

Internship Terms of Reference

Internship Title:	Pollution of coal mine soils in China: A Resource Nexus analysis
Reference Number	
Institute/Office:	United Nations University – Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES)
Duty Station:	Dresden, Germany
Supervisor Name:	Dr. Alexey Alekseenko
Supervisor Email:	alekseenko@unu.edu
Duration:	01/07/2026 to 31/12/2026
<p>Background</p> <p>The United Nations University (UNU) is a global think tank and postgraduate teaching organization within the United Nations System. UNU engages in policy-relevant research, capacity development, and knowledge dissemination in furtherance of the purposes and principles of the United Nations. The work of UNU contributes to solving pressing global problems that are the concern of the United Nations and its Member States.</p> <p>For the past five decades, UNU has been a source of impartial research on sustainability, human security, and economic development. With hundreds of researchers working at institutes in 12 countries, UNU's expertise spans the full breadth of the 17 Sustainable Development Goals, generating policy-relevant knowledge to effect positive global change. UNU collaborates closely with other UN entities and leading research institutions across the globe. For more information, please visit http://unu.edu</p> <p>United Nations University for Integrated Management of Material Fluxes and of Resources (UNU-FLORES)</p> <p>UNU-FLORES is one of 13 institutes, located in 12 different countries, which together comprise the United Nations University (UNU) — a global think tank and postgraduate teaching organisation, headquartered in Tokyo. UNU-FLORES develops strategies to resolve pressing issues in the sustainable use and integrated management of environmental resources such as water, soil, waste, energy, and other geo-resources that are of concern to the United Nations and its Member States – particularly in developing and emerging economies. Based in Dresden and Weißwasser, Germany, the Institute engages in research and innovation development, education and capacity development as well as outreach, advocacy and impact to advance the Resource Nexus. For more information, please visit https://flores.unu.edu/</p> <p>Project background information</p> <p>Coal mining continues to exert long-term geochemical impacts on environmental resources, even as global energy systems transition away from coal. Building on a recently completed global reference dataset of soil contamination around coal mines, this project focuses on analyzing soil geochemical data from Chinese coal mining regions and comparing them with global baseline values. The research aims to generate policy-relevant insights and contribute to at least one scientific publication and a competitive grant proposal.</p>	

Description of Responsibilities

- Conduct research work related to **pollution of coal mine soils in China through the Resource Nexus approach**.
- Assist with compiling, cleaning, and harmonizing soil geochemical datasets for soils of Chinese coal mining regions, including trace elements and rare-earth elements.
- Support with comparative statistical analysis between Chinese datasets and global reference concentrations derived from the previous study.
- Monitor data quality, metadata completeness, and consistency across sources, including sampling depth, analytical methods, and detection limits.
- Develop tables, figures, and maps illustrating spatial patterns, enrichment factors, translocation factors, and deviations from global reference values.
- Review relevant scientific literature on coal mine soil pollution in China to contextualize findings and support manuscript preparation.
- Perform other duties as assigned by the supervisor, including potential contributions to conference abstracts, journal manuscripts, and a draft grant proposal building on the project results.

Learning Objectives

- Gain advanced skills in Resource Nexus studies, environmental data analysis, and interpretation.
- Develop experience in comparative, large-scale environmental datasets and global–regional benchmarking.
- Strengthen academic writing skills through direct involvement in preparing a scientific publication and a grant proposal.

Competencies

Values:

- **Inclusion** - Take action to create an environment of dignity and respect for all, regardless of age, culture, disability, ethnicity, gender, gender identity, gender expression, geography, grade, language, nationality, racial identity, religion, sex, sex characteristics, sexual orientation, social origin or any other aspect of identity.
- **Integrity** - Act ethically, demonstrating the standards of conduct of the United Nations and taking prompt action in case of witnessing unprofessional or unethical behaviour, or any other breach of UN standards.
- **Humility** - Demonstrate self-awareness and willingness to learn from others.
- **Humanity** - Act according to the purposes of the United Nations: peace, dignity and equality on a healthy planet.

Behaviours:

- **Connect and Collaborate** - Build positive relationships with others to advance the work of the United Nations and work coherently as One UN
- **Analyse and Plan** - Seek out and use data from a wide range of sources to understand problems, inform decision-making, propose evidence-based solutions and plan action
- **Deliver Results with Positive Impact** - Hold oneself and others accountable for delivering results and making a positive difference to the people and causes that the United Nations serves

- **Learn and Develop** - Pursue own learning and development and contribute to the learning and development of others
- **Adapt and Innovate** - Demonstrate flexibility, agility and the ability to think and act in novel ways

Qualifications

Education:

- University studies in one of the following disciplines: physical geography, geology, soil science, environmental science, geochemistry, or other relevant subjects is required.
- Be in their final year of undergraduate study or enrolled in a graduate degree programme or is within the two-year post-graduation (maximum) from either a bachelors', masters' or PhD degree programme.

Language:

- Excellent communication skills (written and oral) in English are required;
- Working knowledge of another UN language is an advantage.

Application Procedure

Interested candidates should submit their application containing:

- Brief cover letter (in English) stating interest in and qualifications for the post;
- Current and complete CV in English;
- 2 recommendation letters;
- Document(s) confirming your education status (e.g. transcript and proof of enrollment);
- Any additional documents supporting application (publications, certificates, awards, etc.).

UNU accepts no responsibility for costs arising from accidents and/or illness or death incurred during the internship.

Additional Information

Interns are not staff members and may not represent UNU in any official capacity.

The purpose of the Internship Programme is not to lead to further employment with UNU but to complement an intern's studies. Therefore, there should be no expectation of employment at the end of an internship.

UNU is committed to diversity and inclusion within its workforce, and encourages all candidates, irrespective of gender, nationality, religious and ethnic backgrounds, including persons living with disabilities to apply and become part of the organisation.

UNU has a zero-tolerance policy on conduct that is incompatible with the aims and objectives of the United Nations and UNU, including sexual exploitation and abuse, sexual harassment, abuse of authority and discrimination.