enviromine 2013

3rd International Seminar on Environmental Issues in Mining

Technical and Social Program

December 4 • 6, 2013

Sheraton Hotel and Convention Center, Santiago, Chile

Organized by

SMICMLR
Centre for Mined Land Rehabilitation

GECAMIN
Conferences for Mining
General Information

Information
Please approach the registration desk with any enquiries or comments.

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All lost items should be reported to the Gecamin staff at the registration desk. All found items must be taken to conference registration desk.

Parking
Discounted hotel parking tickets for Enviromine 2013 participants can be obtained at the registration desk.

Simultaneous Interpretation
(English and Spanish)
If you plan to use the simultaneous interpretation services, please have your Identification Card with you when requesting your headset. Headsets must be returned at the end of each day.

Internet
In addition to the computers at the foyer entrance, complimentary Wi-Fi is available in all areas of the conference.

Recommendations
For safety reasons, please keep your personal belongings with you at all times. Gecamin is not to be held responsible for any stolen property. Please wear your delegate badge at all times in order to facilitate your access to the technical and social activities.

Gecamin Contacts

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Nicolas Cortés
+56 9 9499 5487

SEMINAR COORDINATOR
Olivia Tamboryn
+56 9 6646 0491

Tuesday 3 and Wednesday 4 December Short Courses

1. Basic principles of hydrogeology: Applied to mining sites
INSTRUCTORS: Dr. Jorge Molinero, Dr. Jordi Guimerà, Eduardo Ruiz, Paola Ibáñez, Agustín Álvarez and Pilar Enguita, Amhos 21 Consulting Chile Ltda.
Language: Spanish - San Cristóbal C Ballroom

2. Mine waste management: From design to closure
INSTRUCTOR: Dr. Jacques Wiertz, Universidad de Chile
Language: Spanish - O’Higgins Ballroom

Saturday, December 7
Technical Visit
8:00 / 19:00 Punta Chungo Port, Los Pelambres Mine, Chile

Wednesday, December 4
Technical and Social Program
16:00 Registration, Foyer
18:00 Authors and Session Chair Coordination Meeting O’Higgins Ballroom
19:00 Inauguration Ceremony, San Cristóbal Ballroom A & B

Words of Welcome
Carlos Barahona, Enviromine 2013 Executive Director, Gecamin, Chile
David Mulligan, Enviromine 2013 Co-Chair, University of Queensland, Australia
Fernando Valenzuela, Enviromine 2013 Technical Coordinator, Universidad de Chile
Jorge Chávez, Enviromine 2013 Chair, Compañía Minera Barrick, Chile

Opening Address
Challenges of the mining sector within the framework of climate change
Mariano Castro, Vice Minister of Environment, Ministerio del Ambiente de Perú

20:00 Welcome Reception, Foyer
Thursday, December 5
Plenary Session 1
San Cristóbal Ballroom A & B

Chair: Jorge Chávez, Compañía Minera Barrick, Chile

08:20  Day 2 program update
Fernando Valenzuela, Enviromine 2013 Technical Coordinator, Universidad de Chile

08:30  Injecting the science into decision-making: A reflection on 20 years of mine rehabilitation research
David Mulligan, Professor and Director, Centre for Mined Land Rehabilitation, Sustainable Minerals Institute, The University of Queensland, Australia

09:00  Mine Water Balance: A tool for sustainable water use at the Antamina Mine, Peru
Sergio Yi Choy, Environmental Projects Engineer and Bevin Harrison, Principal Environmental Consultant, Compañía Minera Antamina S.A., Peru; Roald Strand, Hydrogeochemist, Klohn Crippen Berger, Australia

09:30  Tailings and communities, a confidence building challenge
Gustavo Pössel, Gerente de Medio Ambiente, Antofagasta Minerals S.A., Chile

10:00  Poster and Coffee Break, Foyer
### Thursday, December 5
#### Session 1

**Environmental impact assessment**

Chair: **Maurício Torem**, Pontificia Universidade Católica do Rio de Janeiro, Brazil

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<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>10:50</td>
<td>Voluntary resource efficiency targets of major mining and metal production companies</td>
<td>Ilkka Kojo, Markus Reuter and Jörn Rohleder, Outotec Oyj, Finland</td>
</tr>
<tr>
<td>11:10</td>
<td>Future climate vulnerability of a copper mining basin in the Chilean semi-arid region</td>
<td>Sebastian Vicuña, Francisco Meza and Eduardo Bustos, Pontificia Universidad Católica de Chile</td>
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<tr>
<td>11:30</td>
<td>Environmental risk assessment of soil and water contamination from mining sites</td>
<td>Ingvild Helland, Kevin Tuttle and Matias Egaña, Norconsult AS, Norway</td>
</tr>
<tr>
<td>11:50</td>
<td>A rapid method for environmental risk characterization</td>
<td>Luis Cifuentes, Pilar Lapuente, Andrés Pica and Ariel Farias, Pontificia Universidad Católica de Chile</td>
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### Thursday, December 5
#### Session 2

**Design, operation and closure of mining activities**

Chair: **Gustavo Pössel**, Antofagasta Minerals S.A., Chile

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<tr>
<th>Time</th>
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<tr>
<td>10:50</td>
<td>A framework for assessing climate change adaptation planning in mining projects</td>
<td>Reinaldo Peñailillo, Arnaldo Santander and Alejandra Acuña, Golder Associates S.A., Chile; Sean Capstick, Golder Associates Ltd., Canada</td>
</tr>
<tr>
<td>11:10</td>
<td>Technical criteria to develop closure plans audits</td>
<td>Lilian Valdebenito and Jorge Campos, Sernageomin, Chile; Cecilia Adasme, Hatch, Chile</td>
</tr>
<tr>
<td>11:30</td>
<td>Sustainable closure of mining activities: Some important considerations</td>
<td>Agustín Cárdenas, Universidad Mayor de San Andrés (UMSA), Bolivia; Natalia Cárdenas, Environmental Consultant, Bolivia</td>
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<tr>
<td>11:50</td>
<td>Feasibility analysis of chemical stabilization technologies for closure plans</td>
<td>Sat Sansar Singh, MAYCO Consultores, Chile; Juan Rivadeneira, Universidad Adolfo Ibañez, Chile; Raimundo Bordagorry, Universidad Diego Portales, Chile</td>
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**12:10** Remote sensing as a tool for the design of environmental monitoring and management plans in wetlands

**12:30** Lunch, El Bohío Park (Pool area)
### Environmental impact assessment

**Chair:** Susana Stegen, Universidad Catolica del Norte, Chile

14:00  
**Assessment of greenhouse gas emissions from copper production: A case study of El Teniente copper mine**  
Stephen Northey and Nawshad Haque, CSIRO, Australia

14:20  
**IFC’s Performance Standards as a way/guide to manage a sustainable project: The DMC Case**  
María Ovalle and Joan Bas, Antofagasta Minerals S.A., Chile

14:40  
**Integrated environmental and meteorological forecasting and alert system (SIAM): Air quality and meteorological application for the mining sector**  
Raúl Arasa, Miquel Picanyol, Ignasi Porras and Josep Maria Solé, Meteosim S.L., Spain

15:00  
**Applications of hydrochemical and isotope tools for groundwater quality monitoring and prediction**  
Jordi Guimerà, Amphos 21 Consulting Chile Ltda., Chile

15:20  
**Modeling the deposition behavior of particulate matter along a high mountain valley**  
Fernando Corvalán and Juan Antonio Gutiérrez, Universidad de Santiago de Chile

15:40  
**Poster and Coffee Break, Foyer**

### Social environmental issues

**Chair:** Jacques Wiertz, Universidad de Chile

14:00  
**Mining in isolated areas: Establishing bridges for the development of socio-environmental management**  
Stephan Funk, Nature Heritage, Germany and Universidad Católica de Temuco, Chile; Daniela Rusowsky, Nature Heritage, Germany

14:20  
**Government strategies for improving mining development outcomes: The case of Peru**  
Mariano Castro, Vice Minister of Environment, Ministerio del Ambiente de Perú; Ernesto Sanchez-Triana, Fernando Loayza, Juan Albarracin-Jordan and Ana Luisa Lima, World Bank, USA

14:40  
**Mining footprint: Measuring the performance and impacts of a mining operation through environmental and socio-economic indicators**  
Martín Fuentes, María Carolina Soto and Angela Oblasser, Fundación Chile

15:00  
**Guanaco (Lama guanicoe) conservation program associated with the ‘Los Pelambres’ mine**  
Juan Pablo Rubilar, Minera Los Pelambres, Chile; Fernando Novoa, Applied Ecology Center, Chile

15:20  
**Uptake of sulfate from mine waters using nano-structured calcium silicates and aluminium salts in a DAF cell**  
Fernando Valenzuela, Carlos Basualto, Jaime Sapag and Luis Verdugo, Universidad de Chile

15:40  
**Poster and Coffee Break, Foyer**
Thursday, December 5  
Session 5  
San Cristóbal  
Ballroom A

**Effluent water treatment by biological and photo-chemical systems**  
Chair: **Fernando Valenzuela**, Universidad de Chile

16:30  
**Biosorption of Cobalt by Rhodococcus opacus and Rhodococcus ruber**  
**Gabriela Pino, Amanda Pimentel, Edson Neto, Leonardo Silva** and **Mauricio Torem**, Pontificia Universidade Católica do Rio de Janeiro, Brazil

16:50  
**BX® System: A biological system to remove heavy metals from mining wastewater**  
**Davor Cotoras** and **Fernando Valenzuela**, Universidad de Chile; **Pabla Viedma**, Biotecnologías del Agua Ltda, Chile

17:10  
**BIOTREAT: Natural filters for wastewater treatment**  
**Ulrike Broschek, Rocío Fonseca** and **Karien Völker**, Fundación Chile

17:30  
**Degradation of phenol as contaminant associated with different mining processes by means of an advanced photo-oxidation method with solar light irradiation**  
**Andreina García**, Universidad de Chile; **Karina Quintana** and **Juan Matos**, Venezuelan Institute for Scientific Research (IVIC)

17:50  
**Very fast oxidation of cyanide in water by singlet oxygen generated by hydrogen peroxide and hypochlorite**  
**Luiz Teixeira**, Pontificia Universidade Católica do Rio de Janeiro and Peróxidos do Brasil Ltda, Brazil;  
**Meryelem Arellano**, Pontificia Universidade Católica do Rio de Janeiro, Brazil;  
**Cristian Marquez**, Quintua, Peru;  
**Lidia Yokoyama** and **Fabiana Araujo**, Universidade Federal do Rio de Janeiro, Brazil

18:10  
**Cocktail and Seminar Dinner**, El Bohío Park (Pool area)

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Thursday, December 5  
Session 6  
San Cristóbal  
Ballroom B

**Social, Legal and Energy environmental issues**  
Chair: **Eduardo Pizarro**, Lex Ambiental, Chile

16:30  
**Incorporating HSE and social indicators in mining project evaluation**  
**Reinaldo Peñaillillo**, Golder Associates S.A., Chile;  
**Dicksen Tanzil**, Golder Associates Inc., USA

16:50  
**Risk assessment under the new Chilean soil quality regulation**  
**Marcelo Gamboa**, Ministerio del Medio Ambiente, Chile;  
**Joachim Vogdt**, Ingeniería Alemana S. A., Chile;  
**Heriberto Robles**, Enviro-Tox Services Inc., USA

17:10  
**Analysis of the environmental authority’s practice of establishing conditions post approval**  
**Luis Contreras**, KGHM International, Chile; **Pablo Campos** and **Carlos Cantuarias**, Preventiva-RCA, Chile

17:30  
**Towards a framework for analyzing co-location of utility scale solar power plants with metallurgical operations**  
**Lehlogonolo Chiloane**, **Jochen Petersen**, **Harro von Blottnitz** and **Jean-Paul Franzidis**, University of Cape Town, South Africa

17:50  
**Using organic residual covers on tailings for bioenergy crop production in Sudbury, Ontario, Canada**  
**Peter Beckett**, **Graeme Spiers** and **Daniel Campbell**, Laurentian University, Canada; Bryan Tisch, Natural Resources Canada;  
**Jennifer Hargreaves** and **Alan Lock**, MIRARCO, Canada;  
**Michael Soenens**, Green Zone Farms, Canada

18:10  
**Cocktail and Seminar Dinner**, El Bohío Park (Pool area)
NEW!

Friday, December 6
Plenary Session 2
San Cristóbal
Ballroom A & B

Chair: David Mulligan, University of Queensland, Australia

08:20  Day 3 program update
Fernando Valenzuela, Enviromine 2013 Technical Coordinator, Universidad de Chile

08:30  Water, energy and climate change management in Anglo American: Progress and challenges
Marcela Angulo, Sustainability Manager, Anglo American, Chile

09:00  Title to be confirmed
Claudio Olguín, Gerente General División Ministro Hales, CODELCO, Chile

09:30  Title to be confirmed
Mauricio Gómez, Gerente de Relaciones Externas, Teck, Chile

10:00  Poster and Coffee Break, Foyer

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Management and effluent water treatment
Chair: Marcela Angulo, Anglo American, Chile

10:50 An innovative technology for arsenic antimony abatement from mining effluents developed by Ecometales Limited
Iván Valenzuela, María Paz Merino and Jan Smit, EcoMetales Limited, Chile

11:10 Contaminant release from sulfidic mine tailings: Column experiments and geochemical modelling
Bronwen Forsyth, Mansour Edraki and Thomas Baumgartl, Centre for Mined Land Rehabilitation, Sustainable Minerals Institute, The University of Queensland, Australia; Laurent Lassabatere, Université de Lyon, France

11:30 Unconventional technologies for the treatment of water in mining: Scaling from laboratory
Claudia Ortiz, Jaime Pizarro, Diego Veliz, Guillermo Espinoza, Daniel Barros and Héctor Cid, Universidad de Santiago de Chile

11:50 Arsenic species in aquatic vegetation of a river with mining-related interventions in northern Chile
Susana Stegen and Fabrizio Queirolo, Universidad Católica del Norte, Chile; Albert Pell, Anna Márquez, José Fermin López-Sánchez, Roser Rubio and Mercedes Barbero, Universitat de Barcelona, Spain; Paula Díaz-Palma, Universidad de Chile

12:10 Sulfate sorption using Purolite A500, Amberlite IRA458 and Amberlyst A21 in acid conditions
Damaris Guimarães and Versiane Leão, Universidade Federal de Ouro Preto, Brazil

Remediation and rehabilitation of lands
Chair: Jordi Guimerà, Amphos 21 Consulting Chile Ltda., Chile

10:50 Sustainable remediation principles for management of contamination arising from mining operations
Stuart Winchester and Peter Nadebaum, GHD, Australia; Adam Tilling, GHD S.A., Chile

11:10 Environmental risk, opportunity and valuation assessment of a mining wetland restoration
James Spurgeon, Sustain Value, UK; Gabriel Fuenzalida, Antofagasta Minerals S.A., Chile

11:30 Newly discovered nickel hyperaccumulators from Kinabalu Park, Sabah (Malaysia) with potential for phytomining
Antony van der Ent, David Mulligan and Peter Erskine, Centre for Mined Land Rehabilitation, Sustainable Minerals Institute, The University of Queensland, Australia

11:50 Management of spontaneous vegetation for cost-effective phytostabilization of a tailings dump
Rosanna Ginocchio, Pontificia Universidad Católica de Chile; Luz María de la Fuente, Elizabeth Trangolao and Elena Bustamante, Centro de Investigación Minera y Metalúrgica, Chile; Arturo Morales-Ladrón De Guevara, División El Teniente, CODELCO-Chile

12:10 Environmental responsibility: Xstrata Tintaya’s voluntary wetland recovery and conservation project
Lizbeth Cornejo and Edwin Arucutipa, Xstrata Tintaya Antapaccay, Peru

12:30 Lunch, El Bohío Park (Pool area)
### Geochemistry of mining environments and waste management

**Chair:** Paul Szejner, Universidad Austral de Chile and University of Arizona, USA

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<tr>
<td>14:00</td>
<td>High performance computing (HPC) for coupling groundwater flow and geochemical processes: A new tool for environmental solutions</td>
<td>Jorge Molinero, Luis Manuel de Vries and Hedieh Ebrahimi, Amphos 21 Consulting S.L., Spain</td>
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<tr>
<td>14:20</td>
<td>Geochemistry and spatial distribution of metal(loid)s in a tailings storage facility, Queensland, Australia</td>
<td>Roberto García-Fragoso, Mansour Edraki and David Mulligan, Centre for Mined Land Rehabilitation, Sustainable Minerals Institute, The University of Queensland, Australia</td>
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<td>14:40</td>
<td>Definition of biogeometallurgical units in ore deposits, an approach to increase sustainability of mining</td>
<td>Bernhard Dold, Sustainable Mining Research and Consult EIRL(SUMIRCO EIRL), Chile; Leyla Weibel, Amphos 21 Consulting Chile Ltda., Chile</td>
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<tr>
<td>15:00</td>
<td>Hydrogeochemical model for waste dump designing</td>
<td>David Arcos, Gabriela Román-Ross, Flavia Maia and Andrés Idiart, Amphos 21 Consulting S.L., Spain</td>
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<td>15:20</td>
<td>Conversion of waste tires into activated carbon through pyrolysis and physical activation with $\text{CO}_2$</td>
<td>Isaac Meza, Ernesto de la Torre and Alicia Guevara, Escuela Politécnica Nacional, Ecuador</td>
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**15:40** Poster Session and Coffee Break, Foyer

### Remediation and rehabilitation

**Chair:** Claudia Ortíz, Universidad de Santiago de Chile

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<tr>
<td>14:00</td>
<td>Designing mine tailings through collaborative research</td>
<td>Mansour Edraki, Trang Huynh, Thomas Baumgartl, Longbin Huang, Michal Andrusiewicz, Kate Tungpalan, Maedeh Tayebi-Khorami, Elaine Wightman, Sam Palaniandy, Emmanuel Manlapig, Cathy Evans, Saeed Farrokhpay, Dee Bradshaw and Sue Vink, Sustainable Minerals Institute, The University of Queensland, Australia</td>
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<tr>
<td>14:20</td>
<td>Remediation of mining soils contaminated with heavy metals using electrokinetic treatment</td>
<td>Alicia Guevara, Carlos Aragón and Ernesto de la Torre, Escuela Politécnica Nacional, Ecuador</td>
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<tr>
<td>14:40</td>
<td>The strategic role of risk assessment in environmental restoration projects</td>
<td>Heriberto Robles, Enviro-Tox Services Inc., USA</td>
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<td>15:00</td>
<td>Bioavailability of arsenic in mine tailings</td>
<td>Trang Huynh and Mansour Edraki, Centre for Mined Land Rehabilitation, Sustainable Minerals Institute, The University of Queensland, Australia</td>
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<td>15:20</td>
<td>Environmental management in Xstrata Tintaya to reduce the carbon footprint</td>
<td>Edwind Arucutipa and Sharon Huamán, Xstrata Tintaya Antapaccay, Peru</td>
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<td>15:40</td>
<td>Poster Session and Coffee Break, Foyer</td>
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### Management and treatment of effluents and acid rock drainages

**Chair:** Davor Cotoras, Universidad de Chile

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<tr>
<td>16:20</td>
<td>Use of sulfidization to reach ultra-low metal discharge criteria in mining effluent</td>
<td>Andrew Hall, Lloyd Jacobs and Patrick Littlejohn, BioteQ Environmental Technologies, Canada; Fabián Rodríguez and Manuel Maiza, BioteQ Water Chile spA, Chile</td>
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<tr>
<td>16:40</td>
<td>Recovery of uranium from mining waste by leaching and ion exchange</td>
<td>Ana Cláudia Ladeira, Walace Bráulio and Hugo Palhares, Centre for the development of Nuclear Technology - CDTN, Brazil</td>
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<td>17:00</td>
<td>Managing mine closure risks by integrating AMD assessments with mine scheduling: Real world applications</td>
<td>Stuart Winchester, Fern Beavis and Hugh Thompson, GHD, Australia; Adam Tilling, GHD S.A., Chile</td>
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<td>17:20</td>
<td>Predicting the time-related generation of acid rock drainage from mine waste: A copper case study</td>
<td>Nathan Simunika, Jennifer Broadhurst, Jochen Petersen, Susan Harrison and Jean-Paul Franzidis, University of Cape Town, South Africa</td>
</tr>
<tr>
<td>17:40</td>
<td>Use of portable XRF technique in environmental studies</td>
<td>María Carolina Soto, Natalia Farfán and Angela Oblasser, Fundación Chile</td>
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### Sustainable use of water and dust control

**Chair:** Mansour Edraki, The University of Queensland, Australia

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<tr>
<td>16:20</td>
<td>Precipitation and river-flow reconstruction in the Choapa watershed</td>
<td>Paul Szejner, Universidad Austral de Chile and University of Arizona, USA; Augusto Cuq, Universidad Austral de Chile and Fundación Centro de los Bosques Nativos FORECOS, Chile; Alejandra Bahamondez and Carmen Gloria Rodríguez, Universidad Austral de Chile; Álvaro Gonzalez-Reyes, Universidad de Chile</td>
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<tr>
<td>16:40</td>
<td>Monitoring of groundwater supply and water resource management tools for communities</td>
<td>Marcelo Ossandón and Mauricio Galvez, Osmatic Automatization, Chile</td>
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<tr>
<td>17:00</td>
<td>Controlling water flow in waste rock covers</td>
<td>Thomas Baumgartl and Chris Gonzales, Centre for Mined Land Rehabilitation, Sustainable Minerals Institute, The University of Queensland, Australia</td>
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<td>17:20</td>
<td>Best practices for dust control mineral mining processing</td>
<td>Miguel Salinas and Natacha Garcia, Taylor Ltda., Chile</td>
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<td>17:40</td>
<td>Control of particulate matter emissions in ‘Los Pelambres’ mine</td>
<td>Fernando Marín and Renato Salazar, Minera Los Pelambres, Chile</td>
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**Closing Comments**

Carlos Barahona, Enviromine 2013 Executive Director, Gecamin, Chile
David Mulligan, Enviromine 2013 Co-Chair, University of Queensland, Australia
Fernando Valenzuela, Enviromine 2013 Technical Coordinator, Universidad de Chile
Jorge Chávez, Enviromine 2013 Chair, Regional Environmental Director, Compañía Minera Barrick, Chile
(1) Qualitative analysis approach for environmental impact assessments
Carlos Vieira, Leandro Arruda, Thiago Alves, Manuel Gontijo, Bernardo Ranieri, Eduardo Chapadeiro and Fernando Santos, Golder Associates Brasil Consultoria e Projetos Ltda., Brazil; Reinaldo Peñailillo, Golder Associates S.A., Chile

(2) Model for environmental compliance management
Gonzalo Asencio, Gisma, Chile

(3) Ecological risk assessment of an abandoned mine site
Heriberto Robles, Enviro-Tox Services Inc., USA

(4) Phytoremediation of As and Cd from contaminated soil with different plant species and EDTA
Saud Al Oud, King Saud University, Saudi Arabia

(5) Noise control monitoring in mining context
Pierre Aumond and Luis Carlos Oyarzo, CES Ltda., Chile

(6) A contribution to water quality studies in the vicinity of uranium mining and milling facilities
Carlos Carvalho Filho, Bruno Guimarães, Denise Sales, Rubens Moreira, Vinicius Ferreira, Aline Oliveira and Lucia Auler, Center for the Development of Nuclear Technology - CDTN/CNEN, Brazil

(7) Bacterial bioremediation of mercury (II): Soils studies and their scale up
Luis Rojas, Guillermo Bravo, Myriam Gonzales, Michael Seeger, Universidad Técnica Federico Santa María, Chile; Juan Carlos Gentina, Pontificia Universidad Católica de Valparaiso, Chile

(8) Mutun: A big iron deposit
Lucy Rueda and Agustín Cárdenas, Universidad Mayor de San Andrés (UMSA), Bolivia

(9) Integrated alert systems of PM in the mining sector: The missing link between enviromental monitoring and local communities?
Raúl Arasa, Elena Cordero and Oriol Palom, Meteosim S.L., Spain

(10) Mining activity in Cerro Rico
Kheyla Valdivia and Agustín Cardenas, Universidad Mayor de San Andrés (UMSA), Bolivia

(11) Hydrometallurgical plant CoroCoro
Adela Bustillos, Universidad Mayor de San Andrés (UMSA), Bolivia

(12) Biogenic production of sulfide to precipitate metal ions from mining effluents
Cristian Martínez, Universidad Arturo Prat, Chile; Davor Cotoras, Universidad de Chile
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<tr>
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<tr>
<td>Water in Mining 2014</td>
<td>4th International Congress on Water Management in Mining</td>
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<td>May 28 - 30 / Viña del Mar, Chile</td>
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<td>Tailings 2014</td>
<td>2nd International Seminar on Tailings Management</td>
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<td>August 20 - 22 / Antofagasta, Chile</td>
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<td>Desal 2014</td>
<td>4th Latin American Congress on Desalination and Water Reuse</td>
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<td>October 15 - 17 / Santiago, Chile</td>
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<td><a href="http://desal2014.com">desal2014.com</a></td>
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<tr>
<td>HRmining 2014</td>
<td>3rd International Seminar on Human Capital Management in Mining</td>
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<td>November 19 - 21 / Santiago, Chile</td>
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<td><a href="http://gecamin.com/hrmining">gecamin.com/hrmining</a></td>
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<tr>
<td>Maplemin 2014</td>
<td>First International Seminar on Mining Plant and Equipment Maintenance</td>
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<td>July 2 - 4 / Lima, Peru</td>
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<tr>
<td>Mapla 2014</td>
<td>11th International Meeting on Mining Plant Maintenance</td>
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<td>September 3 - 5 / Santiago, Chile</td>
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<td>IMPC 2014</td>
<td>XXVII International Mineral Processing Congress</td>
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<td>October 20 - 24 / Santiago, Chile</td>
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<td>Automining 2014</td>
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<td>November 5 - 7 / Viña del Mar, Chile</td>
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<td>6th International Seminar on Process Hydrometallurgy</td>
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