

The Doctoral School “Human River Systems in the 21st century (HR21)” is currently seeking

## 15 PhD Positions in new FWF-Program “Industrialized Riverine Landscapes” (IRL) (Reference code: 39)

Extent of employment: 30 hours per week  
Duration of employment: 1<sup>st</sup> of September 2024, limited to 31<sup>st</sup> of August 2028

Workplace: Vienna

Gross monthly salary and pay grade in terms of collective agreement for university staff (payable 14 times per year): B1 € 2.684,10

The new doctoral program IRL (<https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/description-of-the-conceptual-approach-and-the-three-research-fields>) builds on the research framework of the doctoral school HR21 (<https://hr21.boku.ac.at>) and is based on the common conceptual foundation of coupled socio-ecohydrological systems. IRL aims at a better understanding of sustainable transformation processes in river systems, therefore our research focuses on changes in social, ecological and hydrological systems and their coupling.

The following 15 PhD projects will be realized as part of the HR21 DocSchool:

**Topic 1:** Role of hydrological extremes (floods) for sediment transport and morphodynamics in the human-river system; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-1-role-of-hydrological-extremes-floods-for-sediment-transport-and-morphodynamics-in-the-human-river-system>

**Topic 2:** Material resources demand and flows of hydraulic structures to prevent societal impact of extreme events (social ecology, environmental history); <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-2-material-resources-demand-and-flows-of-hydraulic-structures-to-prevent-societal-impact-of-extreme-events-social-ecology-environmental-history>

**Topic 3:** Intermittent flow – hydrological effects and impacts on benthic communities, ecological state and functioning of riverine systems; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-3-intermittent-flow-hydrological-effects-and-impacts-on-benthic-communities-ecological-state-and-functioning-of-riverine-systems>

**Topic 4:** Drought, low flow and warming – hydrological effects and impacts on the ecological state and functioning of river systems; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-4-drought-low-flow-and-warming-hydrological-effects-and-impacts-on-the-ecological-state-and-functioning-of-river-systems>

**Topic 5:** Water transit time distributions as indicators for the vulnerability of riverine ecosystems under different pressures from social metabolism; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-5-water-transit-time-distributions-as-indicators-for-the-vulnerability-of-riverine-ecosystems-under-different-pressures-from-social-metabolism>

**Topic 6:** Analyzing possible contributions of re-activated former watercourses towards a more sustainable transformation of industrialized riverine landscapes in urban areas; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-6-analyzing-possible-contributions-of-re-activated-former-watercourses-towards-a-more-sustainable-transformation-of-industrialized-riverine-landscapes-in-urban-areas>

**Topic 7:** The role of the latest industrial revolutions on instream processes and ecological vulnerability of IRL; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-7-the-role-of-the-latest-industrial-revolutions-on-instream-processes-and-ecological-vulnerability-of-irl>

**Topic 8:** The effects of infrastructure development on ecological and ecosystem service network properties in river systems; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-8-the-effects-of-infrastructure-development-on-ecological-and-ecosystem-service-network-properties-in-river-systems>

**Topic 9:** The impact of urban settlements on organic matter and nutrient flows in industrialized riverine landscapes – What can we learn from the past?; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-9-the-impact-of-urban-settlements-on-organic-matter-and-nutrient-flows-in-industrialized-riverine-landscapes-what-can-we-learn-from-the-past>

**Topic 10:** Urban metabolism, a river's ecohydrology and industrialization: Vienna and the Danube, 1800-2000; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-10-urban-metabolism-a-rivers-ecohydrology-and-industrialization-vienna-and-the-danube-1800-2000>

**Topic 11:** Impact of external organic matter sources on nutrient, sediment and water transport from cropland into streams; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-11-impact-of-external-organic-matter-sources-on-nutrient-sediment-and-water-transport-from-cropland-into-streams>

**Topic 12:** Impacts of bioenergy crops used as riparian buffer strips on stream ecosystems' functioning; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-12-impacts-of-bioenergy-crops-used-as-riparian-buffer-strips-on-stream-ecosystems-functioning>

**Topic 13:** Sustainable hydropower & and the water-energy-food nexus in multi-stressed IRLs: Challenges and solutions for science & management; <https://boku.ac.at/en/docservice/doctoral-studies/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-13-sustainable-hydropower-and-the-water-energy-food-nexus-in-multi-stressed-irls-challenges-and-solutions-for-science-management>

**Topic 14:** Integrated modelling of farmers' climate change impact and adaptation appraisal to inform regional human river nexus management; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-14-integrated-modelling-of-farmers-climate-change-impact-and-adaptation-appraisal-to-inform-regional-human-river-nexus-management>

**Topic 15:** Strategic planning approaches to territorial governance of industrialized riverine landscapes; <https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen/human-river-systems-in-the-21st-century-hr21/15-new-phd-positions-open-in-new-fwf-programme/topic-15-strategic-planning-approaches-to-territorial-governance-of-industrialized-riverine-landscapes>

Further information on the application process: <https://short.boku.ac.at/q9ry2k>

### Required skills and qualifications

- Diploma degree in a subject area depending on the PhD topic or other equivalent university degree
- Language: English

### Desirable skills and qualifications

- Further information is provided in the PhD Topics <https://short.boku.ac.at/q9ry2k>

Applications can be submitted until: 2<sup>nd</sup> of April 2024

University of Natural Resources and Life Sciences Vienna seeks to increase the number of its female faculty and staff members. Therefore qualified women are strongly encouraged to apply. In case of equal qualification, female candidates will be given preference unless reasons specific to an individual male candidate tilt the balance in his favour.

People with disabilities and appropriate qualifications are specifically encouraged to apply.

Please send your job application incl.

- Motivation letter
- CV
- Copy of your bachelor, diploma or master certificate (if already available)
- Copy of your certificates obtained for coursework including grades (transcript of records of bachelor and master studies)
- Copy of your passport

to Personnel Management, University of Natural Resources and Life Sciences, Peter-Jordan-Straße 70, 1190 Vienna; E-Mail: [recruiting@boku.ac.at](mailto:recruiting@boku.ac.at). **(Reference code: 39; clearly indicating the number of the selected PhD topic)**

We regret that we cannot reimburse applicants travel and lodging expenses incurred as part of the selection and hiring process.

**[www.boku.ac.at](http://www.boku.ac.at)**