

## WELCOME TO ISM AND NORDISK GRUVEMÅLERMØTE, TRONDHEIM 10. – 12. MAY 2017

### WEDNESDAY 10.05.2017 - ROOM B3

08:30	Registration opens
09:00	ISM Presidium Meeting
12:00	Lunch at Kjelhuset
13:00	ISM Presidium Meeting
18:00	Icebreaker, Nordøst Restaurant, Solsiden
19:00	Meal, Nordøst Restaurant, Solsiden

### THURSDAY 11.05.2017 - ROOM EL 6

08:30	Registration opens	
09:00	Welcome speech and opening remarks	Erik Ludvigsen
09:15	What is mined in Finland	Gerhard Hakkarainen
09:30	What is mined in Sweeden	Stefan Tuoma
09:45	What is mined in Norway	Henrik Schiellerup
10:00	A short presentation of Pargas mine	Gerhard Hakkarainen
10:10	A short presentation of LKAB Kiruna	Anders Berg
10:20	A short presentation of Titania AS	Frode Koldal

10:30	Coffee Break	
10:45	Building information modelling (BIM), exemplified with the platform GeoBIM MRM in Norway MRM in South Africa	Göran Bergqvist  Erik Ludvigsen Hendrik Grobler
12:00	Lunch, Bergbygget	
<b>MINE SURVEYING</b>		
13:00	Introduction to Mine Surveying and Workshop	Erik Ludvigsen
13:05	Workshop Mine surveying	Frode Koldal and Malin Linder
14:30	Coffee break	
15:00	Introduction to instruments and demonstrations	Erik Ludvigsen
15:30	Instruments and demonstrations	
20:00	Conference Dinner at Havfruen restaurant	

<b>FRIDAY 12.05.2017 - ROOM EL 6</b>		
09:00	Implicit 3D Modelling	Steinar Ellefmo
<b>MINING GEOLOGY</b>		
09:15	Workshop Mining Geology	Roar Sandøy
11:00	Coffee break	
<b>MINE PLANNING</b>		
11:15	Rig performance parameters (MWD) used in mine planning	Veena Sajith Vezhapparambu
11:30	Workshop Mine Planning	Steinar Ellefmo
12:30	ISM President's remarks	Anatoly Okhotin
12:45	Closing remarks	Erik Ludvigsen
13:00	Lunch, Kjelhuset	
14:00	ISM Presidium Meeting (ISM members only)	

## INSTRUMENTS AND DEMONSTRATIONS

Leica - geosystems, <http://www.leica-geosystems.com/>

From design to setting out with a TS16 R1000 total station.

Devico, <http://www.devico.com/>

Directional core drilling and borehole surveying.

Devico is a developer of technology and equipment that enables directional control and steering during core drilling. With this technology the borehole may be guided to hit specified target coordinates. Devico also produces instruments for measuring the path of the borehole and the orientation of the core samples.

Terrateck, <http://www.terratec.no/>

Advanced surveying techniques available for mine surveying.

Bentley, <https://www.bentley.com/>

Rule based mine design.

To apply intelligent design automation and configurable rules to save time, reduce errors, and promote consistency. Speed edits with rules that govern object creation and maintain relationships between design objects and geology. Use the time savings to consider more options and find the best performing mine design.

Norconsult Informasjonssystemer AS (NoIS.no), <http://www.nois.no/>

Ring drilling.

The software developed by Norconsult, based on MicroStation, that covers the drill planning, drilling and blasting processes connected to the mining methods sublevel stoping and sublevel caving will be discussed and demonstrated.

Institutt for geovitenskap og petroleum, NTNU, <http://www.ntnu.edu/studies/mttekgeo>

Supplementing traditional mine surveying with photogrammetry.

ATS AB (Advanced Technical Solutions in Scandinavia AB), <https://ats.se/>

We are since the early -90's, one of the leading Solution Providers in laser based geometrical measuring with a full range of product in this area. ATS will show the latest 3D scanning products for both underground and open site 3D scanning like the new TeledyneOptech CMS V500 cavity scanning system for underground cavities and tunnels. Furthermore, the new FARO Focus 3D scanner and the brand new TeledyneOptech Polaris scanner will be displayed and demonstrated with all their different performances. ATS is also showing the TRACEABLE3D<sup>®</sup> concept of reliable quality scanning that consists of a cluster of HW, SW and methods to reach a higher level of 3D Metrology.



<http://www.wspgroup.fi>

GEOVIA Surpac V6.8 software, for mine planning, geological modelling and surveying.

Primary new functions for point cloud modelling and a 3D photogrammetry format will be demonstrated. Other tools, of special interest for surveying, will also be included.

## MAPS AND ADRESSES

### Conference rooms:

#### **B3**

Bergbygget:  
Sem Sælands vei 1

#### **EL 6**

Electro building  
O.S. Bragstads plass 2E

### Icebreaker 10<sup>th</sup> May and meal:

NordØst Food & Coctails  
TMV-Kaia 25 (Solsiden)  
7014 Trondheim

### Conference dinner 11<sup>th</sup> May:

Havfruen Restaurant  
Kjøpmannsgata 7

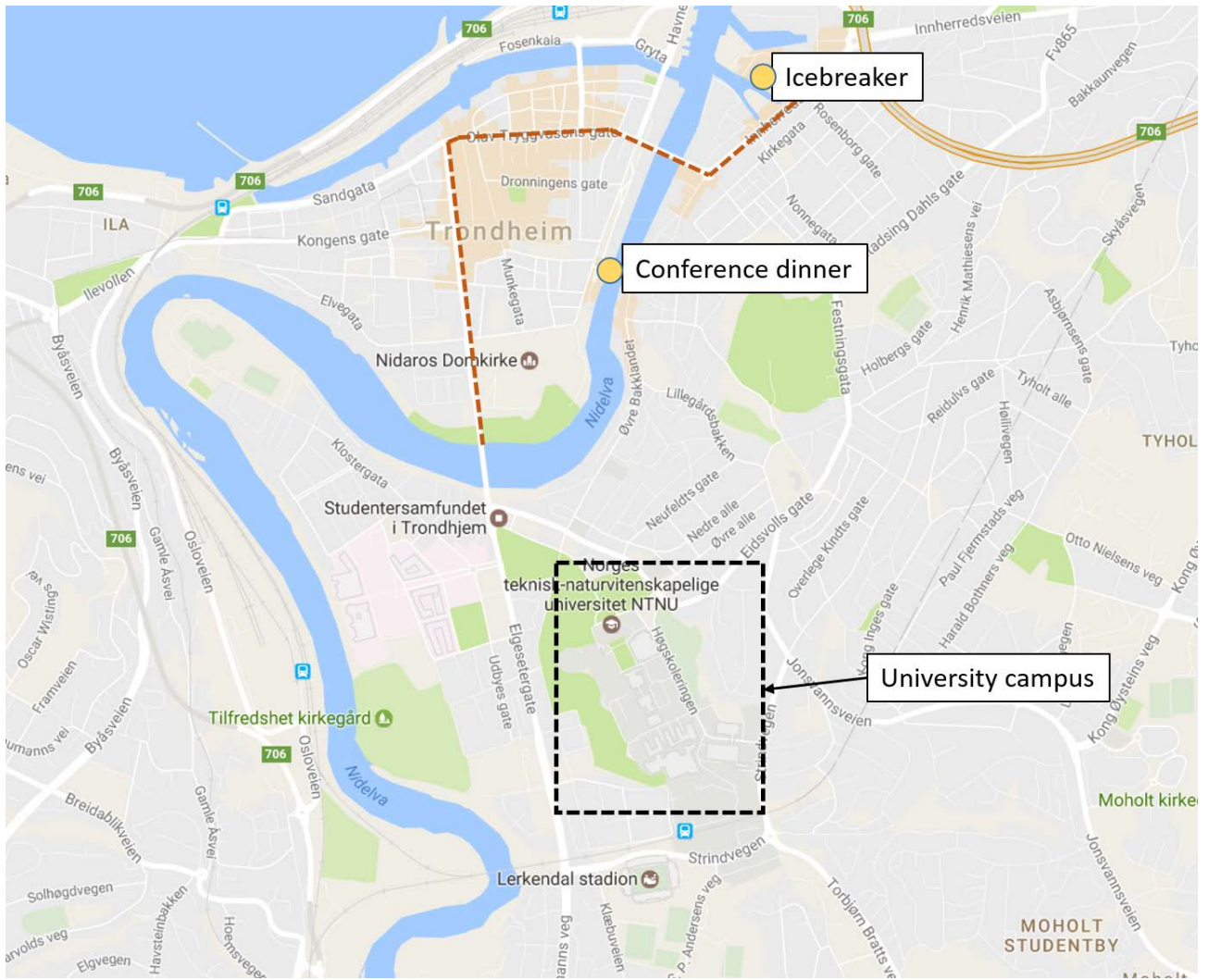


Figure 1: Overview – close up of university campus in figure 2.



Figure 2: University campus.



Entrance Berg B3. Registration is in entrance hall.



Entrance Electro building. Follow corridor **to the right** to find EL6 and registration.