



The ISOE – Institute for Social-Ecological Research, based in Frankfurt am Main/Germany, is a leading non-profit and non-university institute for transdisciplinary sustainability research. For 30 years, the Institute has been developing social-ecological concepts, thus providing support for sound decision-making processes by policy makers, civil society and industry. This way, ISOE contributes to sustainable development and provides the impetus for critical and sustainable science. Our clients and sponsors include national and international public institutions and corporations.

In cooperation with Goethe University Frankfurt (GU), University Koblenz-Landau (UKL) and Trier University (TU), ISOE invites applications for

4 doctoral research positions in Hydrology, Human Geography, European Ethnology and Ecology

(65 %, 4.25 years, start of employment 01/11/2020,
salary according to German civil service pay scale (TV-H/TV-L/TVöD/TV-G-U))

in the Junior Research Group

REGULATE Regulation of Groundwater in Telecoupled Social-Ecological Systems

The research group sets out to explore current challenges in management of the ‘hidden resource’ groundwater in Europe, against the background of long-distance environmental and societal feedbacks (telecouplings). Dynamics in groundwater quantity and quality that lead to environmental risks such as droughts and pollution, associated societal conflicts and institutional settings are addressed with perspectives from natural and social sciences as well as from stakeholders at the European and at local levels. We are seeking four doctoral researchers to build a team that develops innovative ways of thinking, studying and managing groundwater in Europe.

The four doctoral positions will provide the opportunity for disciplinary research and qualification, while these individual projects will be integrated under the overall research topic of ‘Telecoupled Social-Ecological Systems’. All members of the group will work on joint research questions regarding the social-ecological regulation of groundwater in Europe. The first 6 months serve to concretize the own research question and to create a shared understanding of the overarching research aim, the disciplinary perspectives, the interdisciplinary teamwork and the transdisciplinary collaboration with stakeholders.

The research group will be headed by Dr Fanny Frick-Trzebitzky and Dr Robert Luetkemeier, and based at ISOE in Frankfurt with GU, UKL and TU as partnering institutions. It is funded by the German Federal Ministry of Education and Research (BMBF) as part of the Social-Ecological Research Framework of FONA. All vacancies are subject to final grant approval by BMBF.

General requirements for all four positions

- Excellent master's degree in a relevant discipline and preferably publication experience
- Strong interest in empirical and theoretical social-ecological research
- Aspiration to work beyond your disciplinary boundaries by engaging with natural and social scientists as well as with practitioners outside academia
- Ambitious, self-motivated working style; high capacity to work individually and in a team
- High proficiency in German and English; other (European) languages are a strong plus
- Excellent scientific writing skills (English)
- Outstanding interpersonal skills to work with different stakeholders
- Experience in science communication is an advantage

Position 1: Quality – Groundwater Stressors & Ecological Impacts

Potential disciplines: Biology, Ecology, Environmental Sciences

Your doctoral research will investigate the effects of stressors (e.g. pollutants, temperature, and drought) on groundwater fauna in multiple European case studies. You will empirically analyse the biological effects of these stressors on groundwater invertebrates (research design, sampling, laboratory analysis). The objective is to evaluate existing indicators of groundwater quality in order to enhance monitoring capabilities under the European Water Framework Directive. In addition to your disciplinary qualification, you will enhance your skills in inter- and transdisciplinarity by closely working with the other Junior Research Group members and by collaborating with stakeholders.

Experience in one or more of the following fields is required: Ecology, taxonomy of invertebrates, multi-variate statistics. Experiences in limnology are appreciated.

You will be employed by the Institute for Environmental Sciences (Molecular Ecology, UKL) in Landau, Germany and pursue a doctorate (Dr) in Ecology, supervised by PD Dr Hans Jürgen Hahn.

URL: <https://www.uni-koblenz-landau.de/en/campus-landau/faculty7/environmental-sciences/molecol/molecol>

Position 2: Quantity – Groundwater Availability & Uncertainty

Potential disciplines: Hydrology, Physical Geography, Environmental Sciences, Civil engineering

Your doctoral research will investigate the impacts of climate change and societal water consumption on groundwater quantity in two European case studies. You will carry out participative assessments (status-quo and scenarios) of environmental and societal pressures on groundwater availability using Bayesian network modelling to understand the key drivers of quantity alterations. In collaboration with local resources managers, you will contribute to the development of improved groundwater management strategies under uncertainty. Together with Dr Robert Luetkemeier, your work will support the analysis of telecouplings that affect groundwater quantity in Europe. In addition to your disciplinary qualification, you will enhance your skills in inter- and transdisciplinarity by closely working with the other Junior Research Group members and by collaborating with stakeholders.

Experience in one or more of the following methods is required: hydrological modelling, processing large data-sets (e.g. R, Python), geo-spatial analysis, Bayesian networks, water management software

You will be employed by the Institute for Physical Geography (Hydrology, GU) in Frankfurt, Germany and pursue a doctorate (Dr) in Physical Geography, supervised by Prof Dr Petra Döll and Dr Robert Luetkemeier. This position (E13 TV-G-U, 65%-part-time) is classified based on the job characteristics of the collective agreement applicable to GU.

URL: https://www.uni-frankfurt.de/45217668/AG_Hydrologie__Hydrology_Group

Position 3: Conflicts – Power Relations & Inequality in Groundwater Use

Potential disciplines: Human Geography, Political Sciences

In your doctoral research, you will analyse conflicts around groundwater in two or more case studies, with a particular focus on water quality. Special emphasis is given to embedded power relations and inequalities in groundwater governance. You will analyse socio-environmental interactions around contested rights of use (for groundwater abstraction and for nutrient input from agricultural fertilisation), with a particular focus on stakeholders' roles in governing related conflicts. The objective is to gain knowledge on power imbalances in negotiation and decision-making processes, and their material manifestation in uneven geographies of groundwater quality. Together with Dr Fanny Frick-Trzebitzky, your work will support the development of an adaptive governance framework on the European level. In addition to your disciplinary qualification, you will enhance your skills in inter- and transdisciplinarity by closely working with the other Junior Research Group members and by collaborating with stakeholders.

Experience in one or more of the following methods is required: expert interviews, qualitative in-depth interviews, focus group discussions, participatory mapping

You will be employed by the Institute for Social-Ecological Research (ISOE), Frankfurt, Germany and pursue a doctorate (Dr) in Geography, awarded from Trier University (UT), supervised by Prof Dr Antje Bruns and Dr Fanny Frick-Trzebitzky.

URL: <https://www.isoe.de/en/>, <https://www.uni-trier.de/index.php?id=2449&L=2>

Position 4: Institutions – Practices & Norms in Groundwater Use

Potential disciplines: Anthropology, Ethnology, Sociology

Your doctoral research will investigate the underlying cultural dimensions of unregulated groundwater extractions in two European case studies, with a focus on water quantity. Following a comparative research design, you will analyse locally embedded institutions (tradition, norms, and customary law), cultural perceptions and everyday practices around the use of groundwater and related infrastructures. A particular objective is to assess mismatches between locally embedded institutions and national and European regulations that hinder implementation of the latter in local contexts. In addition to your disciplinary qualification, you will enhance your skills in inter- and transdisciplinarity by closely working with the other Junior Research Group members and by collaborating with stakeholders.

Experience in one or more of the following approaches is required: ethnographic methods such as participatory observation and in-depth interviews, qualitative social research, stakeholder integration

You will be employed by the Institute for Social-Ecological Research (ISOE), Frankfurt, Germany and pursue a doctorate (Dr) in European Ethnology at Goethe University Frankfurt (GU), supervised by Prof Dr Gisela Welz.

URL: <https://www.isoe.de/en/>, <https://www.uni-frankfurt.de/63138789/Institut>

Our Offer

As part of the junior research group, you will contribute to finding sustainable solutions for pressing challenges in the European water sector. Your disciplinary research will be embedded in the interdisciplinary team that provides an innovative and collegial work environment for technical and scientific support, discussion and exchange. You will have the opportunity to set own priorities in your doctoral project and to further develop your skills in inter- and transdisciplinary collaboration. You will be involved in pushing the boundaries of social-ecological theory in close exchange with leading scholars in the field. You can take advantage of coaching and training measures in multiple fields (e.g.

research methods, project management, scientific writing) that are provided by the junior research group itself, the Institute for Social-Ecological Research, Goethe University Frankfurt (GRADE) and University of Koblenz-Landau.

The Institute for Social-Ecological Research, the Goethe University Frankfurt and the University Koblenz-Landau are equal opportunity employers and encourage women to apply. Candidates with severe disabilities will be given preferential consideration in case of equal qualification.

Contact & Questions

For questions, please contact Dr Robert Luetkemeier, luetkemeier@isoe.de. We are looking forward to your informative application with the keyword "*REGULATE PhD position [number of respective position]*" by e-mail to the Institute for Social-Ecological Research (ISOE), Dr Fanny Frick-Trzebitzky and Dr Robert Luetkemeier, bewerbungen@isoe.de.

To apply, please send a cover letter, a CV, certificates, a sample of relevant written texts (publications, seminar papers or similar; max. 1,500 words), a brief research proposal (max. 2 pages/1,000 words) and the names and contact details of two referees in one combined PDF-file (max. 5 MB).

Applications are accepted until **14/06/2020**, the job interviews are scheduled for the period **01/07 – 15/07/2020** and start of employment is the **01/11/2020**.