

# **16th IFAC Symposium on Control, Optimization and Automation in Mining, Minerals and Metal Processing 2013**

**San Diego, California, USA  
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**Editor:**

**Florian Kongoli**

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## Content List of 15th IFAC symposium on Control, Optimization and Automation in Mining, Minerals and Metal Processing

### Technical Program for Monday August 26, 2013

| MoAT1   |   | Room: Mission Ballroom I  |
|---|---|---------------------------|
| Mineral Processing 1 (Regular Session)  |   |                           |
| 08:10-08:30   |   | MoAT1.1                   |
| <i>Modeling of a Concentration Plant to Improve the Carbon Content Control of Iron Oxide Pellets</i> , pp. 1-6.   |   |                           |
| Hallab, Soufiane  | ArcelorMittal Mines Canada                                    |                           |
| Poulin, Eric  | Laval Univ.   |                           |
| Hodouin, Daniel   | Laval Univ.   |                           |
| 08:30-08:50   |   | MoAT1.2                   |
| <i>Improving Sustainability Strategies in Industrial Complexes: System Integration and Collaboration</i> , pp. 7-11.  |   |                           |
| Bascur, Osvaldo   | OSIsoft, LLC  |                           |
| Fernando, Romero  | AngloAmerican Chile   |                           |
| 08:50-09:10   |   | MoAT1.3                   |
| <i>Hydrocyclones Simulation Using a New Modification in Plitt's Equation (I)</i> , pp. 12-17.   |   |                           |
| Silva, André Carlos   | Federal Univ. of Goiás  |                           |
| Silva, Elenice Maria Schons   | Federal Univ. of Goiás  |                           |
| Matos, Jainer Diogo Vieira  | Federal Univ. of Goiás  |                           |
| 09:10-09:30   |   | MoAT1.4                   |
| <i>The Importance of Uncertainty Covariance Tuning for Steady-State Data Reconciliation in Mineral and Metal Processing (I)</i> , pp. 18-23.  |   |                           |
| Vasebi, Amir  | LOOP - Process Observation and Optimization Laboratory, Univ. |                           |
| Hodouin, Daniel   | Laval Univ.   |                           |
| Poulin, Eric  | Laval Univ.   |                           |
| MoAT2   |   | Room: Mission Ballroom II |
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| 08:10-08:30   |   | MoAT2.1                   |
| <i>Characterization of Copper Sulfides Formed in MEMS Connections by Atmospheric Corrosion in Indoor of Electronics Industry of Arid &amp; Marine Environments (I)</i> , pp. 24-30. |   |                           |
| GL, Gustavo López Badilla   | Inst. Tecnológico de Mexicali                                 |                           |
| SL, Sandra Luz Toledo Perea   | Inst. Tecnológico de Ensenada                                 |                           |
| MMA, María Marcela Acosta Gómez   | Inst. Tecnológico de Mexicali                                 |                           |
| ER, Elizabeth Romero Samaniego  | Inst. Tecnológico de Ensenada                                 |                           |
| 08:30-08:50   |   | MoAT2.2                   |
| <i>Mining Accident Detection Using Machine Learning Methods</i> , pp. 31-33.  |   |                           |
| Santibanez, Francisco   | SolMat  |                           |
| Flores, Carlos  | SolMat  |                           |
| Basso, Franco   | SolMat  |                           |
| Jimenez, Abelino  | SolMat  |                           |
| Bravo, Francisco  | SolMat  |                           |
| Nunez, Felipe   | SolMat  |                           |
| Luco, Hector  | Minera Los Pelambres  |                           |
| Martinez, Luis  | Minera Los Pelambres  |                           |
| Benitez, Angel  | Minera Los Pelambres  |                           |
| 08:50-09:10   |   | MoAT2.3                   |
| <i>Decision Making Applied to Shift Change in Stochastic Open-Pit Mining Truck Dispatching (I)</i> , pp. 34-39.   |   |                           |
| Sousa Bastos, Guilherme   | Federal Univ. of Itajuba                                      |                           |
| 09:10-09:30   |   | MoAT2.4                   |
| <i>Optimisation Algorithms in the Case of Mineral Detection Using Raman Analysis (I)</i> , pp. 40-44.   |   |                           |
| Kauppinen, Tommi Kaapro   | Aalto Univ. School of Electrical Engineering                  |                           |
| Haavisto, Olli  | Aalto Univ. School of Electrical Engineering                  |                           |
| Häkkinen, Heikki  | Univ. of Jyväskylä  |                           |

| MoBr1H | Mission Ballroom III |
|--------|----------------------|
|--------|----------------------|

|  |  |                          |
|--|--|--------------------------|
| <b>Poster 1</b> (Poster Session)   |  |                          |
| 09:30-10:00  |  | MoBr1H.1                 |
| <i>Simulation Based Microstructural Optimization of Thermo-Mechanically Treated Steel Components (I)*.</i>                                     |  |                          |
| Fuss, Dennis   | Univ. of Kassel                                  |                          |
| Stein, Tobias  | Univ. of Kassel                                  |                          |
| Grahlmann, Philipp   | Univ. of Kassel                                  |                          |
| Luettje, Martin  | Univ. of Kassel                                  |                          |
| Brueckner-Foit, Angelika   | Univ. of Kassel                                  |                          |
| Steinhoff, Kurt  | Univ. of Kassel                                  |                          |
| Weidig, Ursula   | Univ. of Kassel                                  |                          |
| 09:30-10:00  |  | MoBr1H.2                 |
| <i>Design and Analysis of the Kinetic Models of Minerals Dissolution Processes (I)*.</i>   |  |                          |
| Lutsik, Vladimir   | Tver State Tech. Univ.                           |                          |
| Sobolev, Alexander   | Tver State Tech. Univ.                           |                          |
| 09:30-10:00  |  | MoBr1H.3                 |
| <i>Modeling and Simulation of Haulage Systems Using a Flexible Simulation Environment (I)*.</i>  |  |                          |
| Mella, Hector  | Univ. de Concepción                              |                          |
| Sbarbaro, Daniel G.  | Univ. de Concepcion                              |                          |
| 09:30-10:00  |  | MoBr1H.4                 |
| <i>Unlocking the Operation Potential – Mitsubishi Copper Making C - Siphon (I)*.</i>   |  |                          |
| SINGH, ANIL KUMAR  | Hindalco Industries Limited (Unit: Birla Copper) |                          |
| SINGH, HRIDAYESH KUMAR   | Hindalco Industries Limited (Unit: Birla Copper) |                          |
| <b>MoPIP</b>   |  | Mission Ballroom         |
| <b>Official Opening Ceremony/Plenary</b> (Plenary Session)   |  |                          |
| 10:00-10:30  |  | MoPIP.1                  |
| <i>Official Opening Ceremony (I)*.</i>   |  |                          |
| Kongoli, Florian   | FLOGEN Tech. Inc                                 |                          |
| 10:30-11:00  |  | MoPIP.2                  |
| <i>The State of Control in the Processing Sector (I)*.</i>   |  |                          |
| Rhinehart, R. Russell  | Oklahoma State Univ.                             |                          |
| 11:00-11:30  |  | MoPIP.3                  |
| <i>Automated Systems – a Component of Sustainable Mining (I)*.</i>   |  |                          |
| Meech, John  | Univ. of British Columbia                        |                          |
| 11:30-12:00  |  | MoPIP.4                  |
| <i>Circulating Load Calculation in Mineral Processing Closed Circuit Operations (I), pp. 45-50.</i>  |  |                          |
| Silva, André Carlos  | Federal Univ. of Goiás                           |                          |
| Silva, Elenice Maria Schons  | Federal Univ. of Goiás                           |                          |
| Rezende, Ricardo Antonio de  | Federal Univ. of Goiás                           |                          |
| 12:00-12:30  |  | MoPIP.5                  |
| <i>Solid State Electrochemical Sensors in Metal Processing (I), pp. 51-58.</i>   |  |                          |
| Schwandt, Carsten  | Univ. of Cambridge                               |                          |
| Kumar, Ramachandran Vasant   | Univ. of Cambridge                               |                          |
| 12:00-12:30  |  | MoPIP.6                  |
| <i>Control and Optimization in the Bio-Extraction of Metals from Primary Ores before the New Mineral Processing Techniques (I), pp. 59-64.</i> |  |                          |
| Sobral, Luis G. S.   | Centre for Mineral Tech.                         |                          |
| Oliveira, Débora Monteiro  | Centre for Mineral Tech.                         |                          |
| <b>MoP1T1</b>  |  | Room: Mission Ballroom I |
| <b>Mineral Processing 2</b> (Regular Session)  |  |                          |
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| <i>An Integrated Simulation-Based Solution for Operator Effectiveness, pp. 65-69.</i>  |  |                          |
| Toro, Rodrigo  | Honeywell  |                          |
| Ortiz Maya, José Manuel  | Honeywell  |                          |
| Zamora, Claudio  | Kairos Mining S.A.                               |                          |
| 14:20-14:40  |  | MoP1T1.2                 |

|  |  |
|--|--|
| <i>Increased Vertimills Productivity by Applying MPC &amp; Advanced Control Systems at Minera Los Pelambres</i> , pp. 70-75.                     |  |
| silva, Daniel  | Minera Los Pelambres   |
| Henriquez, Felipe  | Minera Los Pelambres   |
| Jimenez, Cesar   | Minera Los Pelambres   |
| 14:40-15:00  | MoP1T1.3   |
| <i>Model Predictive Control of Potassium Chloride Drying by Fluidized Bed Dryer</i> , pp. 76-80.   |  |
| Miranda, Rodrigo Cesar   | CEMI – Process Tech. and Engineering                         |
| Guimarães Neto, Joaquim Ferreira   | CEMI – Process Tech. and Engineering                         |
| Aguiar, Barbara Burgarelli Alves   | CEMI – Process Tech. and Engineering                         |
| Silva, Cláudio Luís Soares   | Vale Fertilizantes   |
| Martins, Marco Aurelio   | CEMI   |
| 15:00-15:20  | MoP1T1.4   |
| <i>The Importance of Good and Complete Historical Data for Improved Plant Operation and Advanced Process Control Implementation</i> , pp. 81-86. |  |
| Clout, Peter   | Vista Control Systems, Inc.                                  |
| LePore, Janarde  | PiControl Solutions  |
| <b>MoP1T2</b>  | Room: Mission Ballroom II                                    |
| <b>Mining 2 (Regular Session)</b>  |  |
| 14:00-14:20  | MoP1T2.1   |
| <i>Laser-Induced Breakdown Spectroscopy for Rapid Elemental Analysis of Drillcore (I)</i> , pp. 87-91.   |  |
| Haavisto, Olli   | Aalto Univ. School of Electrical Engineering                 |
| Kauppinen, Tommi Kaapro  | Aalto Univ. School of Electrical Engineering                 |
| Häkkänen, Heikki   | Univ. of Jyväskylä   |
| 14:20-14:40  | MoP1T2.2   |
| <i>Studies on the Feasibility of Laser-Induced Breakdown Spectroscopy in Explosion Proof Atmospheres (I)</i> , pp. 92-97.                        |  |
| Nienhaus, Karl   | Inst. for Mining and Metallurgical Machinery, RWTH Aachen Un |
| Bartnitzki, Thomas   | Inst. for Mining and Metallurgical Machinery, RWTH Aachen Un |
| Fietz, Nina Britta   | RWTH Aachen Univ.  |
| 14:40-15:00  | MoP1T2.3   |
| <i>Concept of Shield-Data-Based Horizon Control for Longwall Coal Mining Automation (I)</i> , pp. 98-103.  |  |
| Holm, Mirjam   | Clausthal Univ. of Tech.                                     |
| Beitler, Stephan   | Tech. Univ. Clausthal  |
| Arndt, Thorsten  | Clausthal Univ. of Tech.                                     |
| Mozar, Armin   | RAG  |
| Junker, Martin   | RAG Minig Solutions  |
| Bohn, Christian  | Clausthal Univ. of Tech.                                     |
| 15:00-15:20  | MoP1T2.4   |
| <i>Hybrid Electric Haulage Trucks for Open Pit Mining (I)</i> , pp. 104-109.   |  |
| Esfahanian, Ehsan  | Univ. of British Columbia                                    |
| Meech, John  | Univ. of British Columbia                                    |
| <b>MoBr2H</b>  | Mission Ballroom III   |
| <b>Poster 2 (Poster Session)</b>   |  |
| 15:20-15:40  | MoBr2H.2   |
| <i>Study of the Population Dynamics of Yeasts in Continuous System for Copper Biosorption (I)*.</i>  |  |
| Monge, Onofre  | Univ. of Sonora  |
| Bañuelos, Hiram  | Univ. of Sonora  |
| Certucha, María Teresa   | Univ. of Sonora  |
| Almendariz, Francisco Javier   | Univ. of Sonora  |
| 15:20-15:40  | MoBr2H.3   |
| <i>Properties of Sintering Ore Mixed with MSWI Fly Ash (I)*.</i>   |  |
| Yang, Jian   | Chongqing Univ.  |
| Liu, Qingcai   | Chongqing Univ.  |
| 15:20-15:40  | MoBr2H.4   |
| <i>Control and Optimization of the Use of Electric Furnace Gases As Combustibles in Rotary Kilns of Newco Ferronikeli (I)*.</i>                  |  |
| Imeri (Zeqir) Shefik, Shefik Imeri   | NNP-DACI   |

Naim Tahiraj, NAIM tahiraj  
Rizaj Musa, Musa Rizaj  
Hasan Jashari, Hasan Jashari  
Kongoli, Florian

Newco Ferronikelei Complex L.L.C  
Prishtina Univ.  
LoveYear  
FLOGEN Tech. Inc

| MoP2T1                                 |   | Room: Mission Ballroom I                     |
|--|---|--|
| Mineral Processing 3 (Regular Session) |   |  |
| 15:40-16:00                            |   | MoP2T1.1                                     |
|  | <i>Advances in Developing Supervisory Control Strategies for Flotation Plants (I), pp. 110-115.</i> |  |
| Bergh, Luis                            |   | Santa Maria Univ.                            |
| Yianatos, Juan                         |   | Santa Maria Univ.                            |
| Pino, Catalina                         |   | Santa Maria Univ.                            |
| 16:00-16:20                            |   | MoP2T1.2                                     |
|  | <i>Using a Virtual Flotation Process to Track a Real Flotation Circuit, pp. 116-121.</i>            |  |
| Kaartinen, Jani                        |   | Outotec Finland Oy                           |
| Pietila, Janne                         |   | Aalto Univ. School of Electrical Engineering |
| Remes, Antti                           |   | Outotec (Finland) Oy                         |
| Torttila, Sampo                        |   | Aalto Univ.                                  |
| 16:20-16:40                            |   | MoP2T1.3                                     |
|  | <i>Parameter Estimation for a Flotation Process Tracking Simulator, pp. 122-127.</i>                |  |
| Pietila, Janne                         |   | Aalto Univ. School of Electrical Engineering |
| Kaartinen, Jani                        |   | Aalto Univ. School of Science and Tech.      |
| Reinsalo, Ari-Matti                    |   | Aalto Univ.                                  |
| 16:40-17:00                            |   | MoP2T1.4                                     |
|  | <i>Parameterization of Bubble Size Distribution in Flotation Columns (I), pp. 128-133.</i>          |  |
| Riquelme, Alberto                      |   | Univ. Laval                                  |
| Desbiens, Andre                        |   | Univ. Laval                                  |
| Bouchard, Jocelyn                      |   | Univ. Laval                                  |
| del Villar, Rene                       |   | Univ. Laval                                  |
| MoP2T2                                 |   | Room: Mission Ballroom II                    |
| Mining 3 (Regular Session)             |   |  |
| 15:40-16:00                            |   | MoP2T2.1                                     |
|  | <i>Loading Excavator Analysis for Trajectory Control Improvement (I), pp. 134-141.</i>              |  |
| Danko, George                          |   | Univ. of nevada, Reno                        |
| 16:00-16:20                            |   | MoP2T2.2                                     |
|  | <i>Predicting Wear and Temperature of Autonomous Haulage Truck Tires (I), pp. 142-147.</i>          |  |
| parreira, juliana                      |   | UBC  |
| Meech, John                            |   | Univ. of British Columbia                    |
| 16:20-16:40                            |   | MoP2T2.3                                     |
|  | <i>System Integration of Automated Mine Optimization System (I), pp. 148-154.</i>                   |  |
| Pan, Xiaowei                           |   | Univ. of Johannesburg                        |

**Technical Program for Tuesday August 27, 2013**

|   |   |
|---|---|
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| <i>Hybrid Dynamic Predictive Model for Rougher Flotation (I), pp. 155-160.</i>  |   |
| Putz, Eduardo   | Pontifícia Univ. Católica de Chile        |
| Cipriano, Aldo  | Pontifícia Univ. Católica de Chile        |
| 09:00-09:20   | TuA1T1.2                                  |
| <i>A Flotation Cell Model for Dynamic Simulation, pp. 161-165.</i>  |   |
| Ortiz Maya, José Manuel   | Honeywell                                 |
| Toro, Rodrigo   | Honeywell                                 |
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| <i>Modern Systems of Automatic Control of Processes of Grinding and Flotation of Copper-Molybdenum Ore (I), pp. 166-171.</i>  |   |
| Morozov, Valery   | Moscow state Univ. of mining              |
| Ganbaatar, Zorigtyn   | Erdenet Mining Corp.                      |
| Delgerbat, Loday  | Erdenet Mining Corp.                      |
| Topchaev, Vladimir  | JSC Souscvetmetavtomatika                 |
| Sokolov, Igor   | Private Jt.St.Co.“Soyuzsvetmetavtomatika” |
| Stolyarov, Valeriy  | JSC Elscort                               |
| Davaasambuu, Dorj   | Erdenet mining Corp.                      |
| 09:40-10:00   | TuA1T1.4                                  |
| <i>Non Ferrous Ore Flotation Control Using Image Analysis and Expert System, pp. 172-175.</i>   |   |
| Machado, Frederico  | CEMI Process Tech. and Engineering        |
| Gontijo, Hugo   | CEMI Process Tech. and Engineering        |
| Aguiar, Barbara Burgarelli Alves  | CEMI – Process Tech. and Engineering      |
| Martins, Marco Aurelio  | CEMI                                      |
| 10:00-10:20   | TuA1T1.5                                  |
| <i>Implementation of a SAG Grinding Expert System at Kansanshi Mine - Zambia, pp. 176-181.</i>  |   |
| van Zyl, Frane  | SGS Mineral Services                      |
| paquot, francois  | First Quantum, Kansanshi                  |
| Metzner, Gunter   | SGS Mineral Services                      |
| Fouche, Fanie   | First Quatum, Kansanshi                   |
| Gomez, Alan   | SGS Canada Inc.                           |
| <b>TuA1T2</b>   | Room: Mission Ballroom II                 |
| <b>Non-Ferrous 1 (Regular Session)</b>  |   |
| 08:40-09:00   | TuA1T2.1                                  |
| <i>Enterprise Manufacturing Services to Enhance Energy Effectiveness and Sustainability Management at AngloPlats, pp. 182-187.</i>                                      |   |
| Bascur, Osvaldo   | OSisoft, LLC                              |
| Halhead, Michael  | AnglovAmerican Platinum                   |
| 09:00-09:20   | TuA1T2.2                                  |
| <i>Basic Principles of Controlling a Technological Process of Copper Matte Converting in a Two-Zone Vaniukov's Converted Furnace, pp. 188-195.</i>                      |   |
| Tsymbulov, Leonid   | LLC “Gipronickel Inst.                    |
| Pigarev, S.P.   | -   |
| Kongoli, Florian  | FLOGEN Tech. Inc                          |
| McBow, I.   | -   |
| 09:20-09:40   | TuA1T2.3                                  |
| <i>Dynamic Simulation for Verification of Gains with the Implementation of Advanced Process Control for a Nickel Sulphide Ore Beneficiation Plant (I), pp. 196-201.</i> |   |
| Nogueira, Andre   | CEMI                                      |
| Vieira, Monica  | CEMI                                      |
| Martins, Marco Aurelio  | CEMI                                      |
| 09:40-10:00   | TuA1T2.4                                  |
| <i>Optimal Converter Aisle Scheduling in a Nickel Smelting Plant (I), pp. 202-207.</i>  |   |
| Ewaschuk, Christopher M.  | McMaster Univ.                            |

Swartz, Christopher L.E.  
Zhang, Yale

McMaster Univ.  
Vale

10:00-10:20

TuA1T2.5

*Hot Deformation Processing and Texture in Magnesium Alloy WE43 (I)*, pp. 208-213.

AVADHANI, GANESH  
Tapase, Shekhar  
SUWAS, SATYAM

Department of Materials Engineering, Indian Inst. of Science  
Department of Materials Engineering, Indian Inst. of Science  
Department of Materials Engineering, Indian Inst. of Science

**TuBr1H**  
**Poster 3 (Poster Session)**

Room: Mission Ballroom III

10:20-10:40

TuBr1H.1

*The Electrosynthesis of Gadolinium Borides in Chloride Melt (I)\*.*

Kushkhov, Khasbi  
Uzdenova, Aziza  
Saleh, Mahmood  
Tlenkopachev, Murat  
Uzdenova, Lilia

Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.

10:20-10:40

TuBr1H.2

*The Hightemperature Electrosynthesis of Dysprosium Borides in Chloride Melt (I)\*.*

Kushkhov, Khasbi  
Uzdenova, Aziza  
Qahtan, Abdulkader  
Tlenkopachev, Murat  
Uzdenova, Lilia

Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.

10:20-10:40

TuBr1H.3

*The Electroreduction of Dysprosium Ions in Equimolar NaCl-KCl Melt (I)\*.*

Kushkhov, Khasbi  
Uzdenova, Aziza  
Qahtan, Abdulkader  
Tlenkopachev, Murat  
Uzdenova, Lilia

Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.

10:20-10:40

TuBr1H.4

*The Electrosynthesis of Gadolinium Borides in Chloride Melt (I)\*.*

Kushkhov, Khasbi  
Uzdenova, Aziza  
Saleh, Mahmood  
Tlenkopachev, Murat  
Uzdenova, Lilia

Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.  
Kabardino-Balkarian State Univ.

**TuA2T1**

Room: Mission Ballroom I

**Mineral Processing 5 (Regular Session)**

10:40-11:00

TuA2T1.1

*Automatic Control of Impact Crushers Based on Visual Measurement of Size Distribution*, pp. 214-217.

Jaatinen, Antti  
Onnela, Tero

Metso Automation  
Metso Minerals

11:00-11:20

TuA2T1.2

*An On-Line Training Simulator Built on Dynamic Simulations of Crushing Plants (I)*, pp. 218-223.

Asbjörnsson, Gauti  
Hulthen, Erik  
Evertsson, Carl Magnus

Chalmers Univ. of Tech.  
Chalmers Univ. of Tech.  
Chalmers Univ. of Tech.

11:20-11:40

TuA2T1.3

*Indirect Particle Size Distribution Control in Cone Crushers*, pp. 224-229.

Itävuo, Pekka Tapani  
Vilkko, Matti Kalervo  
Jaatinen, Antti

Tampere Univ. of Tech.  
Tampere Univ. of Tech.  
Metso Automation

11:40-12:00

TuA2T1.4

*Evaluation of MPC Strategies for Mineral Grinding*, pp. 230-235.

|                   |                                    |
|-------------------|------------------------------------|
| Karelovic, Pablo  | DICTUC S.A.                        |
| RAZZETTO, ROBERTO | HONEYWELL INC                      |
| Cipriano, Aldo    | Pontifícia Univ. Católica de Chile |

|             |          |
|-------------|----------|
| 12:00-12:20 | TuA2T1.5 |
|-------------|----------|

*Beyond the Minimum Dimension for Particle Size Control*, pp. 236-242.

|                     |              |
|---------------------|--------------|
| smith, andrew       | Sympatec Inc |
| Steigerwald, Stefan | Sympatec Inc |

|  |                           |
|--|---------------------------|
| <b>TuA2T2</b>                          | Room: Mission Ballroom II |
| <b>Non-Ferrous 2 (Regular Session)</b> |                           |

|             |          |
|-------------|----------|
| 10:40-11:00 | TuA2T2.1 |
|-------------|----------|

*Decision Support System for Hydrometallurgical Processing*, pp. 243-247.

|                  |                                    |
|------------------|------------------------------------|
| Tejeda, Gabriel  | Pontifícia Univ. Católica de Chile |
| Reyes, Francisco | Pontifícia Univ. Católica de Chile |
| Karelovic, Pablo | DICTUC S.A.                        |
| Herrera, Miguel  | Univ. Adolfo Ibáñez                |
| Romero, Fernando | Anglo American Chile               |
| Cipriano, Aldo   | Pontifícia Univ. Católica de Chile |

|             |          |
|-------------|----------|
| 11:00-11:20 | TuA2T2.2 |
|-------------|----------|

*Dynamic Simulation for Acid Plant Operator Training in Chuquicamata*, pp. 248-252.

|                  |                                |
|------------------|--------------------------------|
| GAJARDO, MALLEN  | CODELCO                        |
| HERNANDEZ, RAMON | INVENSYS OPERATIONS MANAGEMENT |
| King, Kirk       | Invensys Systems Chile Ltda.   |

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|-------------|----------|
| 11:20-11:40 | TuA2T2.3 |
|-------------|----------|

*Pilot Plant and New Vapor-Pyrometallurgical Process for Processing Sulfide Concentrates*, pp. 253-258.

|                     |   |
|---------------------|---|
| Hakobyan, Klement   | Kapan Lab. of Metallurgy and Enrichment                     |
| Sohn, Hong          | Univ. of Utah, Dept. of Metallurgical Engineering and Chemi |
| Hakobyan, Armen     | Kapan Lab. of Metallurgy and Enrichment                     |
| Blanco, Edgar       | Univ. of Utah, Dept. of Metallurgical Engineering and Chemi |
| Tarasov, Andrey     | "Gincvetmet" OJSC   |
| Melkomyan, Ararat   | Kapan Lab. of Metallurgy and Enrichment                     |
| Karamyan, Gagik     | Kapan Lab. of Metallurgy and Enrichment                     |
| Hayrapetyan, Vahram | Kapan Lab. of Metallurgy and Enrichment                     |
| Bryukvin, Vladimir  | A.A. Baykov Metallurgy and Materials Science Inst. of RAS   |
| Leontiev, Vladimir  | A.A. Baykov Metallurgy and Materials Science Inst. of RAS   |
| Tsybina, Oleg       | A.A. Baykov Metallurgy and Materials Science Inst. of RAS   |

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|-------------|----------|
| 11:40-12:00 | TuA2T2.4 |
|-------------|----------|

*The Effect of the Nickel Sulphide Alloys Structure on Their Electrochemical Oxidation Parameters*, pp. 259-262.

|                   |   |
|-------------------|---|
| Nechvoglod, Olga  | Federal State Budget Inst. of Science Inst. of Metallu      |
| Selivanov, Evgeny | Federal State Budget Inst. of Science Inst. of Metallu      |
| Lobanov, Vladimir | Ural Federal Univ. named after First President of Russia B. |

|             |          |
|-------------|----------|
| 12:00-12:20 | TuA2T2.5 |
|-------------|----------|

*Control Optimization of a Lead Sintering Process (I)*, pp. 263-270.

|                                 |                           |
|---------------------------------|---------------------------|
| Moreno Molina, Marcos Francisco | Met-Mex Peñoles, SA de CV |
| Morales Castelán, Jorge         | Met-Mex Peñoles, SA de CV |

|   |                          |
|---|--------------------------|
| <b>TuP1T1</b>                                 | Room: Mission Ballroom I |
| <b>Mineral Processing 6 (Regular Session)</b> |                          |

|             |          |
|-------------|----------|
| 14:00-14:20 | TuP1T1.1 |
|-------------|----------|

*Mass-Flow Estimation in Mineral-Processing Applications (I)*, pp. 271-276.

|                         |                        |
|-------------------------|------------------------|
| Väyrynen, Teemu Petteri | Tampere Univ. of Tech. |
| Itävuo, Pekka Tapani    | Tampere Univ. of Tech. |
| Vilkko, Matti Kalervo   | Tampere Univ. of Tech. |
| Jaatinen, Antti         | Metso Automation       |

|             |          |
|-------------|----------|
| 14:20-14:40 | TuP1T1.2 |
|-------------|----------|

*Optimization of Hydrocyclone Classification by On-Line Detection of Coarse Material in the Overflow Stream (I)*, pp. 277-281.

|                |                           |
|----------------|---------------------------|
| Russell, Jerin | CiDRA Minerals Processing |
|----------------|---------------------------|

|                    |                           |
|--------------------|---------------------------|
| Cirulis, Dylan     | Kennecott Utah Copper     |
| Maron, Bob         | CiDRA Minerals Processing |
| O'Keefe, Christian | CiDRA Minerals Processing |
| Rothman, Paul      | CiDRA Minerals Processing |
| Newton, David      | CiDRA Minerals Processing |

14:40-15:00 TuP1T1.3

*Fuzzy Logic a Successful Example*, pp. 282-287.

|              |          |
|--------------|----------|
| Ruel, Michel | BBA Inc. |
|--------------|----------|

15:00-15:20 TuP1T1.4

*Polyhedration of Multicomponent Mineral Systems*, pp. 288-293.

|                 |  |
|-----------------|--|
| Lutsyk, Vasily  | Inst. of Physical Materials Science SB RAS |
| Vorob'eva, Vera | Inst. of Physical Materials Science SB RAS |
| Sumkina, Olga   | Inst. of Physical Materials Science SB RAS |
| Lamueva, Marina | Inst. of Physical Materials Science SB RAS |

| TuP1T2                          | Room: Mission Ballroom II |
|---------------------------------|---------------------------|
| <b>Iron 1 (Regular Session)</b> |                           |

14:00-14:20 TuP1T2.1

*Monitoring System of Firebrick Lining Erosion of Blast Furnace Hearth (I)*, pp. 294-301.

|                  |  |
|------------------|--|
| Dmitriev, Andrey | Inst. of Metallurgy of Ural Branch of Russian Acad. of Sci |
| Chesnokov, Yuri  | Inst. of metallurgy of Ural Brach of Russian Acad. of scie |
| Chen, Kai        | SKKONT   |
| Ivanov, Oleg     | Ural Federal Univ.   |
| Zolotykh, Maxim  | Ural Federal Univ.   |

14:20-14:40 TuP1T2.2

*Influence of Iron Ore Materials Softening Interval on Cohesive Zone Location and Form in Blast Furnace (I)*, pp. 302-306.

|                  |  |
|------------------|--|
| Dmitriev, Andrey | Inst. of Metallurgy of Ural Branch of Russian Acad. of Sci |
| Vitkina, Galina  | Inst. of metallurgy  |
| Chesnokov, Yuri  | Inst. of metallurgy of Ural Brach of Russian Acad. of scie |
| Petukhov, Roman  | Inst. of metallurgy of Ural Brach of Russian Acad. of scie |

14:40-15:00 TuP1T2.3

*Iron Ore Materials and Coke Quality Characteristics and Quantitative Indicators of Blast Furnace Smelting (I)*, pp. 307-311.

|                  |  |
|------------------|--|
| Dmitriev, Andrey | Inst. of Metallurgy of Ural Branch of Russian Acad. of Sci |
| Vitkina, Galina  | Inst. of metallurgy  |
| Chesnokov, Yuri  | Inst. of metallurgy of Ural Brach of Russian Acad. of scie |
| Petukhov, Roman  | Inst. of metallurgy of Ural Brach of Russian Acad. of scie |

15:00-15:20 TuP1T2.4

*On Dependence of High Temperature Rheological Behaviour of Blast Furnace Slag on Its Network Structure*, pp. 312-320.

|                       |   |
|-----------------------|---|
| Mukherjee, Dr. Kakali | CSIR-National Metallurgical Lab. Jamshedpur, India      |
| Prakash, Swatantra    | National Metallurgical Lab. and Ac-CSIR-NML Jamshedpuur |

| TuBr2H                           | Room: Mission Ballroom III |
|----------------------------------|----------------------------|
| <b>Poster 4 (Poster Session)</b> |                            |

15:20-15:40 TuBr2H.1

*Elaboration and Characterization of an Activated Carbon from Diss and Esparto Grass for the Wastewater Treatment (I)\**.

|                  |       |
|------------------|-------|
| Azzaz, Mohammed  | Univ. |
| Lounis, Azzedine | Univ. |
| Taibi, Kamel     | Univ. |
| Lenouar, Khaled  | Univ. |
| Osmane, Khaled   | Univ. |

15:20-15:40 TuBr2H.2

*Removal of Astrazon Yellow 7GL from Aqueous Solutions by Adsorption Onto Waste Wood Powder (I)\**.

|                  |       |
|------------------|-------|
| Taibi, Kamel     | Univ. |
| Lounis, Azzedine | Univ. |
| ouazene, naima   | Univ. |

15:20-15:40 TuBr2H.3

*Removal of Methylene Blue from Coloured Efluentes by Adsorption Onto ZnAPSO-34 Nanoporous Material (I)\**.

|                  |       |
|------------------|-------|
| Lounis, Azzedine | Univ. |
| Azzaz, Mohammed  | Univ. |
| Taibi, Kamel     | Univ. |
| Abbad, Brahim    | Univ. |

| <b>TuP2T1</b>  |   | Room: Mission Ballroom I  |
|--|---|---------------------------|
| <b>Mineral Processing 7 (Regular Session)</b>  |   |                           |
| 15:40-16:00  |   | TuP2T1.1                  |
| <i>New Technology of Processing Pyrite Concentrate</i> , pp. 321-324.  |   |                           |
| Hakobyan, Klement  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Hakobyan, Armen  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Melkomyan, Ararat  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Karamyan, Gagik  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| 16:00-16:20  |   | TuP2T1.2                  |
| <i>Development and Testing of Environmentally Friendly Hydro-Electrochemical Technology for Processing Copper Sulfide Concentrates of Armenian Deposits</i> , pp. 325-327. |   |                           |
| Hakobyan, Klement  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Hakobyan, Armen  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Melkomyan, Ararat  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Karamyan, Gagik  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Hayrapetyan, Vahram  | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Paramazyan, Grenik   | Kapan Lab. of Metallurgy and Enrichment                   |                           |
| Bryukvin, Vladimir   | A.A. Baykov Metallurgy and Materials Science Inst. of RAS |                           |
| Leontiev, Vladimir   | A.A. Baykov Metallurgy and Materials Science Inst. of RAS |                           |
| Tsybina, Oleg  | A.A. Baykov Metallurgy and Materials Science Inst. of RAS |                           |
| 16:20-16:40  |   | TuP2T1.3                  |
| <i>Technology of Secondary Niobium Raw Material Recovery</i> , pp. 328-334.  |   |                           |
| Upolovnikova, Alena  | Inst. of Metallurgy, Ural Div. Russian Acad. of Scien     |                           |
| Chumarev, Vladimir   | Inst. of Metallurgy, Ural Div. Russian Acad. of Scien     |                           |
| Udoeva, Liudmila   | Inst. of Metallurgy, Ural Div. Russian Acad. of Scien     |                           |
| 16:40-17:00  |   | TuP2T1.4                  |
| <i>Computer Controlled Pilot Scale Test of Bioleaching of Copper Sulphides Flotation Concentrate (I)</i> , pp. 335-339.  |   |                           |
| Sobral, Luis G. S.   | Centre for Mineral Tech.                                  |                           |
| Oliveira, Débora Monteiro  | Centre for Mineral Tech.                                  |                           |
| Souza, Carlos E. G.  | Centre for Mineral Tech.                                  |                           |
| <b>TuP2T2</b>  |   | Room: Mission Ballroom II |
| <b>Iron 2 (Regular Session)</b>  |   |                           |
| 15:40-16:00  |   | TuP2T2.1                  |
| <i>Automatic Control of Direct Reduction Iron Ore (DRI) Process</i> , pp. 340-345.   |   |                           |
| Guanin, Simone   | Danieli & C. Officine Meccaniche S.p.A.                   |                           |
| Pignattone, Dino   | Danieli Automation S.p.A.                                 |                           |
| Martinis, Alessandro   | Danieli & C. Officine Meccaniche S.p.A                    |                           |
| 16:00-16:20  |   | TuP2T2.2                  |
| <i>Online Modelling of ENERGIRON Direct Reduction Shaft Furnaces</i> , pp. 346-351.  |   |                           |
| Zugliano, Alberto  | Danieli & C. Officine Meccaniche S.p.A.                   |                           |
| Primavera, Alessandra  | Danieli & C. Officine Meccaniche S.p.A.                   |                           |
| Pignattone, Dino   | Danieli Automation S.p.A.                                 |                           |
| Martinis, Alessandro   | Danieli & C. Officine Meccaniche S.p.A                    |                           |
| 16:20-16:40  |   | TuP2T2.3                  |
| <i>Effect of South African Reductants on Ferrochrome Production (I)</i> , pp. 352-358.   |   |                           |
| Pan, Xiaowei   | Univ. of Johannesburg                                     |                           |

**Technical Program for Wednesday August 28, 2013**

| <b>WeA1T1</b>  |   | Room: Mission Ballroom I     |
|--|---|------------------------------|
| <b>Heat Treatment &amp; Materials Characterization (Regular Session)</b>   |   |                              |
| 08:40-09:00  |   | WeA1T1.1                     |
| <i>Energy-Efficient Control of Continuous Reheating Furnaces</i> , pp. 359-364.  |   |                              |
| Steinboeck, Andreas  |   | Vienna Univ. of Tech.        |
| Wild, Daniel   |   | AG der Dillinger Hüttenwerke |
| Kugi, Andreas  |   | Vienna Univ. of Tech.        |
| 09:00-09:20  |   | WeA1T1.2                     |
| <i>Three-Phase Reaction Type Changing in Mo-Zr-V and Ti-Ir-Ru Systems (I)</i> , pp. 365-370.   |   |                              |
| Lutsyk, Vasily   | Inst. of Physical Materials Science SB RAS  |                              |
| Vorob'eva, Vera  | Inst. of Physical Materials Science SB RAS  |                              |
| Sumkina, Olga  | Inst. of Physical Materials Science SB RAS  |                              |
| Tsyngeev, Bulat  | Inst. of Physical Materials Science, Siberian Branch, Russia                        |                              |
| 09:20-09:40  |   | WeA1T1.3                     |
| <i>Correction of T -X-Y Diagrams for Lead-Free Solders</i> , pp. 371-376.  |   |                              |
| Lutsyk, Vasily   | Inst. of Physical Materials Science SB RAS  |                              |
| Vorob'eva, Vera  | Inst. of Physical Materials Science SB RAS  |                              |
| Zyryanov, Alexandr   | Inst. of Physical Materials Science SB RAS  |                              |
| Shodorova, Svetlana  | Inst. of Physical Materials Science SB RAS  |                              |
| 09:40-10:00  |   | WeA1T1.4                     |
| <i>Optimization of Conveyer Belts Fire-Resistant Rubber Properties Using a Mathematical Model of Desirability Functions (I)</i> , pp. 377-384. |   |                              |
| Dushi, Afrim   | Univ. of Prishtina  |                              |
| Kongoli, Florian   | FLOGEN Tech. Inc  |                              |
| Rizaj, Musa  | Univ. of Prishtina  |                              |
| <b>WeA1T2</b>  |   | Room: Mission Ballroom II    |
| <b>Steel 1 (Regular Session)</b>   |   |                              |
| 08:40-09:00  |   | WeA1T2.1                     |
| <i>Molten Metal Pressure Control for Defect Prevention with Generalized Predictive Control in Rapid Press Casting (I)</i> , pp. 385-390.       |   |                              |
| Tasaki, Ryosuke  | Toyohashi Univ. of Tech.  |                              |
| Hashimoto, Kunihiro  | Sintokogio.Ltd.   |                              |
| Terashima, Kazuhiko  | Toyohashi Univ. of Tech.  |                              |
| 09:00-09:20  |   | WeA1T2.2                     |
| <i>On the Development of Transformable Sheet Metal Forming Tools</i> , pp. 391-396.  |   |                              |
| Birkhold, Markus   | Univ. of Stuttgart - Inst. for Control Engineering of Machine Tools and Manufacture |                              |
| Pauli, Franz-Bernd   | Franz Pauli GmbH & Co. KG   |                              |
| Lechler, Armin   | Inst. for Control Engineering of Machine Tools and Manufacture                      |                              |
| Verl, Alexander  | Univ. of Stuttgart - Inst. for Control Engineering of Machine Tools and Manufacture |                              |
| 09:20-09:40  |   | WeA1T2.3                     |
| <i>Model Predictive Controller for Strip-Tracking During Tail-Out of the Finishing Mill</i> , pp. 397-402.                                     |   |                              |
| Hol, Camile W.J.   | Tata Steel Europe   |                              |
| 09:40-10:00  |   | WeA1T2.4                     |
| <i>Analysis of Radiative Heat Transfer in an Indirect-Fired Strip Annealing Furnace Based on Integral Equations (I)</i> , pp. 403-408.         |   |                              |
| Niederer, Martin   | Vienna Univ. of Tech.   |                              |
| Steinboeck, Andreas  | Vienna Univ. of Tech.   |                              |
| Strommer, Stephan  | Vienna Univ. of Tech.   |                              |
| Kugi, Andreas  | Vienna Univ. of Tech.   |                              |
| 10:00-10:20  |   | WeA1T2.5                     |
| <i>Estimation of Plate Temperatures in Hot Rolling Based on an Extended Kalman Filter (I)</i> , pp. 409-414.                                   |   |                              |
| Speicher, Katrin   | Vienna Univ. of Tech.   |                              |
| Steinboeck, Andreas  | Vienna Univ. of Tech.   |                              |
| Wild, Daniel   | AG der Dillinger Hüttenwerke  |                              |
| Kiefer, Thomas   | AG der Dillinger Huettenwerke   |                              |
| Kugi, Andreas  | Vienna Univ. of Tech.   |                              |

|   |  |
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| <b>WeBrH</b>  | Room: Mission Ballroom III                   |
| <b>Poster 5 (Poster Session)</b>  |  |
| 10:20-10:40   | WeBrH.1                                      |
| <i>Significance and Application of Zeolite (I)*.</i>  |  |
| Jugovic, Zorka  | Visoka strukovna zdravstvena sanitarna skola |
| 10:20-10:40   | WeBrH.2                                      |
| <i>The Electroreduction of Gadolinium Ions in Chloride Melt (I)*.</i>   |  |
| Kushkhov, Khasbi  | Kabardino-Balkarian State Univ.              |
| Uzdenova, Aziza   | Kabardino-Balkarian State Univ.              |
| Saleh, Mahmood  | Kabardino-Balkarian State Univ.              |
| Uzdenova, Lilia   | Kabardino-Balkarian State Univ.              |
| 10:20-10:40   | WeBrH.3                                      |
| <i>Basic Study for Refining of Ferrosilicon(FeSi75)*.</i>   |  |
| Seok, Seongho   | Res. Inst. of Industrial Science and Tech.   |
| <b>WeA2T1</b>   | Room: Mission Ballroom I                     |
| <b>Metal and Ceramic Coating, Power Generation (Regular Session)</b>  |  |
| 10:40-11:00   | WeA2T1.1                                     |
| <i>Properties of Powder Coatings Formed by Gas-Dynamic Accelerator (I), pp. 415-420.</i>  |  |
| Vasilik, Nikolay  | N.N.Semenov Inst. of Chemical Physics RAS    |
| Tyurin, Yuryi   | E.O.Paton Electric Welding Inst. NASU        |
| Kolisnichenko, Oleg   | E.O.Paton Electric Welding Inst. NASU        |
| Kovaleva, Marina  | Belgorod State Res. Univ.                    |
| Prozorova, Marina   | Belgorod State Res. Univ.                    |
| Arseenko, Mariya  | Belgorod State Res. Univ.                    |
| 11:00-11:20   | WeA2T1.2                                     |
| <i>Macrokinetics of Plasma Electrolytic Oxidation of AZ91D Alloy (I), pp. 421-424.</i>  |  |
| Lugovskoy, Alex   | Ariel Univ.                                  |
| Zinigrad, Michael   | Ariel Univ.                                  |
| Kazanski, Barbara   | Ariel Univ.                                  |
| 11:20-11:40   | WeA2T1.3                                     |
| <i>Sustainable Wind Power Generation by Online Sensor Oil Condition Monitoring against Premature Gearbox Bearing Failures, pp. 425-429.</i> |  |
| Mauntz, Manfred R.  | cmc Inst. GmbH                               |
| Gegner, Jürgen  | Univ. of Siegen                              |
| Kuipers, Ulrich   | Univ. of Applied Sciences Hagen              |
| Klingauf, Stefan  | cmc Inst. GmbH                               |
| <b>WeA2T2</b>   | Room: Mission Ballroom II                    |
| <b>Steel 2 (Regular Session)</b>  |  |
| 10:40-11:00   | WeA2T2.1                                     |
| <i>Mold Level Stabilization Using a Standing Wave Model in Continuous Casting (I), pp. 430-435.</i>   |  |
| Shimamoto, Hiroyuki   | JFE Steel Corp.                              |
| Asano, Kazuya   | JFE Steel Corp.                              |
| Okazaki, Kentaro  | JFE Steel Corp.                              |
| 11:00-11:20   | WeA2T2.2                                     |
| <i>Estimation of Camber Generation in Rough Rolling Process, pp. 436-439.</i>   |  |
| Kang, Youngil   | POSTECH                                      |
| Choi, Yong-Joon   | POSCO  |
| Oh, KiJang  | POSCO  |
| Won, Sangchul   | Pohang Univ. of Science & Tech.              |
| 11:20-11:40   | WeA2T2.3                                     |
| <i>Control Algorithm of a Pick and Place Three Dimensional Robots (I), pp. 440-443.</i>   |  |
| KRASNIIQI, FEHMI  | Univ. OF PRISHTINA                           |
| 11:40-12:00   | WeA2T2.4                                     |
| <i>Model Predictive Control of Continuous Ingot Solidification (I), pp. 444-448.</i>  |  |

| WePT1  | Room: Mission Ballroom I   |
|--|--|
| <b>Environmental Issues (Regular Session)</b>  |  |
| 14:00-14:20  | WePT1.1  |
| <i>Controlling Indoor Benzene Concentrations Using a Fuzzy System (I), pp. 449-454.</i>  |  |
| Pitalúa-Díaz, Nun<br>Herrera López, Enrique Jaime<br>Luis, Velázquez Contreras<br>Alvarez-Chávez, Clara Rosalía<br>Nora, Munguía Vega  | Univ. DE SONORA<br>Centro de Investigación y Asistencia Tecnológica<br>Univ. DE SONORA<br>Univ. DE SONORA<br>Univ. DE SONORA   |
| 14:20-14:40  | WePT1.2  |
| <i>Increasing the Pollution Control in Natural Waters by Automation the Sampling Technology and Laboratory Analyses in Combination with Spot Water Sampling (I), pp. 455-458.</i>            |  |
| Neziri, Anila<br>Malollari, Ilirjan  | Univ. of Shkodra<br>Univ. of Tirana, Albania   |
| 14:40-15:00  | WePT1.3  |
| <i>Control of the Influence of Minerals, Nitrogen, Phosphorus and Potassium During Cultivation of Some Varieties of Winter Barley (Hordeum Vulgare L.) for Beer Production, pp. 459-463.</i> |  |
| Shala, Nexhdet<br>Kelmendi, Bakir<br>Berisha, Defrime<br>Zuka, Violeta   | Tech. in Producing Brewery, Sh. A."Birra Peja" Rr. N. Bas<br>Inst. of Agriculture Kosovo – Peja, Rr. Adem Jashari, 30000<br>Inst. of Agriculture Kosovo – Peja, Rr. Adem Jashari, 30000<br>Public Univ. "Haxhi Zeka" – Eliot Engel, 30000 Pejë, Kosovo |
| 15:00-15:20  | WePT1.4  |
| <i>"Ecological and Technological Aspects of Use of Water Recirculation at Extraction of Precious Metals from Quartzites", pp. 464-469.</i>   |  |
| Tyushkova, Natalia   | NITU MISIS   |
| WePT2  | Room: Mission Ballroom II  |
| <b>Recycling &amp; Waste Treatment (Regular Session)</b>   |  |
| 14:00-14:20  | WePT2.1  |
| <i>Basic Control Principles for Producing a High Performing New Ceramic Glass by Mixing Fly Ash, Ferronickel Slag and Waste Glass (I), pp. 470-477.</i>                                      |  |
| Ibrahim, Izet<br>Kongoli, Florian<br>Rizaj, Musa<br>Pula, Justina  | Univ. of Prishtina<br>FLOGEN Tech. Inc<br>Univ. of Prishtina<br>Univ. of Prishtina   |
| 14:20-14:40  | WePT2.2  |
| <i>Metals Recovery from Waste of Printed Circuit Boards Processed in Plasmatron Plasma Reactor, pp. 478-483.</i>   |  |
| Szałatkiewicz, Jakub   | Industrial Res. Inst. for Automation and Measurements,   |
| 14:40-15:00  | WePT2.3  |
| <i>Structural Characterization of Seydiş Ehir Red Mud to Utilization in Roof Tile Manufacturing, pp. 484-487.</i>  |  |
| Piskin, Sabriye<br>Kantürk Figen, Aysel<br>Özkan, Emrah<br>Özçay, Ünal   | Yildiz Tech. Univ.<br>Yildiz Tech. Univ.<br>Yildiz Tech. Univ.<br>Gürallar Tile Factory  |
| 15:00-15:20  | WePT2.4  |
| <i>The Preparation of Silicon and Aluminum Alkali Extracts from Fused Turkish Coal Fly Ashes, pp. 488-490.</i>   |  |
| Piskin, Mehmet Burcin<br>Sarı Yılmaz, Muge   | Yildiz Tech. Univ.<br>Yildiz Tech. Univ.   |