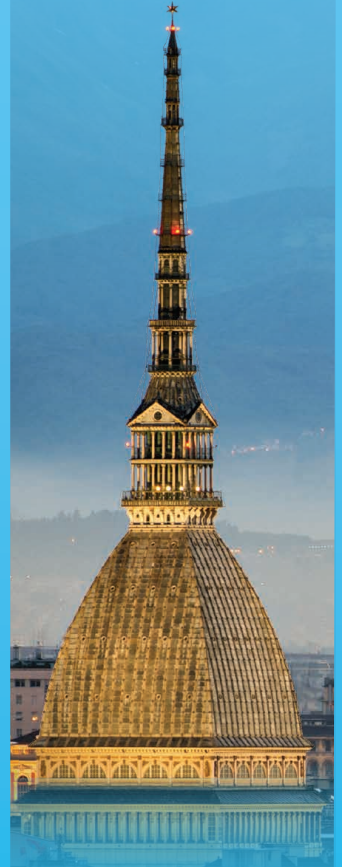




Politecnico
di Torino

11th INTERNATIONAL CONFERENCE ON SUSTAINABLE DEVELOPMENT IN THE MINERALS INDUSTRY

*Sustainable supply
of critical raw materials*



Torino Italy
July 9-11 2024

NH S. Stefano Hotel
Via Porta Palatina 19





Scientific Programme

July 9, 2024 - NH Collection Santo Stefano

08:30 **Welcome Ceremony.**

08:40 **Welcome notes from MIMIT** (Ministero delle Imprese e del Made in Italy). *F. Tenuta - Italy*

Basilica room

Session 1 - Inauguration

08:45 **Keynote Lecture** - Current implementation of the CRM Act. *M. Grohol - Belgium*

09:15 **Keynote lecture** - United Nations framework classification for resources as an indicator tool for sustainable resource management decision making. *S. Solar - Slovenia*

09:45 Question & Answer.

10:00 **Tea break**

Session 2a - Recovery Metallurgy

(Oral Communications)

10:30 Recovery of magnesium hydroxide from brines of potash mining: an optimized approach. *Y. Amadghous, A. Aboulaich, M. Ouabid, O. Raji, A. Zagriri, A. Zaki, O. Khadiri Yazami, M. Benzaazoua, J. L. Bodinier - Morocco*

10:40 Alternative flowsheet development for rare earth processing. *M. S Henderson, L. G. Dyer - Australia*

10:50 Reliable metal accounting as a tool for sustainability in the platinum group metals industry: a case study of a Zimbabwean process plant. *A. Shumba, G. Dzinomwa, S. Mavengere - Zimbabwe*

11:00 Geochemical and mineralogical assessment of European lithium mining and extraction. *Q. Bollaert, E. Vassilieva, V. Cappuyens - Belgium*

11:10 Integrating innovative lithium resources recover technologies: forging a path to a net zero future. *G. N. Sakatadi, G. Grisolia, S. Antonini, I. Bianco, G. A. Blengini - Italy*

13:30 Question & Answer.

12:00 **Lunch break**

Session 3a - SLO *(Oral Communications)*

13:00 The importance of techno-economic assessment (TEA) in mining, metallurgical and waste valorisation projects in the era of green transition. *D. Ipsakis, M. Konsolakis, G. Granata, K. Komnitsas Greece*

13:10 Public acceptance and responsible mining towards energy transition. *K. Komnitsas, T. Eerola - Greece*

13:20 Local community procurement program (LCPP): effective approach to inclusion in the supply chain. *M. Ospina - Canada*

13:30 Stakeholder approval: navigating project readiness through dialogue-based engagement. *M. Ospina - Canada*

13:40 Social license narrative in the mining sector from a cultural perspective in Europe. *C. Rodolaki, G. Barakos, M. Hitch - Germany*

13:50 Question & Answer.

14:00 **Tea break - Poster Session**

Session 4a - Circular Economy & Waste Reuse

(Oral Communications)

15:00 Exploring new sustainable horizons in the mining industry: circular economy, sustainability and technological development. *C. A. Bedoya Henao, G. A. Viana Casas, J. I. Tobón, O. J. Restrepo Baena - Colombia*

15:10 Green chemistry in metal supply chains and circular economy. *Y. Kannappan, L. Dyer - Australia*



15:20 Pursuing circularity in mining: an overview on state of the art practices. *S. Nowosad, M. Bothe-Fiekert, F. Apollo, D. Langefeld - Germany*

15:30 Agglomerates for next generation lignin based steelmaking. *K. Manu, E. Mousa - Sweden*

15:40 An environmental-friendly process for the recovery of tantalum from waste capacitors. *R. Bellopede, C. Mori de Oliveira, M. Giardino, P. Marini - Italy*

15:50 Question & Answer.

17:00 Welcome reception.

Palatina room

Session 2b - Decarbonisation *(Oral Communications)*

10:30 **Keynote Lecture** • The case of reducing emissions. Methane abatement progress and deployment. *M. Karmis - USA*

11:10 Digitalisation and technological innovations towards energy-efficient quarries. *F. Sánchez, P. Hartlieb - Austria*

11:20 Open-source models for the technoeconomic analysis of green iron ore supply chains: an Australian case-study. *R. Daiyan, S. Saydam, I. Canbulat - Australia*

11:30 Question & Answer.

12:00 **Lunch break**

Session 3b - ESG Reporting *(Oral Communications)*

13:00 **Keynote Lecture** • Growth under the microscope: can we pair rapidly growing demand with ESG credentials to usher in a renaissance in mineral processing? *L. Dyer - Australia*

13:30 Managing ESG risks in mining finance: strengthening the outside-in view. *P. Eysel - Germany*

13:40 ESG Reporting in the mining sector: case studies from Greek industry leaders. *F. Pavloudaki, S. Kirtikidis, C. Roumpos, Z. Agioutantis - Greece*

13:50 Environmental, social and governance (ESG) reporting in the South African mining industry. *T. Tholana - South Africa*

14:00 Research study on social licence to operate for the future phosphate mining in North-East Estonia. *V. Karu, A. Paat, M. Hitch - Estonia*

14:10 Question & Answer.

14:30 **Tea break - Poster Session**

Session 4b - Earth Observation & Technical Approaches *(Oral Communications)*

15:10 Earth observation technologies for a sustainable mining sector. *M. Mavroudi, M. Tost, G. Barakos - Austria*

15:20 US experience in controlling the effects of mining induced seismicity on surface structures, critical for ESG. *H. Maleki - USA*

15:30 Small-scale mining in Ecuador: peculiarities and perspectives. *J. Seccatore, M. Cardu, O. Farzay, G. Ngadi Sakatadi, G. Sabra - Italy*

15:40 Acceptable risk evaluation of dewatering opencast mines with extreme precipitation. *N. Pavlovic, T. Subarovic, V. Pavlovic - Serbia*

15:50 Question & Answer.

17:00 Welcome reception.

July 10, 2024 - NH Collection Santo Stefano

Basilica room

Session 5 - Critical Minerals I

08:30 **Keynote Lecture** • Never let a good crisis go to waste: greenwashing and the fallacy of critical minerals. *M. Hitch - Canada*

09:00 **Keynote Lecture** • CRMs for the automotive sector. *N. Li Pira - Italy*



09:20 Comparative assessment of critical and strategic raw materials for Australia and Azerbaijan using an AHP-based smart computational tool.

A. Mammadli, G. Barakos - Australia

09:30 Exploring sustainable critical mineral production in Central Appalachia: a pathway to economic revitalization & environmental justice.

R. Bishop, M. Corsi - USA

09:40 Question & Answer.

10:00 **Tea break - Poster session**

Basilica room

Session 6a - Mine Closure (Oral Communications)

10:30 Impact assessment of mine closures: towards a just post-mining transition.

I. M. Jiskani, A. Merrild Hansen, S. Bjørn Aaen - Denmark

10:40 Sustainable rehabilitation of Berg Aukas abandoned mine site, Grootfontein area, North Central Namibia: a case study.

T. Ijpinge, B. Mapani, H. Musiyarira - Namibia

10:50 Developing a strategic plan for resilience management in post-mining projects.

P. M. Spanidis, I. Christakopoulou, C. Roumpos, C. Siontorou, F. Pavloudakis - Greece

11:00 Certification and ecological reclamation of mined areas: evolving standards and practices for sustainable mining.

M. Galetakis, E. Varouchakis, A. Vasileiou, S. Raka, G. Louloudis, E. Mertiri, D. Nalmpanti, G. Kasfikis - Greece

11:10 Socio-economic impacts and challenges of mine closure and just transition in Itabira, Brazil.

J. Demajorovic, R. Barreto, A. Pimenta, A. Xavier - Canada

11:20 Wetbud, a free tool for estimating wetland water budgets.

Z. Agjioutantis, L. Daniels, S. Stone, M. Rolband - USA

11:30 Towards inclusive territorial governance in mine closure and post-mining economies.

A. Pimenta, J. Demajorovic, A. Xavier, R. Barreto - Canada

11:40 Question & Answer.

12:00 **Lunch break**

Session 7 - Mine Closure Workshop

13:00 Who decides? Interactive workshop on mine closure.

A. Xavier, J. Fraser - Canada

Session 8 - LCA

14:30 **Keynote Lecture** • Key challenges in the LCA of metals production and a way forward.

A. Beylot - France

15:10 Life cycle assessment as a tool that drives decision to manage and lower the environmental impacts

A. Shtiza - Belgium

15:20 Unique and comprehensive approach to raw materials education, covering Life Cycle Assessment/Costing (LCA/LCC).

V. Karu, V. Voronova - Estonia

15:30 Life cycle inventory for Life Cycle Assessment: interoperability challenges, opportunities and tools.

P. Duah, K. Awuah-Offei - USA

15:40 Towards a more sustainable supply of critical raw materials: the role of prospective Life Cycle Assessment.

S. Antonini, G. Grisolia, U. Lucia, G. A. Blengini - Italy

15:50 The role of Social Life Cycle Assessment (S-LCA) towards more sustainable mining. Methodology and metrics from the Horizon Europe Mine.

I. Bianco, G. Grisolia, S. Antonini, G. Ngadi Sakatadi, L. Mancini, G. A. Blengini - Italy

16:00 Key challenges of mining Life Cycle Assessments.

K. Awuah-Offei, I. Paschalidou, P. Duah, D. Otarod - USA

16:10 Study of the variables that most influence the cementation of mining tailings.

A. J. Diosdado-Aragón, M. A. Caraballo, M. Valenzuela-Díaz - Spain



16:20 Question & Answer.

19:30 *Official dinner*

Palatina room

Session 6b - Critical Minerals II

- 11:00 Exploration and mining of critical raw materials in the Erzgebirge Region, Germany: evaluation and recommendation for social sustainability. M. A. Islam, G. Meissner, P. Modak, S. Leena, J. Joutsenvaara, H. Mischo - Germany
- 11:10 The exploitation with a view to sustainability of critical raw materials from old mining landfills: analysis of the possible recovery in some mining areas of the Western Alp. P. Oreste, A. Prospero - Italy
- 11:20 Rare Earth Elements (REE) and Critical Minerals (CM) in Middle Pennsylvanian-age coals and associated sediments in the Central Appalachian Basin, Eastern USA. W. L. Lassetter, K. Andrews, G. Jansen, R. Bishop - USA
- 11:30 Determining ESG impacts on the copper supply chain using risk assessment methods. C. Gamez Gonzales, A. Anani - USA
- 11:40 Question & Answer.
- 12:00 *Lunch break*

July 11, 2024

Basilica room

Session 9 - Responsible Sourcing

- 08:30 **Keynote Lecture** • Responsible mining or a new extractivism? The case for a sustainable development licence to operate. P. Elkins - UK
- 09:00 Evaluating the effectiveness of traceability in the mineral supply chain. P. Fernández Munoz, M. Tost, E. Castillo - Austria

09:10 Exploring the dimensions of transparency in mineral supply chains from the lens of chain of custody: an analysis of the chain of custody standards. T. Nowaz, S. Olmos Betin, L. Förster, L. J. M. Daxeder, H. Mischo - Finland

- 09:20 Responsible sourcing of EU minerals for sustainable & circular solutions. B. Clifford - Belgium
- 09:30 The potential for blockchain technologies in the mining industry. H. S. Anderson, G. Barakos - Australia
- 09:40 Question & Answer.

10:00 *Tea break - Poster session*

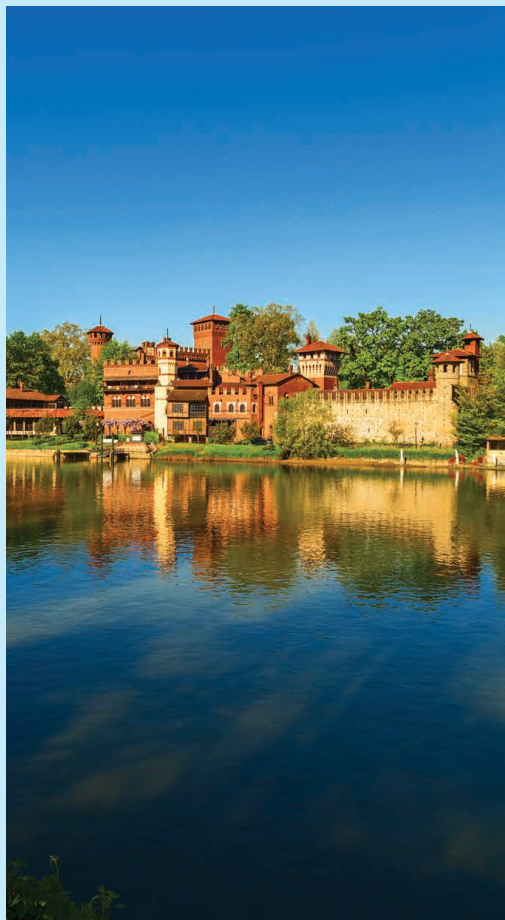
Session 10 - Sustainable Mining

- 10:30 **Keynote Lecture** • Can we mine space resources sustainably and ethically? S. Saydam - Australia
- 11:00 How can green financing impact the sustainability of mining operations? N. Dempsey, S. Senses, M. Kumral - Canada
- 11:10 Enhancing CRM supply resilience through SOSO mining: a sustainable approach to meeting critical raw material demand. O. Farzay, G. N. Sakatadi, G. Sabra, M. Cardu - Italy
- 11:20 Question & Answer.
- 11:40 **Closing Ceremony & Awards.**
- 12:00 *Lunch break*
- 14:00 Post conference tour in Carrara.



Poster List

- **ID 11** Gender differences in career success: a brief review of the current reporting systems and their effectiveness.
K. Arenas-Collao, A. Johnson - USA
- **ID 39** Lifecycle of mine water - an essential resource in circular mine.
M. Bothe-Fiekert, A. Binder, O. Langefeld - Germany
- **ID 41** CRM valorization in E-waste: the PCB case study.
R. Bellopede, A. Tori, C. Mori De Oliveira, P. Marini Italy
- **ID 47** The future mining engineer from research to entrepreneur.
V. Karu - Estonia
- **ID 64** Investigating the multidimensionality of mine closure: the case of the Greek surface coal mines.
N. Paraskevis, A. Akylas, A. Servou, C. Roumpos, M. Galetakis, E. Varouchakis, A. Vasileiou, S. Raka Greece
- **ID 66** International approach to regulating conflict mineral resource trade: effectiveness and challenges of KPCS.
S. Toyoda, S. Murakami - Japan
- **ID 67** The role of V2O5 production in lifecycle impacts of vanadium flow batteries.
G. Grisolia, G. A. Blengini, D. Fino, U. Lucia - Italy
- **ID 70** LCA of a critical raw material: state-of-art of cobalt production.
G. Grisolia, S. Antonini, U. Lucia, G. A. Blengini - Italy
- **ID 75** Environmental assessment of energy storage systems and critical raw materials: life cycle assessment of lithium production.
G. N. Sakatadi, G. Grisolia, S. Antonini, U. Lucia, G. A. Blengini - Italy
- **ID 89** Global iron and steel decarbonisation roadmaps: near-zero by 2050.
M. Rumsa, M. John, W. Biswas - Australia
- **ID 92** Earth observation and sustainable pursuit of critical raw materials.
G. Carano, G. A. Blengini, P. Boccardo, C. Baranzelli Italy





Conference Information

Venue

SDIMI 2024 will be held at the NH S. Stefano Hotel, via Porta Palatina 19 - Torino

Registration

Author registration: € 700,00

Early bird fee (before May 24, 2024)

Author registration

- full: € 800,00
- student (incl. PhDs): € 450,00

Standard fee

- full: € 900,00
- student (incl. PhDs): € 500,00

Fees include: admission to all conference sessions, coffee breaks and light lunches, welcome cocktail, conference dinner.



Cancellation policy

A cancellation fee of 50% of the full registration fee plus a processing fee (20 Euros) and wire transfer or credit card costs will be applied for cancellations received **by June 3, 2024**.

A cancellation fee of 75% of the full registration fee plus a processing fee (20 Euros) and wire transfer or credit card costs will be applied for cancellations received **by June 28, 2024**.

No refund will be issued for cancellations received **after June 28, 2024**.

Social Events

Dinner will be held on Wednesday July 10 at 19:30 at the Arcadia restaurant located in Galleria Subalpina.

Dinner is reserved only for those who have purchased it during registration.

Opening hours of the secretariat

Tuesday 9 July - 8:00 a.m to 6:00 p.m.

Wednesday 10 July - 8:00 a.m. to 6:00 p.m.

Thursday 11 July - 8:00 a.m to 2:00 p.m.



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Organizing Secretariat

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