

TECHNICAL PROGRAMME

26th International Biohydrometallurgy Symposium · Orléans, 28–30 September 2026



MONDAY 28/9

08:15 – 09:00 REGISTRATION & COFFEE

SESSION 1 9:00 - 10:30

AUDITORIUM

Chair: Christopher BRYAN (BRGM)

09:00 WELCOME

09:20 **INVITED SPEAKER** Biohydrometallurgy Through Time: People, Processes and Future Frontiers
David Holmes (Fundación Ciencia & Vida)

10:05 STARTUP PITCHES

10:30 – 11:00 COFFEE

SESSION 2A 11:00 - 12:30

AUDITORIUM

Chair: Sabrina HEDRICH (TU Bergakademie Freiberg)

11:00 Dynamic heat balance modelling of industrial bioleaching plant: influence of both environment and operating conditions and heat management improvement
Céline Loubière (CNRS) IBS26.0096

11:15 Numerical design of a pond bioleaching reactor

Anne-Gwénaëlle Guezennec (BRGM) IBS26.0158

11:30 Heat Management and Thermophile Transition in Chalcopyrite Heap Bioleaching
Jochen Petersen (UCT) IBS26.0137

11:45 Driving Early-Stage Heat Generation in Copper Sulfide Heaps

Catherine Edward (Mintek) IBS26.0098

12:00 Carbon dioxide availability and its correlation with oxygen uptake in column bioleaching of a carbonate-poor copper sulfide ore
Archippe Manzila (Mintek) IBS26.0097

12:15 *A Ferroplasma*-dominated heap bioleaching for copper sulfide ore: industrial practice and mechanism analysis
Yan Jia (CAS) IBS26.0084

SESSION 2B 11:00 - 12:30

THE ANNEX

Chair: Ivan NANCUCHEO (Universidad San Sebastián)

11:00 Influence of Flotation Reagent Chemistry on Mesophilic Bioleaching of Arsenic-Bearing Cobaltite Concentrates

Yousef Ghorbani (University of Lincoln) IBS26.0001

11:15 Indirect bioleaching triggered by MBR showed much higher pre-oxidation performance than direct one on gold extraction from gold ores
Baoping Xin (Beijing Inst. of Technology) IBS26.0007

11:30 Zn-selective bioleaching from electric arc furnace (EAF) dust with iron-oxidizing acidophile
Keiko Sasaki (Waseda University) IBS26.0156

11:45 Statistical Evaluation and Optimization of Key Parameters Affecting Bioleaching of Critical Metals from Alloy Processing Waste
Ebrahim Azimi (Coventry University) IBS26.0089

12:00 Microbial Recycling Process for Sustainable Metal Recovery from End-of-Life Lithium-ion Batteries for the Circular Economy
Joseph J Roy (Nanyang Tech. Uni.) IBS26.0054

12:15 Microbial effects on Lithium ore flotation processes

Päivi Kinnunen (VTT) IBS26.0155

12:30 – 14:30 LUNCH & POSTERS, POSTER GROUP A

SESSION 3 14:30 - 16:00

AUDITORIUM

Chair: Axel SCHIPPERS (BGR)

14:30 **KEYNOTE** Progress in the understanding of dissolution and leaching reactions
Frank Crundwell (CM Solutions)

15:00 Geomicrobiology of the deep subsurface of the Iberian Pyrite Belt: Biohydrometallurgical implications
Ricardo Amils (UAM) IBS26.0131

15:15 Facing the challenge of variability of minerals in bioleaching operations
Cecilia Demergasso (UCN) IBS26.0128

15:30 High-rate iron oxidation by *Leptospirillum ferrophilum* and psychrotolerant *Acidithiobacillus ferrivorans* for bioleaching and AMD remediation
Daniel Kupka (Slovak Academy of Sciences) IBS26.0081

15:45 Adaptation and performance of the BRGM-KCC bioleaching consortium under extremely low pH conditions
Douglas Pino Herrera (BRGM) IBS26.0011

16:00 – 16:30 COFFEE

SESSION 4A 16:30 - 18:00		AUDITORIUM
Chair: Mark DOPSON (Linnaeus University)		
16:30	Cooperative Effects of Stress Tolerance Among Species of Acidophilic Bioleaching Bacteria Gloria Levicán (U. Santiago de Chile) IBS26.0043	
16:45	Fluoride Toxicity and its Mitigation in Acidophilic Bioleaching Microorganisms M. Fritze (TU Bergakademie Freiberg) IBS26.0125	
17:00	Rhodanese-Like Sulfurtransferase in the Heterodisulfide Reductase Gene Cluster of <i>Acidithiobacillus ferrooxidans</i> Jiří Kučera (Masaryk University) IBS26.0042	
17:15	Reconstruction of an extremophile electron transfer pathway in <i>Escherichia coli</i> : Functional validation of the <i>Acidithiobacillus ferrooxidans</i> iron reduction pathway H Fuchs (TU Bergakademie Freiberg) IBS26.0121	
17:30	Exploring Acidophilic Microbial Communities in a Polymetallic Sulfide-Rich Magmatic Ore Deposit in Russia: A Novel <i>Acidithiobacillus</i> Species A Panyushkina (Winogradsky Institute) IBS26.0157	
17:45	Enhancing chalcopyrite leaching in a heap bioleaching using microbial consortium design Sue Harrison (UCT) IBS26.0136	
18:00		DAY END

SESSION 4B 16:30 - 18:00		THE ANNEX
Session Chair TBC		
16:30	Enhancement of Copper recovery from mine tailings through Electro-bioleaching with Native Acidophilic Consortia Aishvarya Venkataseetharaman (CSIR) IBS26.0036	
16:45	Biohydrometallurgical Extraction of Critical Metals from Spent Lithium-Ion Batteries via Direct Bioleaching by Mixotrophic Bacteria Mubarak & Chaerun (Inst. Tek. Bandung) IBS26.0049	
17:00	From bio-hydrometallurgical mineral refinement, metal recovery, and waste recycling to the biosynthesis of nanoparticles Mohammad Raouf Hosseini (Coventry U.) IBS26.0022	
17:15	Sustainable recovery of critical raw materials from spent lithium-ion batteries through bioleaching with halotolerant bacteria Eric van Hullebusch (IPGP) IBS26.0033	
17:30	SynBiomining for Critical Metal Recovery, Carbon Storage and Mine Closure Denys Villa Gomez (U. Queensland) IBS26.0120	
17:45	Integrated biomining approaches for critical mineral recovery and CO ₂ mineralization from mine wastes Kamalpreet Kaur Brar (NRC Canada) IBS26.0104	

TUESDAY 29/9

08:30 – 09:00		COFFEE
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SESSION 5 9:00 - 10:30		AUDITORIUM
Chair: Anna KAKSONEN (CSIRO)		
09:00	KEYNOTE Unlocking Rare Earth Elements with Phosphate-Solubilising Microbes Elizabeth Watkin (Edith Cowan University)	
09:30	When Microbes Team Up: Synergistic Drivers of Rare Earth Element Bioleaching from Monazite Julian Dietrich (Edith Cowan University) IBS26.0052	
09:45	Biorecovery of Critical Metals through Protein-mediated Affinity Separations Sue Harrison (University of Queensland) IBS26.0145	
10:00	A Preliminary Investigation into the Bioleaching of Deep-Sea Fe/Mn Nodules by Deep-Sea Sediment Enrichment Cultures under Simulated Deep-Sea Conditions Can Wang (CAS) IBS26.0116	
10:15	Bioleaching of mine tailings fractions for metal extraction and purification in the project ReTail Axel Schippers (BGR) IBS26.0065	
10:30 – 11:00		COFFEE

SESSION 6A 11:00 - 12:30		AUDITORIUM
Chair: Sadia ILYAS (Luleå University of Technology)		
11:00	Towards sustainable copper supply from WEEE: Configuration of a two-stage bioleaching system for PCB treatment Musa Maluleke (UCT) IBS26.0138	
11:15	E-waste bioleaching in a bioreactor: Experimental and numerical studies of particles suspensions Marc-Antoine Besch (CNRS) IBS26.0027	
11:30	Sustainable recovery of copper and gold from waste Printed Circuit Boards by biogenic ferric iron and thiosulphate Zahra Ilkhani (Lancaster University) IBS26.0093	
11:45	Synergistic Bioleaching of Copper and Zinc from Baal Gammon Mine Wastes: Linking Taxonomic Shifts to Leaching Kinetics and Metal Recovery Eric O. Ansah (University of Queensland) IBS26.0146	
12:00	Mitigating iron inhibition in the accelerated bioleaching of South African coal waste through targeted high-iron harvesting cycles for ferrous sulphate heptahydrate production Juarez Amaral Filho (UCT) IBS26.0064	
12:15	Efficiency of assisted phytostabilization with white lupin (<i>Lupinus albus</i> L.) Gaëlle Saladin (Université de Limoges) IBS26.0133	
12:30 – 14:30 LUNCH & POSTERS, POSTER GROUP B		
SESSION 7A 14:30 - 16:00		AUDITORIUM
Chair: Nadia MYKYTCZUK (MIRARCO Mining Innovation)		
14:30	Integrated bioleaching and resource recovery from sulphidic tailings for critical metals and iron mineral production Jana Pinka (G.E.O.S.) IBS26.0068	
14:45	Cobalt extraction from pyrite concentrates through bioleaching: developing by-product valorisation strategies at the mine design stage Douglas Pino Herrera (BRGM) IBS26.0014	
15:00	Bioleaching of Gold from Cyanide Heap Leach Tailings with Iodide-Oxidising Microorganisms Anna Henriikka Kaksonen (CSIRO) IBS26.0029	
15:15	Circular Biohydrometallurgy: Moderate-Thermophilic Bioleaching of Co–Ni from Chilean Copper Tailings Pilar Parada (Universidad Andrés Bello) IBS26.0126	
15:30	Bioleaching of Critical Metals from Low-Grade Tailings: Process Development for the COMAN Pilot Scale Tiina Heikola (VTT) IBS26.0154	
15:45	Pilot scale operation for nickel bioleaching from pyrrhotite tailings Katherine Picott (University of Toronto) IBS26.0151	
16:00 – 16:30 COFFEE		
16:30 – 18:00 POSTERS		
18:00 COACH DEPARTS FOR GALA DINNER		

SESSION 6B 11:00 - 12:30		THE ANNEX
Chair: Ruiyong ZHANG (Chinese Academy of Sciences)		
11:00	QS molecules modulate subpopulation distribution and inhibit bioleaching in mock thermophilic consortia Beatriz Salas (PUC Chile) IBS26.0078	
11:15	Microbial communities in column bioleaching: leachates vs mineral and implications for heap bioleaching Carmen Falagan (U. Portsmouth) IBS26.0144	
11:30	Microbial Community Succession in Chalcopyrite Leach Columns Underlines the Benefits of Biological Process Control Stephan Christel (Endolith) IBS26.0053	
11:45	Decoupling the effects of ore, novel catalyst and temperature in bioleaching. Implications for microbial resilience and oxidant capacity. Monse Rebolledo (Jetti Resources) IBS26.0086	
12:00	Bacteria-ore interaction in bioleaching: a CryoSEM/EDS approach to assess the influence of ore chemical composition and surface porosity. Caroline Michel (BRGM) IBS26.0013	
12:15	Induction and Characterization of Extracellular Polysaccharides in <i>Sulfobacillus acidophilus</i> . Mario Vera Véliz (PUC Chile) IBS26.0077	
SESSION 7B 14:30 - 16:00		THE ANNEX
Chair: Irene SANCHEZ ANDREA (IE university)		
14:30	Field trial of a sulfate-reducing bioreactor treating an arsenic-rich acid mine drainage Battaglia-Brunet Fabienne (BRGM) IBS26.0016	
14:45	Remediation of mine-impacted water with high chloride concentration using a sulfate-reducing consortium in a continuous bioreactor and a bioelectrochemical system Ivan Nancucheo (U. San Sebastián) IBS26.0130	
15:00	U(VI) Immobilization by <i>Sulfobacillus thermosulfidooxidans</i> under Aerobic Conditions Yi Yang (RMIT University) IBS26.0111	
15:15	Development of biobased adsorbents to remove arsenic and selenium from sulfate-rich wastewaters Gijs Du Laing (Ghent University) IBS26.0069	
15:30	Reducing Alkali Consumption in the Dewatering of Mine Pit Lakes via Ferrous Iron Biooxidation Ana Hernandez Millán (U. Seville) IBS26.0147	
15:45	Turning Acid Mine Drainage into Pigments through Biological Iron Oxidation Zuzana Bartova (Slovak Academy of Sci.) IBS26.0082	

WEDNESDAY 30/9	
08:30 – 09:00	COFFEE

SESSION 8 9:00 – 10:30		AUDITORIUM
Chair: Sue HARRISON (UCT)		
09:00	KEYNOTE Bioleaching and scaling up: challenges and tools Anne-Gwénaëlle Guezennec (BRGM)	
09:30	Operational transition from simplified matrices to real PCBs in a continuous pilot-scale copper bioleaching system under aluminium accumulation Isolda Tristany Tarrés (UPC) IBS26.0208	
09:45	Advancing Continuous Bioleaching of Pyrrhotite-Rich Mine Tailings: Pilot-Scale Evaluation of Two Sudbury Legacy Tailings Using the CanmetMINING Process Emmanuel Ngoma (MIRARCO) IBS26.0099	
10:00	Integration of Bioleaching with Sulphur Capture Päivi Kinnunen (VTT) IBS26.0152	
10:15	Design and Performance of Iron Biooxidation Systems for In-Situ Bioleaching Applications Sabrina Hedrich (TU Bergakademie Freiberg) IBS26.0122	
10:30 – 11:00 COFFEE		
SESSION 9A 11:00 – 12:30		AUDITORIUM
Chair: Siti Khodijah CHAERUN (Bandung Institute of Technology)		
11:00	Development of protein resins for REE separation using high-throughput screening Shawn Laursen (NLR) IBS26.0101	
11:15	Bioleaching of Rare Earth Elements from a Hyper Enriched Black Shale: Effects of Microbes, Temperature and Energy Source Melika Mostafavi (CSIRO) IBS26.0038	
11:30	Circular Extraction of Rare Earth Elements via Bioleaching and Phage Display-Based Purification Matthew Duffield Healy (Coventry University) IBS26.0034	
11:45	Siderophore assisted platform technology for the recovery of critical metals from low concentrated feeds Rohan Jain (HZDR) IBS26.0072	
12:00	Harnessing Lanmodulin Proteins for REE Separation Dan Park (LLNL) IBS26.0094	
12:15	SESSION Q&A	
SESSION 9B 11:00 – 12:30		THE ANNEX
Chair: Päivi KINNUNEN (VTT)		
11:00	Enhancement of chalcopyrite bioleaching with <i>Acidithiobacillus ferrooxidans</i> using a non-ionic organic surfactant Roosbeh Saneie (UBC) IBS26.0119	
11:15	Fine-tuning strain design and growth conditions for improved efficiency for biomining in <i>Acidithiobacillus ferridurans</i> JAGS Annesha Sengupta (U. Toronto) IBS26.0150	
11:30	Effect of microbial activity on leaching performance and precipitate sorption property Chinazor Oraegbunam (CPUT) IBS26.0047	
11:45	Managing Iron Precipitation Behaviour in Ferrous Iron Bio-Oxidation Processes and Its Implications for Bioleaching Performance Babatunde Oladipo (CPUT) IBS26.0159	
12:00	Incorporation of (K ⁺ , NH ₄ ⁺) cations into jarosites phases in conditions similar to those of bioleaching processes Chloé Capdevielle (U. de Toulouse) IBS26.0134	
12:15	Kinetic controls on biologically mediated iron oxidation and secondary mineral formation in acid mine drainage C Cicakova (Slovak Academy of Sci.) IBS26.0083	
12:30 – 14:30 LUNCH & POSTERS, POSTER GROUP C		
SESSION 10 14:30 – 16:00		AUDITORIUM
Chair: Anne-Gwénaëlle GUEZENNEC (BRGM)		
14:30	KEYNOTE Testing, design and implementation of the BIOX process at the Sabodala-Massawa Gold mine Jan van Niekerk (METSO-BIOX)	
15:00	ROUND TABLE ● Mohammad Khoskhoo (Boliden Mineral AB) ● John O'Callaghan (Ausenco Services Pty Ltd) ● Pilar Parada (Universidad Andres Bello) ● Monserrat Rebolledo (Jetti Resources) ● Jan van Niekerk (Metso South Africa) ● Frank Crundwell (CM Solutions)	
16:00 – 16:30 COFFEE		
SESSION 11 16:30 – 17:30		AUDITORIUM
Chair: Christopher BRYAN (BRGM)		
16:30	IBS2030 PITCHES & VOTING	
17:00	IBS2028 UPDATE, PRIZES, & CLOSING REMARKS	
17:30 CONFERENCE END		