

# DAY 3 – GEOCHEMISTRY AND MIXED

## KEYNOTE AND PLENARY SESSION

Chair: Cynthia Parnow, *Newmont, Peru*  
**SAN MARTIN BALLROOM (JOINT)**

- 09:00 – 09:30** | **Keynote MIXED. Climate change: Insights to extremes in precipitation for mining activities**  
 Edward McBean, *University of Guelph, Canada*
- 09:30 – 10:00** | **Acid drainage in Antarctica**  
 Bernhard Dold, *Sustainable Mining Research & Consult EIRL (SUMIRCO EIRL), Chile*
- 10:00 – 10:30** | **The geochemical field barrel program developed to support waste planning, engineering and permitting needs at the Cerro Corona Mine, Peru**  
 Shannon Shaw, *pHase Geochemistry, Canada*; Julian Misiewicz, *Gold Fields, UK*; Laura Gutierrez and Luis Alberto Sanchez, *Gold Fields La Cima, Peru*

### 10:30 – 11:10 | COFFEE BREAK

## SESSION 8 – MIXED

Chair: Mario Villavisencio, *Knight Piésold, Peru*  
**SAN MARTIN BALLROOM ABC**

- 11:10 – 11:30** | **Water supply in Peru and Chile -- the challenges and the solutions**  
 Doris Hiam-Galvez, *Hatch, Canada*
- 11:30 – 11:50** | **Extreme events in non-stationary climatic conditions**  
 Carmen Bernedo, *MWH Americas, USA*; Jose Salas, *Colorado State University, USA*

- 11:50 – 12:10** | **Geotest®: Field geochemical cells for on-site acid mine drainage monitoring**  
 M. Carolina Soto, *May-Lin Almendras and Natalia Farfán, Fundación Chile, Chile*; Alberto Acuña, *Compañía Minera Doña Inés de Collahuasi, Chile*

- 12:10 – 12:30** | **Effluent treatment of flotation plants for water reuse**  
 Luiz Teixeira, *PUC-Rio and Peróxidos do Brasil, Brazil*; Cristian Marquez S., *Quimtia, Peru*

## SESSION 9 – GEOCHEMISTRY

Chair: Javier Torrealva, *Golder Associates, Peru*  
**SAN MARTIN BALLROOM DEF**

- 11:10 – 11:30** | **Water management at the Navachab Gold Mine, Namibia, in the period 2000-2012 with a focus on groundwater chemistry**  
 Nick Steven, *Rockwater Consulting, South Africa*; Marietjie Bell and Uwe Rentel, *Navachab Gold Mine, Namibia*; Bruce Eglinton, *University of Saskatchewan, Canada*; Jodie Miller, *University of Stellenbosch, South Africa*

- 11:30 – 11:50** | **Wastewater treatment of high total dissolved solids and acidity at the Cerro de Pasco mine site**  
 Tom Rutkowski, *Melissa Rhodes, Jessa Smith and Kevin Conroy, Golder Associates, USA*; Mike Bratty, *Golder Associates, Canada*; Miguel Cortes, *Golder Associates, Peru*

- 11:50 – 12:10** | **Long-term impact of acid mine drainage at the Smolnik pyrite mine on surface water chemistry**  
 Peter Bajtoš, *Peter Malík and Jaromír Švasta, Slovak Geological Survey, Slovakia*

- 12:10 – 12:30** | **Application of membrane distillation and solvent extraction for water and acid recovery from waste solution**  
 Uchenna Kesieme, *Victoria University and CSIRO Minerals Down Under National Flagship, Australia*; Mikel Duke, *Nicholas Milne and Hal Aral, Victoria University, Australia*; Chu Yong Cheng, *CSIRO Minerals Down Under National Flagship, Australia*

### 12:30 – 14:00 | LUNCH

## SESSION 10 – MIXED

Chair: Miguel Wong, *Barr Engineering, USA*  
**SAN MARTIN BALLROOM ABC**

- 14:00 – 14:20** | **General guidelines for designing stormwater retention ponds in the mining industry**  
 José Adriasola V., *Bechtel Chile*; Jorge Gironás, *P. Universidad Católica de Chile*

- 14:20 – 14:40** | **Modeling coupled hydro-geomechanical-geochemical behaviour of leaching pads**  
 Mayu Tincopa, *Albert Nardi, Gabriela Roman-Ross, Jorge Molinero and David Arcos, Ampo 21 Consulting, Spain*; Eduardo Ruiz, *Amphos 21 Consulting, Peru*; Denys Parra, *Anddes Asociados, Peru*

- 14:40 – 15:00** | **Thermal performance of a lined tailings dam keyed into a permafrost foundation**  
 Peter Mikes, *SRK Consulting, Canada*; Jack Seto, *BGC Engineering, Canada*; Don Hayley, *EBA, a Tetra Tech Company, Canada*; Cam Scott, *SRK Consulting, Canada*

- 15:00 – 15:20** | **Geodynamic phenomena induced by mining in gypsum karst area near Spišská Nová Ves, Slovakia**  
 Peter Bajtoš, *Peter Malík and Radovan Černák, Slovak Geological Survey, Slovakia*

### 15:20 – 15:50 | COFFEE BREAK

## SESSION 12 – MIXED

Chair: Raúl Ortiz, *MWH, Peru*  
**SAN MARTIN BALLROOM ABC**

- 15:50 – 16:10** | **Hydraulic impacts on the performance of permeable reactive barrier. Aznalcóllar case, Spain**  
 Jose Bolzicco, *MWH, Peru*; Carlos Ayora and Tobias Rötting, *Institute of Earth Sciences Jaume Almera, Spain*; Jesús Carrera, *Technical University of Catalonia, Spain*

- 16:10 – 16:30** | **Cleaning regime for reverse osmosis membranes for feed water with high silica concentration**  
 Christian Dube, *Hatch Water Services, Australia*

- 16:30 – 16:50** | **Mine water management strategies in dry areas of Chile**  
 Mohammed Abdul Samad and Sumeet Singh, *Beroe Inc, India*

- 16:50 – 17:10** | **Remediation of environmental impact of acidic dams of mines through membrane process**  
 Renato G. Ramos and Omar Cunha, *Dow Brasil, Brazil*; Fabio W. Rodrigues, *W.S. Filho and M.D.A. Ribeiro, INB, Brazil*

## SESSION 11 – GEOCHEMISTRY

Chair: John Pottie, *Compañía Minera Antamina, Peru*  
**SAN MARTIN BALLROOM DEF**

- 14:00 – 14:20** | **Extremely arsenic-rich, pH-neutral waters from the Giant Mine, Canada**  
 Heather Jamieson and Mackenzie Bromstad, *Queen's University, Canada*; D. Kirk Nordstrom, *United States Geological Survey, USA*. Presented by Shannon Shaw, *pHase Geochemistry, Canada*

- 14:20 – 14:40** | **Breach and decant of an acid mine lake by a eutrophic river: River water quality and limitations of use**  
 Clint D. McCullough, *Golder Associates and Mine Water & Environment Research Centre, Edith Cowan University, Australia*; Elmién Ballot and Digby Short, *Premier Coal, Australia*

- 14:40 – 15:00** | **Denitrification in a sawdust – sewage sludge barrier system in northern Sweden for mine water treatment**  
 Roger Herbert, *Uppsala University, Sweden*; Harry Winbjörk, *LKAB, Sweden*

- 15:00 – 15:20** | **Passive treatment of mining wastewater with a biochemical reactor at the standard mine superfund site, Crested Butte, CO, USA**  
 Neal Gallagher, *Eric Blumenstein and Thomas Rutkowski, Golder Associates, USA*

## SESSION 13 – GEOCHEMISTRY

Chair: Fabiola Sifuentes, *Compañía Minera Antamina, Peru*  
**SAN MARTIN BALLROOM DEF**

- 15:50 – 16:10** | **Acid mine drainage from Pan de Azúcar Mine (Pb-Ag-Zn) and a possible arsenic input, Northwest Argentina**  
 Jessica Murray and Alicia Kirschbaum, *Instituto de Bio y Geo Ciencias del Noa (Conicet-UNSa), Museo de Ciencias Naturales, Argentina*; Bernhard Dold, *Universidad de Chile*

- 16:10 – 16:30** | **Mine rock drainage: From characterization to assessment of prevention alternatives**  
 David Arcos, *Amphos 21 Consulting, Spain*; Eduardo Ruiz, *Amphos 21 Consulting, Peru*; Wolf von Igel, *Amphos 21 Consulting, Chile*; Jorge Molinero, *Amphos 21 Consulting, Spain*; Jordi Guimerà, *Amphos 21 Consulting, Chile*

- 16:30 – 16:50** | **Development of a hydrogeochemical model to support closure of tailings facilities at hyperarid mine sites**  
 Ryan Jakubowski, *MWH, Peru*; Cary Foulk, *MWH, USA*

- 16:50 – 17:10** | **DAZA: Chilean National Program for the Integrated Management of Acid Rock Drainage in arid and semiarid zones**  
 M. Carolina Soto, *Angela Oblasser, May-Lin Almendras and Natalia Farfán, Fundación Chile, Chile*