

POSTER

Topic B: Bioleaching Technology and Biobeneficiation

- 1 **Bioleachability of chalcopyrite ore using diverse acidophiles**
K. Qayum, M.A. Ghauri, N. Akhtar, K. Akhtar, NIBGE, Faisalabad/PK
- 2 **In situ oxidation modes performed by *Acidithiobacillus ferrooxidans* in different sulfides**
S.F.S. Tada, UNICAMP, Campinas/BR; D.M.H. Ossa, UNICAMP and UNESP, Campinas and Araraquara/BR; L.F.C. Ferraz, F.C. Reis, UNICAMP, Campinas/BR; A.P. Felício, UNESP, Araraquara/BR; M.T.M. Novo, UNESP and UFSCar, Araraquara and São Carlos/BR; O. Garcia Jr., UNESP, Araraquara/BR; L.M.M. Ottoboni, UNICAMP, Campinas/BR
- 3 **Biological transformation of kimberlite ores**
M. Gericke, Mintek, Randburg/ZA; B. Benvie, L. Kruger, De Beers, Johannesburg/ZA
- 4 **Bioleaching of a zinc sulfide ore by thermophilic consortia isolated from Copahue volcano**
A. Giaveno, National University of Comahue, Neuquen/RA; E. Donati, National University of La Plata/RA
- 5 **Mineralogy of colombian arsenopyrite-pyrite concentrated biooxidation products by FTIR and XRD techniques**
A. Muñoz, Sao Paulo State University, Araraquara/BR; A.C. Gaviria, M.A. Marquez, Colombia National University, Medellin/CO; O. Garcia, Sao Paulo State University, Araraquara/BR
- 6 **Electrochemical noise analysis of CPE chalcopyrite in the presence of *Acidithiobacillus ferrooxidans***
D.G Horta, D. Bevilacqua, H.A. Acciari, O. Garcia Jr, A.V. Benedetti, São Paulo State University, Araraquara/BR
- 7 **Application of thermophilic chemolithotrophic microorganisms in two stage process of bacterial-chemical leaching of sulfide copper concentrate**
M. Muravyov, Moscow State University of Environmental Engineering/RUS; N. Fomchenko, Russian Academy of Science, Moscow/RUS; V. Biryukov, Moscow State University of Environmental Engineering/RUS
- 8 **Influence of chelators on iron dissolution during the quality improvement of quartz sands and feldspars**
I. Styriakova, Slovak Academy of Sciences, Kosice/SK
- 9 **Biooxidation and cyanidation for gold and silver recovery from acid mine drainage generating tailings (Ticapampa, Peru)**
A.A. Nagy, E.D. Gock, Technical University Clausthal/D; F. Melcher, T. Atmaca, L. Hahn, A. Schippers, Federal Institute for Geosciences and Natural Resources (BGR), Hanover/D
- 10 **Biooxidation of sulphide minerals of marjanbulak deposit**
S. Kukanova, L.I. Zainitdiniva, I.V. Koroleva, Uzbek Academy of Sciences, Tashkent/UZB

POSTER

- 11 **A view on the organic matter and metalloporphyrins biodegradation as characteristic compounds of black shale ores**
Z. Sadowski, A. Szubert, E. Jazdzyk, I. Maliszewska, Wrocław University of Technology/PL
- 12 **Bioleaching of complex copper-bearing sulfide by cultures composed of different microbial communities**
X. Xuehui, X. Shengmu, L. Jianshe, Central South University, Changsha/PRC
- 13 **Microbial leaching of metals from printed circuit boards**
S. Willscher, M. Katzschner, K. Jentsch, TU Dresden, Pirna/D; S. Matys, TU Dresden/D; H. Pöllmann, University of Halle-Wittenberg, Halle/D
- 14 **Bioleaching of copper from black shales at alkaline pH**
V. Groudeva, Sofia University, Sofia/BG
- 15 **Cobalt and nickel recoveries from laterite tailings by organic and inorganic bioacids**
C.O. Coto, Universidad de la Habana/C; F.G. Galizia, Universidad Nacional de La Plata/C; G.E. Gonzalez, E.H.I. Hernandez, Universidad de la Habana/C; D.E. Donati, Universidad Nacional de la Plata/RA
- 16 **Bioleaching of iron from highly contaminated kaolin clay by *Aspergillus niger*: effect of organic acid biosynthesis**
M. Pazouki, Materials and Energy Research Center, Karaj/IR; M.R. Hosseini, M. Ranjbar, University of Shahid Bahonar, Kerman/IR; F. Ghavipankeh, Materials and Energy Research Center, Karaj/IR
- 17 **Optimization of kaolin bleaching by *Aspergillus niger***
M. Ranjbar, E. Aghaie, M.R. Hosseini, University of Shahid Bahonar, Kerman/IR; M. Pazouki, F. Ghavipankeh, Materials and Energy Research Center, MeshkinDasht, Karaj/IR
- 18 **Batch and continuous bioleaching of a zinc sulphide concentrate by moderate thermophile microorganisms**
P.S. Pina, V.A. Leao, Universidade Federal de Ouro Preto, MG/BR
- 19 **Application of mesophilic mixed microorganisms for recovery of valuable metals from spent refinery catalysts**
D. Kim, D. Mishra, Korea Institute of Geosciences and Mineral Resources, Daejeon/ROK; D.E. Ralph, Parker CRC for Hydro-metallurgy, Perth/AUS; J.G. Ahn, Korea Institute of Geosciences and Mineral Resources, Daejeon/ROK; Y.H. Rhee, Chungnam National University, Daejeon/ROK
- 20 **Bioleaching of non-metallic raw materials**
I. Styriakova, Slovak Academy of Sciences, Kosice/SK; M. Lovas, Institute of Geotechnics, Kosice/SK
- 21 **Bioleaching of talvivaara ore in neutral and acid medium**
T. Farbiszewska, J. Farbiszewska-Kiczma, T. Grobelski, Opole University/PL

POSTER

- 23 **The effect of fluid flow on inoculation, colonisation and leaching of chalcopyrite in a simulated packed bed reactor**
R.P. van Hille, O. Tupikina, N. Spurr, S.T.L. Harrison, University of Cape Town/ZA
- 24 **Development of biotechnology on flotation tailings reprocessing in copper-concentrating factory in almalıy mining and metallurgical complex**
M.G. Sagdieva, S.I. Borminskyi, Uzbekistan Academy of Sciences, Tashkent/UZB; K.S. Sanakulov, O.P. Vasilyonok, Almalıy Mining and Metallurgical Complex/UZB
- 25 **Deferization of kaolinic sand by iron oxidizing and iron reducing bacteria**
D. Kupka, V. Sepelak, M. Lovas, Slovak Academy of Sciences, Kosice/SK
- 26 **Ferric iron regeneration in a real heap leaching solution in fluidized bed reactor**
P. Nurmi, B. Özkaya, A.H. Kaksonen, J.A. Puhakka, Tampere University of Technology/FIN
- 27 **The potential for bioleaching the copper ores of the Zambian copperbelt**
J. Manchisi, University of Cape Town/ZA; S. Simukanga, University of Zambia, Lusaka/Z; A. Sicalwe, Konkola Copper Mines Plc., Chingola/Z; P. Gaylard, G.S. Hansford, University of Cape Town/ZA
- 28 **Effect of temperature on bioleaching of chalcopyrite concentrates containing high concentrations of silver: opposite rules apply**
Y. Liu, N. Okibe, D.B. Johnson, University of Wales, Bangor/UK
- 29 **Microbial populations in a 110 ton-scale column for the recovery of metals from black schist ores**
K.B. Hallberg, D.B. Johnson, University of Wales, Bangor/UK; J. Langwaldt, Geological Survey of Finland, Outokumpu/FIN; C. Jouliau, BRGM, Orléans/F
- 30 **Combined activity test for bioleaching activities**
T. Rohwerder, W. Sand, University Duisburg-Essen/D
- 31 **Biolixiviation of zinc from sphalerite by wild strain *Acidithiobacillus ferrooxidans***
D.M.H. Ossa, Universidade Estadual de Campinas/BR; S.L. Marquez, M.G. Marquez, Universidad Nacional de Colombia, Medellin/CO
- 32 **Jarosite, schwertmannite and sulfur: microchemical, structure and morphology during biooxidation process of iron rich sphalerite**
D. Zapata, M. Márquez, M. Ossa, National University of Colombia, Medellin/CO
- 33 **Data mining models to characterize microbial populations in copper ore bioleaching processes**
C. Meneses, C. Demergasso, J. Iratchet, D. Urrutia, Universidad Católica del Norte, Antofagasta/RCH

POSTER

- 34 Biooxidation of olympiada refractory gold sulfide concentrate**
V.K. Sovmen, V.N. Guskov, A.V. Belyi, Polus, Krasnoyarsk/RUS;
T.F. Kondrateva, G.I. Karavaiko, Winogradsky Institute of
Microbiology, Moscow/RUS
- 35 Monitoring of hydrocarbon gaseous compounds formed during bioleaching of copper sulphide minerals with mesophilic microorganisms**
R. Luca, T. Vargas, B. Escobar, B. Townley, University of Chile,
Santiago/RCH
- 36 Bioleaching of a mixed copper dust emanating from copper smelters**
F. Bakhtiari, M. Zivdar, H. Ateshi, Sistan & Balouchestan University,
Zahedan/IR; M. Vosoughi, Sharif University of Technology, Tehran/IR;
S.A. Seied Baghery, Rafsanjan/IR
- 37 Optimization of chalcopyrite concentrate bioleaching using thermophil**
R. Ghazi, M. Ranjbar, Z. Manafi, Sarcheshmeh Copper Complex,
Rafsanjan/IR
- 38 Bacterial leaching of a copper ore containing activated pyrite**
Z. Manafi, S.A. Seyedbagheri, Sarcheshmeh Copper Complex,
Rafsanjan/IR
- 39 An investigation on the biodegradation of organics used at a copper solvent extraction plant**
M. Zolfaghari, Sarcheshmeh Copper Complex, Rafsanjan/IR;
N. Gholbang, G. Emtiazi, Esfahan University, Esfahan/IR;
Z. Manafi, Sarcheshmeh Copper Complex, Rafsanjan/IR
- 40 Investigation of viscosity and thermodynamic properties on the bioleaching solution**
M. Liu, R. Renman, W. Jiankang, W. Dianzuo, General Research
Institute for Nonferrous Metals, Beijing/PRC
- 41 Process enhancement of bioleaching of covellite concentrate**
E. Zhou, J. Wen, R. Ruan, D. Wang, General Research Institute for
Nonferrous Metals, Beijing/PRC
- 42 Study on selective restraint of pyrite during copper bioleaching**
R. Renman, Z. Guiying, W. Jiankang, W. Biao, Research Institute
for Nonferrous Metals, Beijing/PRC
- 43 Bacterial dephosphorization of an iron ore**
A. Ballester, Universidad Complutense de Madrid/E; P. Delvasto,
C. Garcia, J.A. Munoz, M.L. Blazquez, F. Gonzalez/E; J.M. Igual,
IRNASA-CSIC, Salamanca/E
- 96 The effect of pH, temperature and high ionic strength on the rate of ferrous iron oxidation by *Leptospirillum ferriphilum* in continuous culture**
T.V. Ojumu, J. Petersen, G.S. Hansford, University of Cape Town,
Rondebosch/ZA

POSTER

- 97 Kinetic measurement of biological oxidation of ferrous iron at low ferric to ferrous ratios in a controlled potential batch reactor**

T. Kamunga Kazadi, J. Petersen, University of Cape Town, Rondebosch/ZA

Topic E: Environmental Problems

- 44 Treatment of uranium containing drainage water in a technical plant by means of microbial reduction**

F. Glombitza, S. Kutschke, G.E.O.S. Freiberg Ingenieurgesellschaft mbH, Halsbrücke/D; G. Kießig, A. Zellmer, Wisutec GmbH, Chemnitz/D

- 45 Development and application of a method for the prediction and assessment of the seepage water quality**

F. Glombitza, J. Pinka, S. Kutschke, E. Janneck, R. Kahnt, G.E.O.S. Freiberg Ingenieurgesellschaft mbH, Halsbrücke/D

- 46 Bacterial accumulation of heavy metals in anaerobic sludge**

A. Arora, Sudhir Saxena, Indian Agricultural Research Institute, New Delhi/IND

- 47 Iron isotope fractionation by biogeochemical processes in mine tailings**

R.B. Herbert Jr., Uppsala University/S; A. Schippers, Federal Institute for Geosciences and Natural Resources (BGR), Hanover/D

- 49 Microbial and geochemical characterization of acid generating hard coal tailings dumps in Saxonia/Germany**

S. Willscher, S. Starke, M. Katzschnier, TU Dresden, Pirna/D; T. Hertwig, Beak Consultants GmbH, Freiberg/D; M. Frenzel, GUB Ingenieurgesellschaft mbH, Zwickau/D; M. Felix, LfUG Sachsen, Dresden/D

- 50 Biodegradation of organic matter and release of heavy metals from the copper bearing black shale of Fore Sudetic Monocline (Poland)**

R. Matlakowska, A. Sklodowska, Warsaw University/PL

- 51 Characterization and imaging of biogeochemical processes and suitable model systems**

F. Haegel, P. Klauth, E. Klumpp, A. Kemna, Forschungszentrum Jülich/D

- 53 Environmental Risk Management of an Abandoned Mining Site in Hungary**

K. Gruiz, E. Vaszita, Z. Siki, V. Feigl, Budapest University of Technology and Economics/H

- 54 New Xochiquetzalli method for ion sulphide determination in aqueous media application to tailings analysis**

R.E. Rivera-Santillan, L. Juarez-Garcia, Universidad Nacional Autonoma de Mexico/MEX

POSTER

- 55 **A study of the operating parameters of a fixed bed sulfate reducing bacteria (SRB) reactor for the treatment of metal bearing waste water**

M. Tsezos, P. Kousi, E. Remoundaki, A. Hatzikioseyan, National Technical University of Athens/GR;

Topic I: Interfacial Processes

- 56 **Effect of acidianus *thiobacillus ferroxidans* on flotation of pure pyrite and chalcopyrite**

R. Hosseini Tabatabaei, M. Oliazade, M. Kolahdoozan, University of Tehran/IR

- 57 **Bioflotation of a black shale copper ore**

I. Spasova, M. Nicolova, S. Groudev, University of Mining and Geology, Sofia/BG

- 58 **Surface hydrophobicity of an acidophilic heterotrophic bacteria of mine origin under metal stress**

K. Pakshirajan, Indian Institute of Technology, Guwahati/IND; P.C. Banerjee, Mayo Clinic, Rochester/USA

- 59 **Characterization of jarosites formed over a temperature gradient from 2 to 40°C**

F.S. Jones, J.M. Bigham, Ohio State University, Columbus, OH/USA; B. Özkaya, E. Sahinkaya, J.A. Puhakka, Tampere University of Technology/FIN; O.H. Tuovinen, Ohio State University, Columbus, OH/USA

- 60 **Influence of growth substrate and attachment substratum on EPS- and biofilm-formation by *Acidithiobacillus ferrooxidans* A.**

K. Harneit, W. Sand, University Duisburg-Essen/D

- 61 **Selective coagulation in chalcopyrite/pyrite mineral system using *Acidithiobacillus* group bacteria**

A. Vilinska, K. Hanumantha Rao, E. Forssberg, Lulea University of Technology/S

- 62 **Study of the attachment behaviour of different strains of *Acidithiobacillus spp.* to pyrite**

K.Z. Mafanya, T. Rohwerder, W. Sand, University Duisburg-Essen/D

- 63 **Combined atomic force and epifluorescence microscopy of biofilms formed by leaching bacteria**

S. Mangold, K. Harneit, W. Sand, University Duisburg-Essen/D

- 64 **Novel steel corrosion protection by microbial extracellular polymeric substances (EPS) – biofilm-induced corrosion inhibition**

M. Grooters, K. Harneit, M. Wöllbrink, W. Sand, University Duisburg-Essen/D; R. Stadtler, W. Fürbeth, DECHEMA e.V., Frankfurt/D

- 65 **Inhibition of microbiologically influenced corrosion of mild steel and stainless steel 316 by an organic inhibitor**

X. Sheng, Y.P. Ting, S.O. Pehkonen, National University of Singapore/SGP

POSTER

Topic M: Molecular- and Microbiology

- 66 **Identification, some characterizations and bioleaching application of an iron-oxidizing bacterium, *Acidithiobacillus ferrooxidans* KLipis-3-1 isolated from Malaysia**
S.-C. Yee, C.-P. Lim, K.-Y. Ng, Malaysia University of Science and Technology (MUST), Petaling Jaya/MAL
- 69 **Transporter protein genes are up-regulated by covellite in *Acidithiobacillus thiooxidans***
F.C. Reis, D.J. Madureira, UNICAMP, Campinas/BR;
D.M.H. Ossa, UNICAMP and UNESP, Campinas/BR;
S.F.S. Tada, L.M.M. Ottoboni, UNICAMP, Campinas/BR
- 70 **Quantification of biomining microbes using quantitative real-time polymerase chain reaction**
C.M. Zammit, L.A. Mutch, Curtin University of Technology, Perth/AUS;
H.R. Watling, Parker Centre for Integrated Hydrometallurgy Solutions, Perth/AUS; E.L.J. Watkin, Curtin University of Technology, Perth/AUS
- 71 **Up- and down-regulated genes in *Acidithiobacillus ferrooxidans* exposed to chalcopyrite**
L. Ferraz, F.C. Reis, S.F.S. Tada, Campinas State University/BR;
D.M.H. Ossa, A.P. Felicio, São Paulo State University, Araraquara/BR;
M.T.M. Novo, São Carlos Federal Univeristy/BR; O. Garcia Jr, São Paulo State University, Araraquara/BR; L.M.M. Ottoboni, Campinas State University/D
- 72 **Chalcopyrite and bornite differentially affect proteins synthesis in *Acidithiobacillus ferrooxidans***
A.P. Felicio, O. Garcia Jr., M.C. Bertolini, São Paulo State University, Araraquara/BR; L.F.C. Ferraz, F.C. Reis, L.M.M. Ottoboni, Campinas State University/BR; E. Oliveira, M.A. Odena, Plataforma de Proteômico-Parc Científic de Barcelona/E; M.T.M. Novo, São Carlos Federal University, São Carlos/BR
- 73 **Iron oxidation kinetics of *Leptospirillum ferriphilum* dominated culture at pH below one**
B. Özkaya, E. Sahinkaya, P. Nurmi, A.H. Kaksonen, J.A. Puhakka, Tampere University of Technology/FIN
- 74 **Metabolism peculiarities of the genus *Sulfobacillus* bacteria**
A.E. Zhuravleva, I.A. Tsaplina, Winogradsky Institute of Microbiology RAS, Moscow/RUS; A.D. Ismailov, L.M. Zakharchuk, Moscow State University/RUS; G.I. Karavaiko, Winogradsky Institute of Microbiology RAS, Moscow/RUS
- 75 **Isolation, characterization and phylogenetic analysis of *acidiphilium*-like bacterium from acid mine drainage**
Y. Zhang, Y. Yang, J. Liu, Central South University, Changsha/PRC
- 76 **Bacterial oxidation of elemental sulfur: changes in oxidation kinetics**
M. Mandl, B. Pokorna, Masaryk University, Brno/CZ

POSTER

- 77 **Quantification of microorganisms involved in cemented layer formation in sulfidic mine tailings (Freiberg, Saxony, Germany)**
D. Kock, T. Graupner, D. Rammelmair, A. Schippers, Federal Institute for Geosciences and Natural Resources (BGR), Hanover/D
- 78 **Identification of microbes isolated from leachate collected from four experimental bioleaching columns**
L.A. Mutch, E.L.J. Watkin, Curtin University of Technology, Perth/AUS; H.R. Watling, CSIRO Minerals, Perth/AUS
- 79 **Identification and characterization of a novel nickel-resistant determinant from *Leptospirillum ferriphilum* UBK03**
J. Tian, N. Wu, Chinese Academy of Agricultural Science, Beijing/PRC; J. Li, Y. Liu, East China Institute of Technology, Fuzhou/PRC; J. Guo, B. Yao, Y. Fan, Chinese Academy of Agricultural Science, Beijing/PRC
- 80 **The diversity of benthic microorganisms in acidic mine lake sediment**
H.A. Pham, J. Plumb, C. Oldham, The University of Western Australia, Perth/AUS
- 81 **Microbial diversity in iron oxidation tank of AMD treatment plant for an abandoned sulphur mine**
K. Suto, H. Bacosa, C. Inoue, Tohoku University, Sendai/J; E. Matsushima, DOWA Techno Engineering Co. LTD., Okayama/J
- 82 **Reduction of soluble and solid ferric iron by *Acidiphilium* SJH**
A. Vaskova, D. Kupka, Slovak Academy of Sciences, Kosice/SK
- 83 **Isolation of *Leptospirillum ferrooxidans* SRPCBL for enhanced ferric regeneration in stirred tank and column**
S.R. Dave, Gujarat University, Ahmedabad/IND
- 84 **Isolation and characterization of psychrotolerant arsenite-oxidizing bacterium from gold mine in Zloty Stok**
L. Drewniak, A. Sklodowska, University of Warsaw/PL
- 85 **Arsenic hypertolerant bacteria isolated from gold mine rocks biofilms**
L. Drewniak, A. Styczek, A. Sklodowska, University of Warsaw/PL
- 86 **Development of extremophilic iron oxidizing consortium and fixed film bioreactor for generation of ferric lixivient**
S.R. Dave, T.J. Shah, D.R. Tipre, Gujarat University, Ahmedabad/IND
- 87 **Microbial communities in acid mine water from two different copper mines in China**
X. Xuehui, Central South University, Changsha/PRC; X. Shengmu, H. Zhiguo, L. Jianshe, Q. Guanzhou, Changsha/PRC
- 88 **Accumulation of chromium reducing bacteria using potential controlled electrochemical cultivation**
N. Matsumoto, S. Hirano, N. Ohmura, CRIEPI, Chiba/J
- 89 **Research on isc operon in *Acidithiobacillus ferrooxidans* ATCC 23270**
J. Liu, Y. Zhang, M. Geng, J. Zeng, G. Qiu, Central South University, Changsha/PRC

POSTER

- 90 **Effect of sulphate concentration on the community structure and activity of sulphate reducing bacteria**
O. Oyekola, R.P. van Hille, S.T.L Harrison, University of Cape Town/ZA
- 91 **Kinetics of ferrous iron oxidation by moderate thermophile microorganisms**
P.S. Pina, V.A. Leão, Núcleo de Valorização de Materiais Minerais, Ouro Preto, MG/BR; J. Frenay, Université Liège/B
- 92 **Iron oxidation and bioleaching potential at low temperatures**
M. Dopson, Umea University/S; D. Kupka, Slovak Academy of Sciences, Kosice/SK; A.-K. Halinen, R. Rahunen, B. Özkaya, E. Sahinkaya, Tampere University of Technology/FIN; O. I. Rzhepishevskaya, Umea University/S; A. H. Kaksonen, Tampere University of Technology/FIN; O.V. Karnachuk, Tomsk State University/RUS; O.H. Tuovinen, Ohio State University, Columbus/USA; J.A. Puhakka, Tampere University of Technology/FIN
- 93 **Salt-tolerant, iron- and sulfur-oxidizing acidophilic bacteria**
C. Davis-Belmar, J. Nicolle, P.R. Norris, University of Warwick, Coventry/UK
- 94 **High-level resistance to cobalt and nickel but probably no transenvelope efflux: metal resistance in the cuban *Serratia marcescens* strain C-1**
J. Marrero, University of Havana/C; G. Auling, University of Hanover/D; O. Coto, University of Havana/C; D.H. Nies, University of Halle-Wittenberg/D
- 95 **Microbial community of the talvivaara demonstration-scale bioheap**
A. Halinen, N. Rahunen, K. Määttä, A. Kaksonen, Tampere University of Technology/FIN; M. Riekkola-Vanhanen, Talvivaara Project Ltd., Sotkamo/FIN; J. Puhakka, Tampere University of Technology/FIN
- 98 **Microbial diversity in a pilot plant for producing iron hydroxysulfates**
E. Heinzl, S. Hedrich, J. Seifert, M. Schlömann, TU Bergakademie, Freiberg/D
- 99 **Isolation and characterisation of microorganisms from copper bearing black shale of Lubin copper mine (Poland)**
R. Matlakowska, Warsaw University/PL; K.B. Hallberg, University of Wales, Bangor/UK; A. Sklodowska, Warsaw University/PL
- 100 **Iron homeostasis strategies in acidophilic iron oxidizers: comparative genome analysis**
R. Quatrini, V. Martínez, H. Osario, F.A. Veloso, I. Pedroso, J. Valdés, Life Science Foundation, Santiago/RCH; E. Jedlicki, University of Chile, Santiago/RCH; D.S. Holmes, Life Science Foundation, Santiago/RCH
- 101 **Discovery of small regulatory RNAs in the extremophile *Acidithiobacillus* genus suggests novel genetic regulation**
A. Shmaryahu, D.S. Holmes, Life Science Foundation, Santiago/RCH

POSTER

- 102 Analysis of the microbial community in an acid ground water characterized by sulfate reduction activity**
K. Gumnior, N. Hoth, M. Schlömann, J. Seifert, TU Bergakademie Freiberg/D
- 103 Characterization of new iron oxidizing bacteria from an acid mine water treatment plant**
S. Hedrich, E. Heinzl, J. Seifert, TU Bergakademie Freiberg/D; K.B. Hallberg, D.B. Johnson, University of Wales, Bangor/UK; M. Schlömann, TU Bergakademie Freiberg/D
- 104 Elemental sulfur oxidation in *Acidiphilium spp.***
T. Rohwerder, C. Janosch, W. Sand, University Duisburg-Essen/D
- 105 Monitoring of microbial community inhabiting a low-grade copper sulphide ore by Quantitative Real Time PCR based on 16S rRNA**
F. Remonsellez, Biotecnor Ltda., Antofagasta/RCH; P. Galleguillos, Centro de Investigación Científica y Tecnológica para la Minería, Antofagasta/RCH; F. Galleguillos, Universidad Católica del Norte, Antofagasta/RCH; D. Castillo, Johannesburg Technology Centre /ZA; C. Demergasso, Universidad Católica del Norte, Antofagasta/RCH; D. Rautenbach, Johannesburg Technology Centre/ZA
- 106 Bacterial activity at low temperature of cultures from low-grade copper sulphide bioleaching process in the Escondida Mine, Chile**
C. Demergasso, Universidad Católica del Norte, Antofagasta/RCH; V. Zepeda, Centro de Investigación Científica y Tecnológica para la Minería, Antofagasta/RCH; F. Galleguillos, Universidad Católica del Norte, Antofagasta/RCH; D. Castillo, Johannesburg Technology Centre /ZA; P. Galleguillos, Centro de Investigación Científica y Tecnológica para la Minería, Antofagasta/RCH
- 107 Isolation and molecular characterization of sulfate-reducing bacteria in acid mine drainage**
V. Albis Leao, Núcleo de Valorização de Materiais Minerais, Ouro Preto/BR
- 108 C-di-GMP pathway in *Acidithiobacillus ferrooxidans*: analysis of putative diguanylate cyclases (DGCs) and phosphodiesterases (PDEs) bifunctional proteins**
L. Ruiz, University of Chile, Santiago/RCH; W. Sand, Universität Duisburg-Essen/D; C.A. Jerez, N. Guiliani, University of Chile, Santiago/RCH
- 109 Sulfur oxidation and coupled iron reduction at low temperatures**
D. Kupka, Slovak Academy of Sciences, Kosice/SK; M. Dopson, Umea University/S; O.H. Tuovinen, Ohio State University, Columbus/USA
- 110 Comparison of microbiological populations of mineral heaps and mine wastes of differing ages in active and abandoned copper mines**
C.G. Bryan, Université Louis Pasteur, Strasbourg/F; K.B. Hallberg, D.B. Johnson, University of Wales, Bangor/UK

POSTER

- 111 Proteomic studies in *Acidithiobacillus ferrooxidans* cells induce by synthetic acyl-homoserine lactones**
A. Gonzalez, M.-J. Gallardo, University of Chile, Santiago/RCH; M. Frezza, L. Soulere, Y. Queneau, A. Doutheau, Université Lyon 1/F; C.A. Jerez, N. Guillani, University of Chile, Santiago/RCH
- 112 Searching for useful bacteria on chalcopyrite bioleaching from Japanese disused mines**
S.J. Joe, M. Sakoda, C. Tadashi, K. Kida, N. Nakamura, T. Tamura, Metals Technology Center, Kosaka/J
- 113 Comparative bioreduction of Fe(III) with *Geobacter metallireducens* and *bacillus infernus***
A. Ballester, J. Crespo, J.A. Munoz, F. Gonzalez, M.L. Blazquenz, Universidad Complutense de Madrid/E
- 114 The use of CARD-FISH to evaluate the quantitative microbial ecology involved in the continuous bioleaching of a cobaltiferous concentrate**
R. Amils, E. Diaz, E. Gonzalez-Toril, Universidad Autonoma Madrid/E; C. Jouliau, BRGM, Orleans/F

Topic R: (Bio)-Remediation

- 115 Integrated system to biological solubilization and precipitation of heavy metals**
G. Cabrera, J.M. Gómez, D. Cantero, University of Cádiz, Puerto Real/E
- 121 Chemical and bio-chemical methods for the acid mine drainage remediation**
A. Luptakova, T. Spaldon, Slovak Academy of Sciences, Kosice/SK; M. Balintova, Technical University in Kosice/SK
- 123 Bioremediation in situ of an alkaline soil polluted with heavy metals**
V. Groudeva, A. Doycheva, K. Krumova, S. Groudev, Sofia University/BG
- 124 Mine waste stabilization with biosludge and Ca carbonate residues: column experiments**
R. Herbert, L. Höckert, Uppsala University/S; M. von Brömssen, H. Friis, Ramböll Sverige AB, Stockholm/S; G. Jacks, Royal Institute of Technology, Stockholm/S
- 125 Hydrolysed cellulose material as sulfate reduction electron door to treat metal- and sulfate containing waste water**
A.-M. Lakaniemi, L.M. Nevatalo, A.H. Kaksonen, J.A. Puhakka, Tampere University of Technology/FIN
- 126 Application possibility of bentonite and zeolite in bioremediation**
K. Jablonovska, I. Styriakova, Slovak Academy of Sciences, Kosice/SK

POSTER

- 127 Processing of flotation tailings from different copper mills in a way of biohydrometallurgy**
M.G. Sagdieva, S.I. Borminskiy, Z.E. Rakhmatullaeva, Uzbekistan Academy of Sciences, Tashkent/UZB; A.K. Tonkikh, National University of Uzbekistan, Tashkent/UZB; K.S. Sanakulov, Almalik Mining and Metallurgical Complex/UZB; B. Scott, Whitehorse Copper Tailings, Tagish/CDN
- 128 Enhancing reductive processes by autochthonic sulphate-reducing bacteria in lignite overburden dumps**
A. Simon, N. Hoth, M. Dilbat, TU Bergakademie Freiberg/D
- 129 Bioremediation of dredged sediments polluted by heavy metals**
F. Beolchini, Polytecnic University of Marche, Ancona/I; S. Ubaldini, B. Passariello, IGAG-CNR, Roma/I; N. Gul, D. Ture, Süleyman Demirel University, Isparta/TR; F. Vegliò, University of L'Aquila/I; R. Danovaro, A. Dell'Anno, Polytecnic University of Marche, Ancona/I
- 130 Bioreactor system for the biodegradation of toxic organic waste and simultaneous removal and selective separation of metals**
M.J. de Moura, J. Sousa, A. Reis, M. Costa-Ferreira, INETI/DB/UBB, Lisboa/P
- 131 Laboratory investigations on the interactions of soil, water and microorganisms with manganese**
Ch. Lorenz, D. Merten, M. Lonschinski, G. Haferburg, G. Büchel, Friedrich-Schiller-Universität Jena/D
- 132 Chemical stabilization combined with phytostabilisation applied to mine waste contaminated soils in Hungary**
V. Feigl, A. Atkári, Budapest University of Technology and Economics/H; N. Uzinger, Hungarian Academy of Sciences, Budapest/H; K. Gruiz, Budapest University of Technology and Economics/H
- 133 Heavy metal removal in biological permeable reactive barriers**
 F. Pagnanelli, S. Mainelli, L. Toro, La Sapienza, Rome/I; F. Beolchini, Polytecnic University of Marche, Ancona/I; F. Vegliò, I. De Michelis, University of L'Aquila/I

Topic S: Biosorption and -accumulation

- 135 Sorption of Co ions to the biogenic Mn oxides produced by a Mn-oxidizing fungus, *paraconiothyrium sp.*-like strain**
K. Sasaki, M. Matsuda, T. Urata, T. Hirajima, Kyushu University, Fukuoka/J; H. Konno, Hokkaido University, Sapporo/J
- 136 The role of carotenoid pigment at biosorption and bioaccumulation of hexavalent chromium ions by *Rhodotorula mucilaginosa* UCM Y-1776**
O. Mameeva, T. Kasatkina, V. Podgorsky, Zabolotny Institute of Microbiology and Virology of NAS of Ukraine, Kiev/UA

POSTER

- 137 Biosorption of heavy metals by *Pseudomonas aeruginosa* from a contaminated site with petroleum**
R.M. Pérez, A. Abalos, University of East, Santiago de Cuba/C;
J.M. Gómez, D. Cantero, University of Cadiz, Puerto Real/E
- 139 Waste biomass characterization and metal-biomass interactions study**
L. Svecova, M.S. Kubal, Institute of Chemical Technology, Prague/CZ; E. Guibal, Ecole des Mines d'Alès/F
- 140 Waste fungal biomass for mercury biosorption – column studies**
L. Svecova, M.S. Kubal, Institute of Chemical Technology, Prague/CZ; E. Guibal, Ecole des Mines d'Alès/F
- 141 Removal of heavy metals and uranium from contaminated waters in biosorption columns**
K. Steudel, G. Horak, S. Willscher, W. Pompe, P. Werner, Technical University Dresden/D
- 142 Sorption of heavy metals from waste waters by biogenic iron sulphides**
A. Luptakova, E. Macingova, M. Kusnierova, Slovak Academy of Sciences, Kosice/SK
- 143 Engineering the *Escherichia coli* maltose binding protein MalE for adsorption of charged pollutants**
S.B. Choi, S.-M. Park, D.-H. Kim, Y.-S. Yun, Chonbuk National University, Jeonju/ROK
- 144 Mercury sorption on a biopolymer (chitosan)**
K. Campos Gavilan, Universidad Peruana Cayetano Heredia, Alès/F; F. Peirano Blondet, Ecole des Mines d'Alès/F; M. Ly Arrascue, H. Maldonado Garcia, Universidad Peruana Cayetano Heredia, Lima/PE; E. Guibal, Ecole des Mines d'Alès/F
- 145 Heavy metal tolerance and copper uptake in yeast isolated from Patagonia Argentina**
L. Lavalle, M. Portillo, P. Chiacchiarini, Universidad Nacional de Comahue, Neuquen/RA; E. Donati, Universidad Nacional de La Plata/RA
- 146 Biosorption of iron and arsenic in cellulosic biomass studied using high energy X-rays**
R. Pinto de Carvalho, G. Cordeiro Silva, V.S. Ciminelli, Universidade Federal de Minas Gerais, Belo Horizonte, MG/BR
- 147 Biorecovery of gold from electronic scrap and jewellery wastes by *Desulfovibrio desulfuricans* and *Escherichia coli* and biomanufacture of active Au-nanomaterial**
K. Deplanche, University of Birmingham/UK; N.J. Creamer, V.S. Baxter-Plant, Birmingham/UK; I.P. Mikheenko, D. Sanyahumbi, University of Birmingham/UK; G. Attard, Cardiff University, Wales/UK; L.E. Macaskie, University of Birmingham/UK

POSTER

- 148 The recovery of platinum group metals from secondary sources**
A. Murray, I.P. Mikheenko, N.A. Rowson, L.E. Macaskie, University of Birmingham/UK
- 149 A novel fuel cell catalyst for clean energy production based on a bionanocatalyst**
P. Yong, I.P. Mikheenko, L.E. Macaskie, University of Birmingham/UK
- 150 Regulation of PCE dechlorinating activity by Electrochemical cultivation**
S.H. Shi-ichi Hirano, N.M. Norio Matsumoto, N.O. Naoya Ohmura, Central Research Institute of Electric Power Industry, Chiba/J