

# SWEDISH MINING INNOVATION PROGRAM DAY

## – A DIGITAL DROP IN / DROP OUT EVENT

1 October 2020

### PROGRAM

9.45 *The meeting is opened to connect*

#### 10.00 **Welcome to Swedish Mining Innovation Program day 2020**

**Swedish Mining Innovation**  
*Jenny Greberg, Swedish Mining Innovation*

**Swedish Mining Innovation's Open calls/funding opportunities**  
*Lawrence Hooley, Swedish Mining Innovation*

**Information from Vinnova**  
*Susanne Gylesjö, Vinnova*

#### 10.15 **Why do a pre-study?**

##### **On-going pre-studies**

10.21 **Sustainable lubrication of rock drilling**  
Yijun Shi, Luleå University of Technology  
*Partners: Epiroc Rock Drills, Sustainalube*

10.25 **Feasibility study for seismicity forecasting in seismically active underground mines**  
Savka Dineva, Luleå University of Technology

10.29 **FILTRENE MINING Solution: Recovery of valuable metals from water stream in mining industry**  
Erik Khranovska, Grafren  
*Partners: Swerim, Boliden*

10.33 **Novel optical fibre gas sensors: application in harsh environment (NOVASENS)**  
Kenny Hey Tow, RISE Research Institutes of Sweden

10.37 **Metallurgy of Dictyonema**  
Emma Rehnström, Geologica Consult  
*Partners: ScandiVanadium Sweden, RISE Research Institutes of Sweden*

10.41 **Utilizing the isotopic and trace element fingerprint of sphalerite for traceability applications**  
Nils Jansson, Luleå University of Technology  
*Partners: ALS Scandinavia*

10.45 **Predictive modeling of hydraulic hoses for underground mining**  
Todor Stoyanov, Örebro University  
*Partners: Epiroc Rock Drills*

10.49 **3D modelling of controlled-source electromagnetic fields adopted to mineral prospecting**  
Michael Weiss/Thomas Kalscheuer, Uppsala University

**10.53 Modelling for the selection of remediation strategies for TSF**

Ida Kronsell, Luleå University of Technology

**10.57 ME - Mash the elephant**

Saeed Chelgani, Luleå University of Technology

*Partners: Boliden, LKAB*

**11.01 AG-Test Small scale tests for autogenous grinding scale-up**

Mehdi Parian, Luleå University of Technology

*Partners: Boliden*

**11.05 Evaluation of a drone-based method for safe and cost-effective monitoring of surface water flows in mine recipients**

Ida Westerberg, IVL Svenska Miljöinstitutet

*Partners: LKAB, Stockholm University*

**11.09 Off-road dynamic charging**

Anna Sannö, Volvo Construction Equipment, Anna Sannö

*Partners: Lund University*

**11.13 Mining and metals in the transition to a sustainable society - An exhibition about current facts and figures**

Lotta Sartz, Bergskraft Bergslagen

*Partners: Georange, Teknikens hus, Geological Survey of Sweden, Federation of Swedish Farmers, Lovisagravan*

**11.20 *Paus***

**Strategic projects and PhD network**

**11.30 Mining and society**

Anna K Kostet, AKK Arcticcon

*Partners: Kaunis Iron, SGU, Svemin, Region Norrbotten, Luleå University of Technology*

**11.35 The Swedish mining industry's current and future relationship with biodiversity**

Tove Hägglund, Ecogain AB

*Partner: Svemin*

**11.40 Tracemet – Traceability for sustainable metals and minerals**

Erik Lindblom, IVL Svenska Miljöinstitutet

*Partners: Svemin, RISE, Boliden, LKAB, Elektrokoppar, SSAB, ABB, Scania, Volvo Group*

**11.45 SMIG - Integrated smart testbeds for the mining industry**

Mats Johansson, Luleå University of Technology

*Partners: Boliden, Epiroc, ABB, Ericsson, BnearIT, Algoryx Simulations, SKB, Umeå University, Uppsala University, ThingWave*

**11.50 Virtual Reality (VR) as a demonstrator and learning platform of sustainable, modern and innovative mining**

Hans Åhlin, Luleå University of Technology

*Partners: LTU, Boliden, LKAB, Epiroc, Tekniska museet, Teknikens hus*

**11.55 PhD network MINERS**

Tobias Kampmann, Luleå University of Technology

**12.00 *Lunch***

**13.00 On-going full-scale and pilot projects**

**13.02 Mining industry and indigenous people: regulations, best practice and social innovation**

Karin Beland Lindahl, Luleå University of Technology

*Partners: CAMECO, Das Nedhe Development, English River First Nation, University of Northern British Columbia, University of Saskatchewan*

**13.08 Hydrogen Peroxide Emulsion**

Tim Hunt, AB Etken Teknologi

*Partners: Luleå University of Technology, Boliden Mineral*

**13.14 SO<sub>4</sub>-BIORED Demonstration of biological sulfate reduction in cold climate**

Sudhanshu Pawar, RISE Research Institutes of Sweden AB

*Partners: Boliden Mineral, Fortum Waste Solutions*

**13.20 New digital 3D model of the Grate Kiln pellets process for reduced energy consumption and emissions**

Sofia Larsson, Luleå University of Technology

*Partners: LKAB, Taoshi Energiteknik*

**13.26 VectOre – Exploration criteria for polymetallic sulphide mineralisation and industrial carbonates**

Nils Jansson, Luleå University of Technology

*Partners: Björka Mineral, Boliden*

**13.32 Systems for remote scaling**

Mårten Sjöström, Mid Sweden University

*Partners: Boliden Mineral, Jama Mining Machines*

**13.38 Improving data quality for LCC predictions with cloud services**

Uday Kumar, Luleå University of Technology

*Partners: Boliden Mineral, Epiroc Rock Drills*

**13.44 Strategies and indicators for mine safety**

Erik Sundström, Luleå University of Technology

*Partners: Drillcon, Zinkgruvan Mining, Boliden Mineral, Cementa, LKAB, Bergteamet, Svemin*

**13.50 Paus**

**On-going full-scale and pilot projects**

**14.00 Efficient comminution operation (ECO)**

Andreas Johansson, Luleå University of Technology

*Partners: Innovative Machine Vision Pty Ltd, Optimization, Vale S.A.*

**14.06 Optimized roasting of complex copper sulphide concentrates for flexible raw material utilization**

Caisa Samuelsson, Luleå University of Technology

*Partners: Boliden Mineral (Smelters and Mines), SEMTECH Metallurgy*

**14.12 Organosolv lignin hydrophobic nanoparticles as low-carbon-footprint biodegradable flotation collectors**

Leonidas Matsakas, Luleå University of Technology

*Partners: Akzo Nobel Surface Chemistry, Boliden Mineral, Sveaskog förvaltnings*

**14.18 Automated drill planning for multiple-boom rigs in underground mining**

Shiyu Zhang, Örebro University

*Partners: Alfred Nobel Science Park, Epiroc Rock Drills, Zinkgruvan Mining*

**14.24 Automated planning and coordination of autonomous haulers in underground mines**

Anna Mannucci, Örebro University

*Partners: Epiroc, Newcrest Mining*

**14.30 MINEDEER**

Per Sandström, Swedish University of Agricultural Sciences

*Partners: Malå Sameby, Gällivare Skogssameby, Mausjaurs Sameby*

**14.36 Improved resource efficiency through dynamic loading control II**

Anna Gustafsson, Luleå University of Technology

*Partners: Agio system och kompetens i Skandinavien, LKAB*

**14.42 High resolution magnetic surveying using UAV**

Karl Westerlund, Swedish Geological

*Partners: Kaunis Iron, Luleå University of Technology*

**14.48 Swedish Mining Innovation Innovation Idea Competition**

*Niclas Dahlström, Swedish Mining Innovation*

**2020 years winner**

*Iman Vakili, Sencept AB*

**15.00 Summary of the day**

**15.10 End of the program**