

## Sweden:PhD Students in Mining and Rock Engineering-Digital Mining

Luleå University of Technology is one of Europe's leading universities in mining and metallurgy. The University offers a unique opportunity for developing, comprehensive research skills throughout the mining chain - from exploration, mining, processing and metal production, to recovery after stopping mining activities.

### Subject Description

The research subject Mining and Rock Engineering comprises the mechanical and physical properties and the behaviour of rock and rock masses, design of rock constructions, blasting, fragmentation, tunnelling, mining and maintenance of rock constructions.

### Project description

Mining industry is generating massive amount of operational data from instrumentations, stationary equipment and in particular mobile mining equipment. Also images and videos surveying production and production quality

are commonly used technologies today. Information and communication technology is another important part of modern mining systems. Moreover, future mining operations will become increasingly more automated generating more complex datasets. In order to fully benefit from these technologies and its enormous amount of data, Data Mining is important to refine information and knowledge. However, even with high skills and data knowledge a solid understanding of mining and mining systems is vital in order to understand the end users requirements and needs, which is vital to reach disruptive new development in the mining industry.

The PhD student will work with industrial projects in close cooperation with the Swedish mining industry such as LKAB and Boliden Mineral AB.

Duties

As a PhD student you will have great freedom to define your own work and procedures. You will have the

opportunity to act and work as a project manager during your study period. You will also try the role of being a teacher and will be given the opportunity to present and discuss research results internationally. We offer a stimulating and dynamic research environment with an extensive national and international network along with interesting, exciting research projects conducted in collaboration with the private and public sector.

Normally at Luleå University of Technology, the PhD student will conclude a licentiate degree halfway through their studies. PhD students will be offered a position for maximum 5 years (including 20% teaching and division duties). Regulations can be found in Högskoleförordningen 5 kap §§ 1-7. Local guidelines for salary exist.

**Qualifications**

Eligible candidates for this post as a doctoral student must hold a Master of Science in Mining Engineering with a strong interest in data analysis or a Master of Science in Computer Engineering with a strong interest in Mining

Engineering or equivalent education and background in relevant subjects.

An individual fulfills the general eligibility requirements for the third-cycle educational programme when he or she

1) has completed a second-cycle degree, 2) has completed higher education courses worth at least 240 credits,

of which at least 60 are for second-cycle courses, or 3) in some other manner, in this country or abroad, has

acquired the equivalent qualifications.

Evaluation criteria's:

In addition to good grades in relevant subjects from the undergraduate degree, the following selection criteria will

be used;

- : Good knowledge, skills and interest in computerised data analysis and model development.
- : Excellent problem solving and interpersonal skills.
- : Interest and ability to work in a multidisciplinary and multilingual environment.
- : Excellent skills in English written.
- : Knowledge of Swedish to communicate in industrial projects is valued.

Read more;

[General curricula for the Board of the faculty of science and technology](#)

Provided that the qualifications are otherwise equal, the underrepresented gender will be given precedence.

Information

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Luleå University of Technology is actively working on equality and diversity that contributes to a creative study-

and work environment. The University's core values are based on respect, trust, openness and responsibility.

In case of different interpretations of the English and Swedish versions of this announcement, the Swedish

version takes precedence.

**Tentative Submission Deadline : 30 November 2017**

[Further Information](#)