PRELIMINARY PROGRAM
(93 articles as of October 4, 2019)

Represented Countries (23): Australia, Brazil, Canada, Chile, China, Colombia, Finland, France, Germany, Indonesia, Ireland, Japan, Mexico, Netherlands, Nigeria, Peru, Portugal, Russia, South Africa, Spain, Sweden, United Kingdom, USA

Inauguration Ceremony, Wednesday, November 20

Advanced Analytics Applied to the Mine-Plant Operation
Andrés Music, General Manager, El Teniente Division, Codelco, Chile

Plenary Speakers (6)

Mining Safety: Towards a Preventive Culture without Fatalities
Samuel Chávez, General Director, Rekrea, Chile

(A119) Geometallurgy and Processes Workflow
Marcela Oyarzún, Geometallurgy and Process Technical Director, Project Vice Presidency, Codelco, Chile

Invited Mining Executive to be Confirmed

(A114) Sustainable Innovation in Mineral Processing Plants
Neville Plint, Director, and Romke Kuyvenhoven, Productivity Project Leader; Sustainable Minerals Institute, University of Queensland, Australia

The Future of Tailings Management: Technical and Economic Challenges
Cecilia Arrué, Technical Process Manager, Antofagasta Minerals, Chile

Title TBC
Carlos Jara, Geometallurgy Manager, Cía. Minera Doña Inés de Collahuasi, Chile

Poster Presentations (5 articles)

(A112) Transition from Spray to Roping in Hydrocyclones: Influence of the Feed Particle Size Distribution
Juan Daza, Pablo Cornejo, Cristian Rodríguez, Fernando Betancourt and Fernando Concha, Universidad de Concepción, Chile

(A115) Study of the Lignosulphonates Effect as Molybdenite Depressant in Seawater
Consuelo Quiroz, Juan David Giraldo and Lina Uribe, Universidad de Talca, Chile; and Leopoldo Gutiérrez, Universidad de Concepción, Chile

(A116) Recovery of Gold and Copper from Printed Circuit Boards by Flotation
Jeser Villalobos and Lina Uribe, Universidad de Talca, Chile
(A117) Study of the Use of Guar Gum as Depressant of Pyrite in Seawater
Ángela Díaz, Juan Giraldo and Lina Uribe, Universidad de Talca, Chile; Leopoldo Gutiérrez, Universidad de Concepción, Chile; and Ricardo Jeldres, Universidad de Antofagasta, Chile

(A122) Concentration and Distribution of Cobalt in Pyrites from La Estrella IOCG Mineral Deposit, Atacama Region
Javier Quevedo, Universidad Mayor, Chile; Romke Kuyvenhoven and Ximena Prieto, SMI-ICE, Chile

Applied Mineralogy and Mineral Characterization (11 articles)

(A21) Geological-Mineralogical and Chemical Analysis of Reactive Rocks in the Río Blanco Deposit, Andina División-Codelco
Claudio Martínez and Juan Verdugo, Andina Division, Codelco, Chile; and Yasnna Contreras; Universidad de Concepción, Chile

(A72) Mineralogical Characterization of Muds in El Teniente Mine and its Impact in Copper Recovery
Ludovina Burgos, El Teniente Division, Codelco, Chile; and Susana Fonseca, Guiñez Ingeniería, Chile

(A15) A Quantitative and Comparative Laboratory Analyses of X-Ray Computed Tomography and Mineral Liberation Analyzer
Ahmad Hassanzadeh, Jose Godinho, Thomas Heinig, Robert Möckel, Doreen Ebert and Martin Rudolph, Helmholtz-Institute Freiberg for Resource Technology, Germany

(A19) Implementation of a Quality Control System for QEMSCAN® Mineralogical Analysis in Codelco Andina
César Bustos and Claudio Martínez, Andina Division, Codelco, Chile

(A22) Geometallurgical Considerations: Processing Mineralogy vs Alteration Footprints
Cassady Harraden, Cari Deyell-Wurst and Ronell Carey, Corescan, Australia; Sam Scher, Corescan, Chile

(A25) A Rapid Estimation of Processing Behaviour Based on Ore Texture
Anh Nguyen, BHP, Australia; Kate Tungpalan, Cathy Evans and Emmy Manlapig, SMI, The University of Queensland, Australia; John Jackson, IMDEX, Australia; and Khoi Nguyen, Independent Consultant, Australia

(A80) X-Ray Tomography as a Tool in Geometallurgy
Catherine Evans and Kate Tungpalan, WH Bryan Mining and Geology Research Centre, SMI, The University of Queensland, Australia; Pía Lois and Elaine Wightman, KJMRC, SMI, The University of Queensland, Australia

(A88) Alteration and Speciation Model of Soto-Norte Gold Deposit
Orlando Rojas, Rodrigo Barra and Javier Olivares, GeoEstima, Chile; Martin Balcucho and Margareth Guerrero, Minesa, Colombia; and Pim van Geffen, Vangeochem, Canada

(A11) Analysis of Element Composition in Copper Concentrate based on LIBS
Zhang Jian, Li XingHua, TengYao, Li XuSheng and Sun MingYan, Dandong Dongfeng, China
(A77) Application of Advanced Mineralogical Techniques in the Characterization of Precious Metals in Copper Concentrates
Ludovina Burgos and Ricardo Floody, El Teniente Division, Codelco, Chile; Carolina Portilla and Susana Fonseca, Guiñez Ingeniería, Chile

(A108) Chemical and Mineralogical Characterization Method for Tailings Deposit
Irene Aracena, Tania Triviño and Juan D. Rayo, JRI Ingeniería, Chile

Geometallurgical Characterization and Modeling (11 articles)

(A64) SWNIR Gangue Mineralogy Applied to Modelling and Estimation of UGM in Antucoya Copper Oxide Mine
Jorge Ávila and Gonzalo Mendoza, Minera Antucoya, Antofagasta Minerals, Chile; Xiomara Rubio, Antofagasta Minerals, Chile; and Pablo Valiente, Minera Centinela, Antofagasta Minerals, Chile

(A20) Mineralogical Blast Hole Sampling at Andina Division: An Opportunity to Improve Geometallurgical Modelling
Francisco Marín, Claudio Martínez and Rodrigo Silva, Andina Division, Codelco, Chile

(A12) An overview of Good Practices in the Use of Geometallurgy to Support Mining Reserves in Copper Sulfides
Mauricio Garrido and Luis Farfán, IMDEX, Chile; Julián Ortiz, Queen’s University, Canada; Exequiel Sepúlveda, Universidad de Talca, Chile; and Brian Townley, AMTC, Universidad de Chile

(A26) The Potential of Veins in Improving Geometallurgical Characterization of Mineral Separation
Kate Tungpalan, Elaine Wightman, Cathy Evans and Emmy Manlapig, SMI, The University of Queensland, Australia

(A39) Reinventing the Wheel: the Environmental Geometallurgy Matrix and its Supporting Tools
Anita Parbhakar-Fox, SMI, University of Queensland, Australia

(A43) Multi-Scale Mineral Analysis Tools and Technologies for Geometallurgical Characterization
Nathan Fox, WH Bryan Mining and Geology Research Centre, SMI, University of Queensland, Australia

(A63) Magsus Proxy for Pyrrhotite at AngloGold Ashanti Cuiabá Mine
Luiz da Costa, Bruno Penna and Gabriel Silva, AngloGold Ashanti, Brazil

(A66) Short Term Geometallurgy at Salobo Mine
Elisabeth Fonseca, Vale, Brazil; Axel de Sousa, Patrícia Santos, Francisco Olegario, Lucas Almeida, Ana Silveira, Rosiane de Aquino, Helbert Lino and Victor Hyodo, Salobo Mine, Vale, Brazil

(A70) Geometallurgical and Mineralogical Models for the Prediction of Concentrate Quality at El Teniente Division
Ludovina Burgos and Carolina Becerra, El Teniente Division, Codelco, Chile
(A71) Determination of Mineralogical Controls for In-Situ Geometallurgical Models at El Teniente Division
Gustavo Urízar and Óscar Jerez, Instituto GEA, Universidad de Concepción, Chile; Ludovina Burgos and Carolina Becerra, El Teniente Division, Codelco, Chile

(A120) Sampling Methodology for Geometallurgical Characterization: Porphyry Copper Deposits
Marcela Oyarzún, Project Vice Presidency, Codelco, Chile

Testing and Estimate of Process Performance (11 articles)

(A24) Characterization of a Recycling Process for the Recovery of Spherodized Graphite from Spent Lithium Ion Batteries
Anna Vanderbruggen and Martin Rudolph, Helmholtz-Institute Freiberg for Resource Technology, Germany

(A103) Bottlenecks and Beyond
Juan Schwarze, Rodrigo Kong, Karina González and Waldo Bustos, Arcadis, Chile

(A41) Quantifying the Effects of Mass Transport and Mineralogy in the Curing and Leaching of Agglomerated Ores
Luis Salinas and Stephen Neethling, Imperial College, United Kingdom

(A51) Evaluation of the LCPC Test for Application in the Operations of Mining and Processing of Compact Ores: Case Study of the Sossego Mine
Petterson Barbosa and Elisabeth da Fonseca, Sossego Mine, Vale, Brazil; Maurício Bergerman, Universidade de São Paulo, Brazil

(A57) A Preliminary Investigation into Dry Separation of Gold Ore using a Laboratory Knelson Concentrator
Meng Zhou, Ozan Kökkılıç, Raymond Langlois and Kristian Waters, McGill University, Canada

(A100) Pilot-Scale Cu-Mo Separation as a Tool for Industrial Plant Design
David Barriga, Esteban Rodríguez and Patricio Berrios, Aminpro, Chile; and Roger Amelunxen, Aminpro, Canada

(A50) Pilot Trial of a New High Rate Flotation Machine
James Dickinson and Kevin Galvin, The University of Newcastle, Australia; Bart Dabrowski, Dariusz Lelinski and Lance Christodoulou, FLSmidth, USA

(A99) The MiniBond Test: Description, Calibration and Sources of Error
Patricio Berrios, Roger Amelunxen and Esteban Rodríguez, Aminpro, Chile; Miguel Becerra, Anglo American, Chile; Marcial Medina, Hudbay Minerals, Peru; and Peter Amelunxen, Hudbay Minerals, Canada

(A45) Pilot Plant for the Processing of a Complex Tin Ore: a Contribution towards Geometallurgy in Beneficiation
Edgar Schach, Flavio Padula, Lucas Pereira, Robert Möckel, Doreen Ebert, Martin Rudolph, Karl van den Boogaart, Helmholtz Institute Freiberg for Resource Technology, Germany; Markus Buchmann and Thomas Leißner Technical University Bergakademie Freiberg, Germany; Dzmitry Pashkevich, G.E.O.S. Ingenieur
### Comminution Processes (10 articles)

- **(A59) 2018/19 Comparative Testing Program for JKDW and SMC Testing: Implications of Test Variance**  
  Matthew Weier, JKTech, Australia

- **(A96) Process Mineralogy Applied to Assess the Rougher Flotation Circuit Performance in a Copper-Gold Ore Processing Plant**  
  Pedro Paucar, Hyder Mamani and Elizabeth Carrera, GoldFields La Cima, Peru

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<td>Walter Valery, Kristy-Ann Duffy, Alex Jankovic, Peter Holtham, Erico Tabosa and Bianca Andrade, Hatch, Australia; Roberto Valle, Hatch, Peru; and Rodrigo Hayashida, Hatch, Brazil</td>
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<td>SAG Mill Optimization Insights by Measuring Inside the Mill</td>
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<td>Julio Díaz, Cristian López, Úrsula Contreras, Guillermo Droguett and Cristian Órdenes, El Teniente Division, Codelco, Chile; and Rodrigo Toro, Honeywell, Chile</td>
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<td>Multi-Compartment Rod/Ball Mill Evaluation on Bauxite Operation</td>
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(A18) Xanthate Replacement: Case of the Sossego Mine
Marlon Souza, Jefet Machado, Geovan Oliveira, Rafael Oliveira and Renan Sousa, Sossego Mine, Vale, Brazil; and Ronaldo Fonseca and Wendel Rodrigues, Clariant, Brazil

(A28) Effect of Bubble Size Distribution on Recovery of Copper and Molybdenum in an Industrial Column Cell
Nicolás Miranda, Andina Division, Codelco, Chile; Felipe Valdés, Eriez, Chile; and Miguel Maldonado, Universidad de Santiago de Chile

(A33) Interactive Effect of Particle Size, Liberation and Hydrophobicity on the Flotation Kinetics of a Carbonaceous Phosphate Deposit
Duong Huu Hoang, Edgar Schach, Ahmad Hassanzadeh, Nathalie Kupka, Lucas Pereira and Martin Rudolph Helmholtz-Institute Freiberg for Resource Technology, Germany

(A38) Challenges and Opportunities for Cobalt Recovery at Copper Plants
Romke Kuyvenhoven, SMI-ICE, Chile; and Brian Townley, AMTC, Universidad de Chile

(A49) Optimal Blend of Macaúba and Jatropha Curcas Oil as Apatite Collector
Ana Amorim, Carlos Mata, André Silva, Elenice Silva and Ramon Lima, Universidade Federal de Minas Gerais, Brazil

(A54) Green Chemistry in Froth Flotation: Evaluating the Use of Environmental-Friendly Agents
Lorenzo Reyes, Universidad Autónoma de Chile; Eduardo Vyhmeister, University College Cork, Ireland; Alex Godoy and Héctor Valdés, Universidad del Desarrollo, Chile; Pablo Higuera, Universidad de Castilla-La Mancha, Spain; Carlos Fúnez, Centro Nacional del Hidrógeno, Spain; José Luis Salazar, Universidad de Santiago de Chile; and Ronaldo Herrera, Universidad de Sonora, Mexico

(A55) Bioflotation with Acidithiobacillus Ferrooxidans in Seawater
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(A56) Challenges and Innovation in the Flotation Reagent Dosing Systems
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(A79) Evaluation of Vegetable Recycled Oil as Collector in Flotation of Copper Sulfides
Felipe Sazo, Carlos Moraga and Lina Uribe, Universidad de Talca, Chile

(A81) Optimizing the Froth Area of Large Mechanical Flotation Cells
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(A83) Electroflotation of Iron Ore Fines using Biosurfactan
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(A84) Analysis of the Rougher and Scavenger Bank using Tecflote™ S11 at Boliden Aitik, Sweden
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(A97) Collaborative Research on Coarse Particle Processing
Liza Forbes, Kym Runge and Neville Plint, JKMRC, SMI, The University of Queensland, Australia

(A104) Impact of Hydrodynamics and operational Parameters over Concentrate Quality at Minera Fresnillo
Jaime Godínez and Mario Franco, Flottec, Mexico; Juan Anes, Flottec, Canada; and Adrián Tolentino, Fresnillo Zacatecas, Mexico

(A109) Clay and Mica Minerals in Flotation: Downstream Effect of the Use of Dispersing Agents
Joaquín Roa, Rodrigo Yepsen, Andrés Ramírez and Leopoldo Gutiérrez, Universidad de Concepción, Chile

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(A36) Preliminary Studies on Process Design for Ilesa Lode Gold Deposit
John Ajayi, Federal University of Technology, Akure, Nigeria

(A17) A New Particle-Based Approach to Process Modelling and Diagnostics
Lucas Pereira, Mahdi Khodadadzadeh, Raimon Tolosa, Edgar Schach, Juho Hannula, Ivan Fernandes and Max Frenzel, Helmholtz Institute Freiberg for Resource Technology, Germany

(A2) Developing of Metamodel for Grinding Process using Geostatistical and Support Vector Machine
Freddy Lucay, Pontificia Universidad Católica de Valparaíso, Chile; Mauricio García, Dubett Muñoz, Felipe Sepúlveda and Renato Acosta, Universidad de Antofagasta, Chile

(A9) Optimization of the Flotation Process of Copper Ore with High Pyrite and Clays Bearing in Seawater utilizing Response Surface Methodology
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(A23) Criticality of Appropriate Control System Design on High Pressure Grinding Rolls
John Long, CSAutomation, Australia; Kevin Erwin, Minera Peñasquito, Mexico; and Bianca Foggiatto, Ausenco, Canada

(A34) Evaluation of an Industrial Simulator Built on an Extended Industrial Database
Juan Yianatos and Paulina Vallejos, Universidad Técnica Federico Santa María, Chile; Rodrigo Grau and Alejandro Yáñez, Outotec, Finland

(A40) Mineralogy and Beneficiation Studies of Low-Grade Copper-PGM Deposit
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(A75) Analysis of Voids in Leaching Cells to optimize the Gold Cyanuration Process and Water Treatment
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(A76) Concentrate Quality Model based on Geometallurgical and Mineralogical Models
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(A78) A Flexible Steady State Comminution Circuits Simulator
Fernando Ureta and Daniel Sbárbaro, Universidad de Concepción, Chile; and Christian Goni, Independent Researcher, Chile

(A113) New Models for Better Mine-to-Plant Planning
Jorge Menacho, Guillermo Vega and Carlos Martínez, De Re Metallica Ingeniería, Chile

Solid-Solid and Solid-Liquid Separation (10 articles)

(A27) Impact of Particle Size in High Tension Roll Separation
Marcin Ziemski, JKMRC, SMI, The University of Queensland, Australia

(A87) Single Module Screening for 10,000 t/h of Slurry from a 40 Foot Semi-Autogenous Grinding Mill
Douglas Teyhan and Gordon Ashley, Schenck Process, Australia

(A105) On-Line Detection of Abnormal Cyclone Performance using Particle Size Tracker (PST) Technology
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(A14) AI Algorithms to Monitor the Performance and Condition of Vibrating Machines
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(A3) Research Findings Driving New Banana Screen Designs
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(A102) REWO-SORT Sensor Fusion for Enhanced Ore Sorting: a Project Overview
Markus Firsching, Christine Bauer, Rebecca Wagner and Alexander Ennen, Fraunhofer EZRT, Germany; Amit Ahsan, SECOPTA analytics, Germany; Tobias Kampmann and Glaciale Tiu, Luleå University of Technology, Sweden; Álvaro Valencia, Aldo Casali and Gonzalo Montes, Universidad de Chile

(A5) Dewatering Agents for Iron Ore and Bauxite
Pedro Rollo, Leandro Bicalho, Ronaldo Fonseca, Valdílene Rhodes and Wendel Rodrigues, Clariant, Brazil; and Wagner Silva, Clariant, USA

(A29) A Physicochemical Approach to Explain the Decrease in Solids Content of Thickener Underflow in Compañía Minera Cerro Negro Norte
Juanita Carvajal, Compañía Minera del Pacífico, Chile; and Leopoldo Gutiérrez, Universidad de Concepción, Chile
(A85) Selective Bioflocculation of Ultrafine Hematite Particles using the Yeast Candida Stellata
Marcelo Camarate, Antonio Merma, Carolina Simões and Mauricio Torem, Pontificia Universidad Católica de Río de Janeiro, Brazil

(A118) Efficiency in Tailings Dewatering: What Parameters will affect the Performance and Capacity of a Pressure Filter
Niclas Hällevall and Lars Gustavsson, Metso Minerals, Sweden; and Rodrigo Gouveia, Metso Minerals, Chile

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(A106) Diagnostic Cu-Mo Circuit at Minera Cuajone and Adjustments to Increase Efficiency in the Flotation Process
Nelver Benavides and Erland Zegarra, Southern Cuajone, Peru; and Alexis Campos, Solvay, Chile

(A69) Improvement of Short-Term Planning in Molybdenum Recovery at El Teniente
Olivia Mejías, Independent Geologist, Chile; Erika Méndez, Úrsula Contreras, Viviana Pavez and Valentina Toledo, El Teniente Division, Codelco, Chile

(A74) El Teniente: Increase in Molybdenum Recovery
Aldo Collari, El Teniente Division, Codelco, Chile

(A98) Update of the Throughput Model and Ore Processing Plan at the Minera Centinela Concentrator
Javier Vargas and Gonzalo Barcos, Minera Centinela, Antofagasta Minerals, Chile; Sebastián Tello, JKTech, Chile; and Iván Yutronic, Antofagasta Minerals, Chile

(A111) Scaling of the Primary Metallurgical Recovery Model for Copper, Molybdenum and Gold at the Centinela Concentrator Plant
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(A46) Upfront Process Mineralogy: a key Influencer to Success in Flowsheet Development and Plant Design
Wolfgang Baum, Ore & Plant Mineralogy, USA; David Meadows, Bechtel, USA; and Gillian Hall, Independent Consultant, United Kingdom

(A60) Revisiting the Geometallurgy Roadmap
Richard Valenta and Alice Clark, WH Bryan Mining and Geology Research Centre, SMI, University of Queensland, Australia
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- Westgold Resources, Australia
- BHP, Australia
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- Bechtel, USA (1)
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### Universities and Research Centers (36 articles)

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