



Kaisa Turunen

Coordinator

Geological Survey of Finland, GTK

<http://www.gtk.fi>

Bilateral Meetings

- Monday 14:30 - 17:00

Description

Geological Survey of Finland (GTK) is national geological research centre operating under the Ministry of Employment and Economy. GTK is one of the most competent European service centers in applied earth sciences and the geological earth resources of strategic and economic importance are in the core of GTK's research mission. GTK contributes to a wide range of international geosciences, mapping, mineral resources and environmental monitoring projects as well as projects, which are concerned eco-efficient mining and mineral processing. One of GTK's strengths is having a total view of geology. It allows for reliable assessment of the environmental impacts of mining. Forecasting changes, on the other hand, helps in controlling and minimising hazardous impacts. Knowledge of the natural changes and condition of soil, groundwater, and lake and stream sediments before commencing mining operations provide a solid basis for GTK's environmental reports and transparent and open impact and risk assessment.

Organization Type

Research Institute,

Organization Size

250+

Founding Year

1885

Email

kaisa.turunen@gtk.fi

Country

Finland

City

Espoo 70100, P.O. Box 96 [Google map](#)

Areas of Activities

Water treatment and recycling

Water supply and management

Pilot scale testing

Research, development and innovation

Education and training

Modelling

Waste management and treatment

Environmental surveys

Environmental and process monitoring

Data management and information systems

Laboratory and measurement services and systems

Geophysical and geotechnical services

Project Implementation and Management

Offer & Request

Comprehensive geological and hydrogeological knowledge

Competence and research

Geological survey of Finland (GTK) is a government funded research organization who has broad expertise in geological research. GTK contributes to a wide range of international geosciences, mapping, mineral resources and environmental monitoring projects as well as projects, which are concerned eco-efficient mining and mineral processing. One of GTK's strengths is having a total view of geology. It allows for reliable assessment of the environmental impacts of mining.

Knowledge of the natural changes and condition of soil, groundwater, and lake and stream sediments before commencing mining operations provide a solid basis for GTK's environmental reports and transparent and open impact and risk assessment. The aims are to create new innovations and customer-oriented applications for mine and industrial environments (sites), mine and process waters, and recycling of wastes and by-products.

The focus areas of research and surveys related to mine water include groundwater/surface water interactions, groundwater geochemistry, and hydrogeological monitoring and modelling of different natural, infrastructural and industrial environments.

Our main competencies in groundwater surveys are:

- Geological, sedimentological and geomorphological studies, especially in recently glaciated areas
- Geophysics
- Geochemistry
- 3D modelling, flow modelling and transport modelling

In mine waters:

- Transport from mine site, especially in crystalline bedrock
- Water management and water management modelling
- Active and passive water treatment
- 3D modelling, flow modelling, transport and reactive modelling

In mining environmental studies:

- Mine Closure
- Long term behavior of tailings
- Risk assessment

Facilities

The Research Laboratory of GTK is part of Finland's national research infrastructure. The lab is well equipped with the latest instrumentation and boasts a staff recognized internationally for their expertise in analysis and study of geological materials. The lab's main areas of focus are isotope geology and applied mineralogy. The lab is known for innovative method development focused on solving the specific challenges of its clients and partners.

GTK's Mineral Processing Laboratory provides a wide range of ore beneficiation research services for the mining industry. It offers a unique platform for the development and testing of energy-saving, low- environmental-impact crushing, grinding and concentration processes. The lab is equipped to develop mineral processing methods anywhere along the beneficiation chain from mineralogical analysis to dealing with process waste. The applicability of mineral processing to environmental remediation and recycling has been demonstrated on numerous occasions, e.g. remediation of contaminated soils and separation and recycling of metallurgical slags.

References

International references of GTK cover a wide spectrum of undertakings in about 40 countries of all continents. GTKs Industrial Environments and Recycling unit has performed several national and international projects related to environmental characterization and impact assessment of mine environments. Moreover GTK is the leader of the Mine Water Competence Network. GTK lead FP7 project PROMINE was selected the best completed technology project in FP7.

Mine water related projects:

SUSMIN <http://projects.gtk.fi/susmin/>

MINERA <http://fi.opasnet.org/fi/Minera-hanke>

Mine water competence network <http://projects.gtk.fi/kaivosvesiverkosto/index.html>

WATERSMART <http://www.eurare.eu/>

PROMINE <http://promine.gtk.fi/>

EURARE <http://www.eurare.eu/>

SEEWAY <http://en.gtk.fi/research/program/greenmining/seeway.html>

Cooperation Offered

1. Outsourcing co-operation
2. Research co-operation

Cooperation Requested

1. Outsourcing co-operation
2. Technical co-operation
3. Research co-operation