concept and pilot project phase of the 'Integrated River Project on the Danube East of Vienna' (FGP). Besides involving various different interest groups, the scientific monitoring and accompaniment of measures, plays an important role in finding and achieving socially and environmentally compatible solutions.

The tour fee includes all transportation and a light snack onboard of the ship. Please bring adequate clothing. Although the ship has some covered areas - be prepared for being outdoor and near the water.

07:45-08:30	departure from BOKU conference venue and drive to Vienna Danube marina
08:30-12:00	boarding of vessel, passage of the shipping lock of Powerplant Freudenau, passing various river engineering measures, onboard morning snack
12:00-12:30	arrival in Hainburg; departure back to conference venue by bus (drop-off at Vienna int. airport possible if declared in advance at the registration desk)
~13:30	arrival at Boku conference venue

TOUR 02 - Wachau valley and Traisen river - reconnecting side arms and rebuilding rivers

organized in cooperation with via donau and VERBUND

This tour will take you along the Danube to the world famous Wachau valley 80 km upstream of Vienna and the recently rebuilt lower Traisen river – one of Europe's largest river-rehabilitation projects.

In the Danube downstream of Melk – the UNESCO world heritage site Wachau valley – viadonau is involved in enhancing the habitat quality of the Danube river system, particularly through the re-connection of side arms and the creation of in-stream and shoreline structures. The side arm system Schallemmersdorf/Grimsing with a total length of 4 km as well as a side arm at Schönbüchel with a length of 1.5 km were created in the course of an EU funded LIFE+ project. These backwaters are now connected year-round to the main river and provide important and wave protected habitats for fish of the Danube. The thereby induced variability and multitude of aquatic and terrestrial habitat types along the Danube underlines the ecological value of such measures. Because of its sustainable contribution to the quality of habitats and the high conservation status of the flora and fauna in the project area, the initiative was awarded Best LIFE Nature Project 2015 by the European Commission. Downstream of the Wachau valley, below the hydropower plant Altenwörth, the Life+ Traisen project - Austria's largest river restoration project - has transformed the lower reaches of the Traisen river into a diverse floodplain landscape. A near-natural river course with a variety of bank habitats was created completely from scratch. The new riverbed of the Traisen now comprises an ecologically valuable river delta along a stretch of 9.4 km, including morphological dynamics, extensive lowerings of the surrounding area and numerous newly established stagnant water bodies. Construction works started in 2013 and were completed in autumn 2016. First conclusions from the ongoing monitoring period will also be presented during the fieldtrip to the Traisen.

The tour fee includes all transportation, presentation of the visited project areas by the organizing partners and lunch. Please bring adequate clothing - be prepared for being outdoor and near the water.

08:30-09:30	departure from BOKU conference venue and drive to Krems
09:30-10:20	stop at viadonau in Krems; short introduction to projects, morning coffee
10:20-10:50	drive to Schallemmersdorf
10:50-12:15	visit of reconnected side arm system (LIFE+ Mostviertel Wachau).
12:30-13:45	lunch at local "Heuriger" in Dürnstein
13:45-14:45	drive to Traisen river
14:45-17:30	visit of the newly built river system of the lower Traisen river (LIFE+ Traisen)
~17:30	drive to Vienna / optional stop at hydropowerplant Greifenstein - visit of fish migration facility
~19:00	arrival at BOKU/conference venue

TOUR 03 - Boat tour in the Danube National Park

organized by ISRS2019 in cooperation with the Donau Auen national park.

This tour will be held as a gentle rafting trip (suitable for all ages) along the Danube in the national park stretch east of Vienna.

Situated between the European capitals Vienna and Bratislava, the Donau-Auen National Park preserves the last remaining major wetlands environment in Central Europe. Here, the Danube is still free flowing and forms unique wetland habitats that have become increasingly rare in the upper Danube. This swath of precious land has been protected as a National Park since 1996. What makes the Donau-Auen National Park so unique? It's the richness and diversity of habitats created and sustained by the free-flowing Danube – together with the Wachau valley, the last remaining near-natural stretch of the Austrian Danube. The Danube wetlands boast a huge variety of flora and fauna. Sustaining and promoting the expansion of these diverse species is one essential mission of the National Park. The National Park rangers organizing this tour can offer special insights into this.

“Observe first hand and comprehend the fascination of nature's cycles. Discover the beauty of the region, and dive into the wonderful world of the Danube wetlands.”

Nature can be unpredictable - Please note that this tour cannot take place in the event of flooding or dangerous weather conditions. The tour fee includes all transportation, the guided rafting tour and a light snack. No boat- or rafting experience is required, but make sure to bring adequate clothing for an outdoor activity (rain cover, sun-screen, maybe even a swimming suit).

08:45	departure from BOKU/conference venue and drive to Orth/Danube
09:45	arrival and short introduction by National Park guides
10:00-13:00	rafting tour on side arm and the free flowing Danube along the national park
13:00-13:30	stop on the shore of the Danube / small snack
13:30	departure from Orth
14:30	arrival at BOKU/conference venue

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The organizers would like to thank the sponsors and supporters of ISRS2019 for making this event possible.

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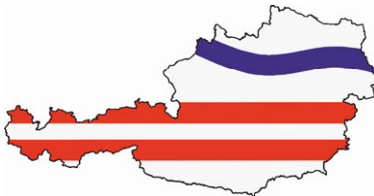
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