DECHEMA
Biotechnologie

IBS 2017

PROGRAMME

24 – 27 September 2017
TU Bergakademie Freiberg/Germany

22nd International Biohydrometallurgy Symposium

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Grigory Voiloshnikov, Irkutsk Research Institute of Precious and Rare Metals and Diamonds (IRGIREDMET), Irkutsk/RUS
Elizabeth Watkin, Curtin University, Perth/AUS
Sabine Willscher, University Halle-Wittenberg, Halle/D

HONORARY LECTURE — Sunday, 24 September 2017

Progress in Biohydrometallurgy over the last thirty years?
P. Norris, University of Exeter/UK

KEYNOTE LECTURES — Monday, 25 September 2017

Bioleaching in stirred tanks reactors to process Kupferschiefer type of ore: an overview
P. D'Hugues, Bureau de Recherches Géologiques et Minières (BRGM), Orléans/F

Unravelling the complexity of heap bioleaching
J. Petersen, University of Cape Town/ZA

Characterization and localized insight into leaching of sulfide minerals
M. Chen, CSIRO/AU

From knowledge to best practices in bioleaching
C. Demergasso, Universidad Católica del Norte, Antofagasta/CHL

KEYNOTE LECTURES — Tuesday, 26 September 2017

***In-situ* characterization and molecular mechanisms evaluation of interfacial interaction between minerals and typical bioleaching microorganisms**
J.-L. Xia, Central South University, Changsha/CN

Bioelectrochemical leaching of copper sulfide minerals
M. Ranjbar, Shahid Bahonar University of Kerman/IR

Recent advances in biomining and microbial characterization
A. Kaksonen, CSIRO, Floreat/AUS

Putting subsurface microbes to work; metal recovery and biosynthesis of functional metallic nanoparticles
J. Lloyd, University of Manchester/ UK

KEYNOTE LECTURES — Wednesday, 27 September 2017

Copper heap bioleach microbiology – progress and challenges
F. Roberto, Newmont Mining Corporation, Englewood, CO/USA

Optimizing acidophile biofilm formation for metal sulfide dissolution: The SysMetEx Project
M. Dopson, Linnaeus University, Kalmar/S

PUBLIC EVENING LECTURE — Wednesday, 27 September 2017

850 years of ore mining in Saxony – lessons (to be) learned

B. Cramer, Sächsisches Oberbergamt, Freiberg/D

Sunday, 24 September 2017

16:00	**Check in / Registration for Participants**
17:00	**Welcome and Opening** W. Sand, Donghua University, Songjiang, Shanghai/CN and TU Freiberg, Freiberg/D M. Schlömann, TU Bergakademie Freiberg, Freiberg/D A. Schippers, Bundesanstalt für Geowissenschaften und Rohstoffe, Hannover/D **Welcome Address** K.-D. Barbknecht, Rector of TU Bergakademie Freiberg, Freiberg/D
	Chair: W. Sand, Donghua University, Songjiang, Shanghai/CN and TU Freiberg,Freiberg/D
17:30	HONORARY LECTURE **Progress in Biohydrometallurgy over the last thirty years?** P. Norris, University of Exeter/UK
18:15 – 20:00	**Welcome Reception**

Programme as of 10 September 2017. Subject to alterations. Title and authors information as given by the submitter. No proof by DECHEMA.

Monday, 25 September 2017

Tank Leaching I

Chairs: P. D' Hugues[1]; A. Schippers[2]; [1] Bureau de Recherches Géologiques et Minières (BRGM), Orléans/F; [2] Bundesanstalt für Geowissenschaften und Rohstoffe, Hannover/D

09:00 KEYNOTE LECTURE
Bioleaching in stirred tanks reactors to process Kupferschiefer type of ore: an overview
A. Guezennec[1]; C. Joulian[1]; P. D'Hugues[1]; [1] Bureau de Recherches Géologiques et Minières (BRGM), Orléans/F

09:30 **Effect of temperature ramping on stirred tank bioleaching of a copper concentrate**
S. Hedrich[1]; C. Joulian[2]; T. Graupner[1], A. Schippers[1]; A. Guézennec[2]; [1] Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hannover/D; [2] Bureau de Recherches Géologiques et Minières (BRGM), Orleans/F

09:45 **Column bioleaching of a saline, calcareous copper sulfide ore**
E. Pakostova[1]; B. Grail[1]; D.B. Johnson[1]; [1] Bangor University, Bangor/UK

10:00 **Optimization of copper bio leaching operation by moderately thermophilic consortia in Iranian Babak Copper Company (IBCCO)**
Z. Manafi[2]; A. Naghibzadeh[1]; M. Kargar[2]; [1] Iranian Babak Copper Co (IBCCO), Tehran/IR; [2] Jahrom Branch, Islamic Azad University, Jahrom, Shiraz/IR;

10:15 **Establishment of an iron-oxidizing culture of acidophilic micro-organisms for bioleaching of waste electrical and electronic equipment (WEEE)**
A. Hubau[1]; A. Guezennec[1]; M. Minier[2]; A. Chagnes[3]; [1] Bureau de Recherches Géologiques et Minières (BRGM), Orléans/F; [2] Chimie Paris Tech – CNRS, Paris/F; [3] GeoResources Lab, Université de Lorraine, CNRS, CREGU, Vandoeuvre-lès-Nancy/F

10:30 Coffee Break

Heap Leaching

Chairs: F. Glombitza[1]; J. Petersen[2]; [1]G.E.O.S. Ingenieurgesellschaft mbH, Halsbrücke/D; [2] University of Cape Town, Rondebosch/ZA

11:00 KEYNOTE LECTURE
Unravelling the complexity of heap bioleaching
J. Petersen[1], [1] University of Cape Town, Rondebosch/ZA

11:30 **Reduction of iron(III) ions at Elevated Pressure by Acidophilic Microorganisms**
R. Zhang[1]; A. Schippers[1]; [1] Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hannover/D

11:45 **The impact of heap self-heating on microbial activity during the bioleaching of low-grade copper sulfide ores**
D. Shiers[1]; D. Collinson[1]; H. Watling[1]; [1] Commonwealth Scientific and Industrial Research Organisation (CSIRO), Perth/AUS

12:00 **Bio-heap Leaching of Primary Copper Sulfide Ore by JOGMEC**
T. Shinkawa[1]; T. Kamiya[2]; T. Chida[2]; S. Furukawa[2]; [1] Japan Oil, Gas and Metals National Corporation, Kosaka/J; [2] Japan Oil, Gas and Metals National Corporation, Tokyo/J

12:15 **Nickel bioleaching at elevated pH: research and application**
B. Wu[1]; J. Sun[1]; B. Chen[1]; J. Wen[1]; D. Wang[1]; [1] General Research Institute for Nonferrous Metals, Beijing/CN

SCIENTIFIC LECTURE PROGRAMME

Monday, 25 September 2017

12:30 **Biodesulfurization of a coarse-grained high sulfur coal in a full-scale packed-bed bioreactor**
A. Doodkanlou Milan[1]; A. Ahmadi[1]; M. Hosseini[1]; [1] Isfahan University of Technology, Isfahan/IR

12:45 Lunch and Poster Session A

Innovative Methods I

Chairs: M. Chen[1]; W. Sand[2]; [1] CSIRO Mineral Resources, Clayton/AU; [2] Donghua University, Songjiang, Shanghai/CN and TU Freiberg, Freiberg/D

14:45 KEYNOTE LECTURE
Characterization and localized insight into leaching of sulfide minerals
M. Chen[1], Y. Yang, [1]; [1] CSIRO Mineral Resources, Clayton/AU

15:15 **Method for the recovery of Indium from diluted bioleaching solutions**
R. Vostal[1]; U. Šingliar[1]; M. Bertau[1]; [1] TU Bergakademie Freiberg, Institut für Technische Chemie, Freiberg/D

15:30 **Changes in Metal Leachability through Stimulation of Iron Reducing Communities within Waste Sludge**
M. Roberts[1]; D. Sapsford[1]; M. Harbottle[1]; A. Weightman[1]; G. Webster[1]; [1] Cardiff University, Cardiff/UK

15:45 **Bioleaching Magnetite and Hematite through Reductive Dissolution in Seawater**
B. Dold[1]; J. Palau[2]; J. Cama[2]; C. Ayora[2]; E. Torres[2]; R. Benaiges[3]; J. Urmeneta[3]; [1] Luleå University of Technology, Luleå/S; [2] IDAEA-CSIC, Barcelona/E; [3] Universidad de Barcelona, Barcelona/E

16:00 **Mechanism of silver-catalyzed bioleaching of enargite concentrate**
K. Oyama[1]; T. Hirajima[1]; K. Sasaki[1]; H. Miki[1]; N. Okibe[1]; [1] Kyushu University, Fukuoka/J

16:15 Coffee Break

Innovative Methods II

Chairs: C. Demergasso[1]; M. Schlömann[2]; [1] Universidad Católica del Norte, Antofagasta/RCH; [2] TU Bergakademie Freiberg, Freiberg/D

16:45 KEYNOTE LECTURE
From knowledge to best practices in bioleaching
C. Demergasso[1]; R. Véliz[1]; P. Galleguillos[1]; S. Marín[1]; M. Acosta[1]; J. Bekios[1]; [1] Universidad Católica del Norte, Antofagasta/RCH

17:15 **Investigation of controlled Redox Potential with pyrite during chalcopyrite bioleaching by mixed moderately thermophiles**
X. Huang[1]; J. Wang[1]; H. Zhao[1]; R. Liao[1]; X. Wang[1]; M. Hong[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

17:30 **Bioleaching of chalcopyrite with two different metallogenic types: A mineralogical perspective**
S. Deng[1]; G. Gu[1]; J. Ji[1]; B. Xu[1]; [1] Central South University, Changsha/CN

17:45 **Microbial community composition in mine waste, comparing sites in Cornwall and Western Devon**
T. Sbaffi[1]; A. Buckling[2]; C. Bryan[2]; [1] University of Exeter, Penryn/UK; [2] Environment and Sustainability Institute, University of Exeter, Penryn Campus, Penryn/UK

18:00 **23rd IBS 2019 presentation and selection of 24th IBS 2021**

19:00 End of 1st conference day

Tuesday, 26 September 2017

Molecular Methods / Biofilms I

Chairs: M. Vera[1]; J. Xia[2]; [1] Pontificia Universidad Católica de Chile, Santiago/RCH; [2] Central South University, Changsha/CN

09:00 KEYNOTE LECTURE
In-situ characterization and molecular mechanisms evaluation of interfacial interaction between minerals and bioleaching microorganisms
J. Xia[1]; H. Liu[1]; Z. Nie[1]; L. Liu[1]; H. Zhu[1]; L. Wang[1]; Y. Yang[1]; Y. Ma[1]; X. Pan[1]; Y. Zhao[2]; C. Ma[2]; L. Zheng[2]; X. Zhen[3]; L. Zhang[3]; W. Wen[3]; [1] Central South University, Changsha/CN; [2] Chinese Academy of Sciences, Beijing/CN; [3] Chinese Academy of Sciences, Shanghai/CN

09:30 **Desferrioxamine-like siderophores produced by _Gordonia rubripertincta_ CWB2**
D. Tischler[1], R. Schwabe[1], M.K. Anke[1], K. Szymańska[3], C.H.R. Senges[4], J.E. Bandow[4], B. Obst[1], M. Mehnert[1], O. Wiche[2]; [1] Institute of Biosciences, TU Bergakademie Freiberg/D; [3] Silesian University of Technology, Gliwice/PL; [4] Ruhr University Bochum, Bochum/D

09:45 **_Acidihalobacter prosperus_, a halophilic acidophile, has unique mechanisms to survive high chloride concentrations at low pH**
E. Watkin[1]; D. Holmes[2]; M. Dopson[3]; [1] CHIRI Biosciences, Curtin University, Bentley/AUS; [2] Center for Bioinformatics and Genome Biology, Andres Bello University, Santiago/RCH; [3] Centre for Ecology and Evolution in Microbial Model Systems (EEMiS), Linnaeus University, Kalmar/S

10:00 **Molecular regulatory network involved in biofilm structure development by _Acidithiobacillus thiooxidans_ includes Pel exopolysaccharide machinery**
M. Díaz[1]; N. Guiliani[2]; [1] Department of Biology, Faculty of Sciences, University of Chile, Santiago/RCH; [2] Universidad de Chile - Facultad de Ciencias, Santiago/RCH

10:15 **Genomic Insights into the Evolutionary Mechanisms and Dynamics of Extreme Acidophiles**
C. González[1]; M. Lazcano[1]; P. Tapia[2]; J. Valdés[2]; D. Holmes[1]; [1] Fundacion Ciencia & Vida, Santiago/RCH; [2] Universidad Mayor, Santiago/RCH

10:30 **Computational analysis of chalcopyrite-attached bacteria, automated cell counting, and quantification of biofilm formation**
S. Bellenberg[1]; A. Buetti-Din[2]; M. Vera[3]; O. Ilie[2]; K. Lykov[2]; I. Pivkin[2]; W. Sand[4]; M. Dopson[5]; [1] Universität Duisburg-Essen, Fakultät für Chemie, Essen/D; [2] Institute of Computational Science, Faculty of Informatics, Universita della Svizzera Italiana, Lugano/CH; [3] Pontificia Universidad Católica de Chile, Institute for Biological and Medical Engineering. Schools of Engineering, Biological Sciences and Medicine, Department of Hydraulic and Environmental Engineering, School of Engineering, Santiago/RCH; [4] Universität Duisburg-Essen, Fakultät für Chemie, Biofilm Centre, Essen/D; [5] Centre for Ecology and Evolution in Microbial Model Systems (EEMiS), Linnaeus University, Kalmar/S

10:45 Coffee Break

Metal Recovery

Chairs: M. Ranjbar[1]; S. Hedrich[2]; [1] Shahid Bahonar University of Kerman, Kerman/IR; [2] Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hannover/D

11:15 KEYNOTE LECTURE
Bioelectrochemical Leaching of Copper Sulfide Minerals
M. Ranjbar[1]; [1] Shahid Bahonar University of Kerman, Kerman/IR

Tuesday, 26 September 2017

11:45 **Microbial Production of Schwertmannite: Development from Microbial Fundamentals to Marketable Products**
S. Reichel[1]; E. Janneck[1]; D. Burghardt[2]; S. Peiffer[3]; M. Schlömann[4]; G. Kießig[5]; T. Koch[6]; I. Arnold[6]; J. Laubrich[7]; [1] G.E.O.S. Ingenieurgesellschaft mbH, Halsbrücke/D; [2] TU Dresden, Institut für Grundwassermanagement, Dresden/D; [3] Universität Bayreuth, Lehrstuhl für Hydrologie, Bayreuth/D; [4] TU Freiberg, Institut für Biowissenschaften, Freiberg/D; [5] UBIG mbH, Wünschendorf/D; [6] Lausitz Energie Bergbau AG (LEAG), Cottbus/D; [7] Wismut GmbH, Chemnitz/D

12:00 **Rare Earth Elements recovery and sulphate removal from phosphogypsum waste waters with Sulphate Reducing Bacteria**
J. Mäkinen[1]; M. Bomberg[1]; M. Salo[1]; M. Arnold[1]; P. Koukkari[1]; [1] VTT Technical Research Centre of Finland Ltd., Espoo/FIN

12:15 **Thermophilic iron-pyrite-oxidizing enrichments from solfataric hot springs in Chilean Altiplano**
F. Remonsellez[1], [1] Universidad Católica del Norte, Antofagasta/RCH

12:30 **The mechanism of precious metals biosorption by different bacteria**
L. Tan[1]; H. Yun[2]; X. Xu[1]; J. He[1]; H. Wu[1]; G. Qiu[1]; X. Liu[1]; J. Xie[1]; [1] Central South University, Changsha/CN; [2] Chinese Academy of Sciences, Beijing/CN

12:45 **Bio-oxidation Process for Gold Concentrates with a High Arsenic Content using Thermophilic Bacteria**
H. Yang[1]; L. Tong[2]; Z. Jin[2]; Y. Song[2]; W. Sand[3]; [1] Northeastern University, Shenyang/CN; [2] School of Metallurgy, Northeastern University, Shenyang/CN; [3] Aquatische Biotechnologie, Biofilm Centre, Universität Duisburg, Essen/D

13:00 Lunch Break and Poster Session B

Biosorption / Bioremediation I

Chairs: S. Willscher[1]; A. Kaksonen[2]; [1] University Halle-Wittenberg, Halle/D; [2] CSIRO, Floreat/AUS

15:00 KEYNOTE LECTURE
Recent advances in biomining and microbial characterisation
A. Kaksonen[1]; N. Boxall[1]; T. Bohu[1]; K. Usher[1]; C. Morris[1]; P. Wong[1]; K. Cheng[1]; [1] CSIRO, Floreat/AUS

15:30 **Biogenic iron compounds for hazardous metal remediation**
L. Castro[1]; M. Blázquez[1]; F. González[1]; J. Muñoz[1]; A. Ballester[1]; [1] Universidad Complutense de Madrid, Madrid/E

15:45 **Optimization of Bioscorodite Crystallization for Treatment of As(III)-bearing Wastewaters**
M. Tanaka[1]; T. Hirajima[1]; K. Sasaki[1]; N. Okibe[1]; [1] Kyushu University, Fukuoka/J

16:00 **Biocrystals vs. chemical crystals, all the same?**
J. Weijma[1], [1] Wageningen University, Wageningen/NL

16:15 **Microbial Recycling of Precious and Rare Metals Sourced from Post-consumer Products**
N. Saitoh[1]; T. Nomura[1]; Y. Konishi[1]; [1] Osaka Prefecture University, Sakai/J

16:30 Coffee Break

Tuesday, 26 September 2017

Innovative Methods III

Chairs: J. Lloyd[1]; A. Schippers[2]; [1] University of Manchester/UK; [2] Bundesanstalt für Geowissenschaften und Rohstoffe, Hannover/D

17:00 KEYNOTE LECTURE
Putting subsurface microbes to work; metal recovery and biosynthesis of functional metallic nanoparticles
J. Lloyd[1], [1] University of Manchester/UK

17:30 **Reductive dissolution of a lateritic ore containing rare earth elements (REE) using *Acidithiobacillus* species**
I. Nancucheo[1,2], D.B. Johnson[3], M. Lopes[2], G. Oliveira[2]; [1] Facultad de Ingeniería y Tecnología, Universidad San Sebastián, Concepción/RCH; [2] Instituto Tecnológico Vale, Belém, Pará/BR; [3] College of Natural Sciences, Bangor University, Bangor/UK

17:45 **Incorporation of indigenous microorganisms increases leaching rates of Rare Earth Elements from Western Australian Monazite**
M. Corbett[1]; J. Eksteen[2]; X. Niu[3]; E. Watkin[4]; [1] CHIRI Biosciences, Curtin University, Perth/AUS; [2] Western Australian School of Mines, Curtin University, Perth/AUS; [3] Curtin Water Quality Research Centre, Curtin University, Perth/AUS; [4] Curtin University, Bentley/AUS

18:00 **The Mechanism of In and Ge Occurrence in Sphalerite Crystal and the Influence on Properties: a DFT (Density Function Theory) Simulation**
L. Tong[1]; H. Yang[1]; J. Xu[1]; P. Xu[1]; C. Li[1]; [1] Northeastern University, Shenyang/CN

18:15 End of 2nd conference day

19:30 **Conference Dinner at Tivoli Concert Hall, Freiberg** (end 23:00)

Wednesday, 27 September 2017

Tank Leaching II

Chairs: F. Roberto[1]; S. Hedrich[2]; [1] Newmont Mining Corporation, Englewood/USA; [2]Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hannover/D

09:00 KEYNOTE LECTURE
Copper Heap Bioleach Microbiology – Progress and Challenges
F. Roberto[1]; [1] Newmont Mining Corporation, Englewood/USA

09:30 **Bioleaching of Valuable Components from Pyrometallurgical Final Slags**
P. Georgiev[1]; I. Spasova[1]; V. Groudeva[2]; M. Nicolova[1]; A. Lazarova[1]; M. Iliev[2]; R. Ilieva[2]; S. Groudev[1]; [1] University of Mining and Geology, Sofia/BG; [2] University of Sofia, Sofia/BG

09:45 **Bioleaching of supergene porphyry copper ores from Sungai Max Gorontalo of Indonesia by an iron- and sulfur oxidizing mixotrophic bacterium**
S. Chaerun[1]; F. Putri[1]; M. Mubarok[1]; W. Minwal[1]; Z. Ichlas[1]; [1] Institut Teknologi Bandung, Bandung/RI

10:00 **Comparison of reductive and oxidative bioleaching of jarosite waste for valuable metals recovery**
J. Mäkinen[1]; M. Salo[1]; H. Hassinen[2]; P. Kinnunen[1]; [1] VTT Technical Research Centre of Finland Ltd., Espoo/FIN; [2] Tampere University of Technology, Tampere/FIN

10:15 **Feasibility of metal extraction from waste metallurgical slags in the presence of *Acidithiobacillus thiooxidans***
A. Potysz[1]; P. Lens[2]; J. van de Vossenberg[2]; E. Rene[2]; M. Grybos[3]; G. Guibaud[3]; J. Kierczak[4]; E. van Hullebusch[2]; [1] University of Wroclaw, Wrocław/PL; [2] UNESCO-IHE Institute for Water Education, Delft/NL; [3] University of Limoges, Limoges/F; [4] University of Wroclaw, Wroclaw/PL

10:30 **Production Development of Olimpiadinskoe Gold Processing Plant through BIONORD® Technology Processing**
A. Belyi[1]; D. Chernov[1]; N. Solopova[1]; [1] JSC “Polyus”, Krasnoyarsk/RUS

10:45 Coffee Break

Biosorption / Bioremediation II

Chairs: K. Pollmann[1]; S. Willscher[2]; [1] Helmholtz-Zentrum Dresden-Rossendorf, Dresden/D; [2] University Halle-Wittenberg, Halle/D

11:15 **Phage display – a new tool for the recovery of valuable metals from primary and secondary resources**
S. Matys[1]; F. Lederer[1]; N. Schönberger[2]; R. Braun[1]; F. Lehmann[1]; K. Flemming[1]; S. Bachmann[1]; S. Curtis[3]; R. MacGillivray[4]; K. Pollmann[1]; [1] Helmholtz-Zentrum Dresden-Rossendorf, Dresden/D; [2] TU Bergakademie Freiberg, Freiberg/D; [3] University of British Columbia/Norman B. Keevil Institute of Mining Engineering, Vancouver/CDN; [4] University of British Columbia/Centre for Blood Research, Vancouver/CDN

11:30 **Recycling of Florescent Phosphor Powder Y2O3: Eu by Bioleaching by Means of Acidithiobacillus ferrooxidans**
R. Auerbach[1]; K. Bokelmann[2]; S. Ratering[3]; R. Stauber[2]; S. Schnell[3]; J. Zimmermann[1]; [1] Fraunhofer Projectgroup IWKS of Fraunhofer ISC, Hanau/D; [2] Fraunhofer Projectgroup IWKS of Fraunhofer ISC, Alzenau/D; [3] Justus-Liebig University Giessen, Giessen/D

Wednesday, 27 September 2017

11:45 **Integrated Sulfate Reduction and Biosorption Process for the Treatment of Mine Drainages**
D. Cotoras[1]; C. Hurtado[1]; P. Viedma[1]; [1] Universidad de Chile, Santiago/RCH

12:00 **The use of algal biomass to sustain sulfidogenic bioreactors for remediating acidic metal-rich waste waters**
A. Santos[1]; D.B. Johnson[1], [1] Bangor University, Bangor/UK

12:15 **Detoxification of Heap after Gold Leaching Using Biodegradation**
M. Belykh[1]; S. Petrov[1]; A. Chikin[1]; G. Voiloshnikov[1]; N. Belkova[2]; [1] Irkutsk Research Institute of Precious and Rare Metals and Diamonds JSC, Irkutsk/RUS; [2] Limnological Institute SB RAS, Irkutsk/RUS

12:30 **Analysis of Microbial Communities associated with Bioremediation Systems for Thiocyanate-laden Mine Water Effluents**
R. Huddy[1]; F. Kadzinga[1]; R. Kantor[2]; S. Rahman[2]; S. Harrison[1]; J. Banfield[2]; [1] University of Cape Town, Cape Town/ZA; [2] University of California, Berkeley/USA

12:45 **pH and Soil Additive–Depending Uptake of Various Metals and Metalloids by *Helianthus tuberosus* from a Uranium Containing Test Field Site**
L. Jablonski[1], S. Willscher[2], J. Wittig[1], D. Kuehn[1]; [1] Dresden/D; [2] University Halle-Wittenberg, Halle/D

13:00 Lunch Break and Poster Session C

Molecular Methods / Biofilms II

Chairs: M. Dopson[1]; M. Schlömann[2]; [1] Linnaeus University, Kalmar/S; [2] TU Bergakademie Freiberg, Freiberg/D

15:00 KEYNOTE LECTURE
Optimizing Acidophile Biofilm Formation for Metal Sulfide Dissolution: The SysMetEx Project
M. Dopson[1]; W. Sand[2]; P. Wilmes[3]; I. Pivkin[4]; A. Poetsch[5]; K. Kubista[6]; [1] Linnaeus University, Kalmar/S; [2] Universität Duisburg Essen, Essen/D; [3] University of Luxembourg/L; [4] Università della Svizzera Italiana, Lugano/CH; [5] Ruhr University Bochum/D; [6] TATAA BIOCENTER AB, Gothenburg/S

15:30 ***Leptospirillum ferriphilum* – Genome, Transcriptome, and Proteome of a Biomining Model Species**
M. Herold[1]; S. Christel[2]; S. Bellenberg[3]; A. Poetsch[4]; A. Buetti-Din[5]; I. Pivkin[5]; W. Sand[6]; P. Wilmes[1]; M. Dopson[2]; [1] University of Luxembourg, Esch-sur-Alzette/L; [2] Linnaeus University, Kalmar/S; [3] Universitaet Duisburg-Essen, Essen/D; [4] Ruhr-Universität Bochum, Bochum/D; [5] Institute of Computational Science, Faculty of Informatics, Universita della Svizzera Italiana, Lugano/CH; [6] TU Bergakademie Freiberg, Freiberg/D

15:45 **Mineral Specific Biofilm Formation of *Acidibacillus ferrooxidans* Hütt2**
S. Schopf[1]; [1] TU Bergakademie Freiberg, Freiberg/D

16:00 **Comparative genomics of iron oxidizing acidophiles of the *Acidiferrobacteraceae* family**
F. Isotta[1]; P. Covarrubias[1]; A. Moya-Beltrán[2]; S. Bellenberg[3]; C. Thyssen[3]; W. Sand[3]; H. Nuñez[1]; D. Holmes[2]; R. Quatrini[1]; M. Vera[4]; [1] Fundacion Ciencia & Vida, Santiago/RCH; [2] Fundación Ciencia & Vida - Universidad Andres Bello, Santiago/RCH; [3] Universität Duisburg-Essen, Essen/D; [4] Pontificia Universidad Católica de Chile, Santiago/RCH

16:15 **Proteins Binding to Immobilized Rusticyanin Detected by Affinity Chromatography**
J. Kucera[1]; O. Janiczek[1]; J. Smoldas[1]; M. Mandl[1], [1] Masaryk University, Brno/CZ

16:30 Coffee Break

SCIENTIFIC LECTURE PROGRAMME

Wednesday, 27 September 2017

Molecular Methods / Biofilms III

Chairs: M. Dopson[1]; M. Schlömann[2]; [1] Linnaeus University, Kalmar/S; [2] TU Bergakademie Freiberg, Freiberg/D

17:00 **Inhibition kinetics of iron oxidation by *Leptospirillum ferriphilum* in the presence of thiocyanate in bioremediated cyanidation tailings waste water**
C. Edward[1]; S. Harrison[1], [1] University of Cape Town, Cape Town/ZA

17:15 **The Mondo Minerals Nickel Sulfide Bioleach Project: From Test Work to early Plant Operation**
M. Gericke[1]; J. Neale[1]; J. Seppälä[2]; A. Laukka[2]; P. van Aswegen[3]; S. Barnett[4]; [1] Mintek, Randburg/ZA; [2] Mondo Minerals B.V., Kajaani/FIN; [3] P Met. Consulting cc, Johannesburg/ZA; [4] Consultant, Isle of Wight/UK

17:30 – 17:50 Closing Remarks & Poster Awards
S. Hedrich, Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hannover/D;
W. Sand, Donghua University, Songjiang, Shanghai/CN and TU Freiberg, Freiberg/D
M. Schlömann, TU Bergakademie Freiberg, Freiberg/D

Short Break

18:00 PUBLIC EVENING LECTURE
850 years of ore mining in Saxony – lessons (to be) learned
B. Cramer, Sächsisches Oberbergamt, Freiberg/D

18:45 End of the conference

P 001 **On the immobilization of desferrioxamine like siderophores for selective metal binding**
M. Anke[1]; K. Szymańska[2]; R. Schwabe[1]; O. Wiche[1]; D. Tischler[1]; [1] TU Bergakademie Freiberg, Freiberg/D; [2] Silesian University of Technology, Gliwice/PL

P 002 **Gallium mobilization in soil by bacterial metallophores**
R. Schwabe[1]; B. Obst[1]; M. Mehnert[1]; D. Tischler[1]; O. Wiche[1]; [1] TU Bergakademie Freiberg, Freiberg/D

P 003 **Attachment of *Acidithiobacillus ferrooxidans* and bioleaching of chalcopyrite under influence of organic substances associated with copper solvent extraction**
X. Liu[1]; H. Zhang[1]; H. Yu[1]; [1] Shanghai Institute of Technology, Shanghai/CN

P 004 **A comparison of three bioprocessing approaches applied to a cobalt-containing laterite ore**
S. Smith[1]; B. Grail[1]; D.B. Johnson[1]; [1] Bangor University, Bangor/UK

P 005 **Optimization of bioleaching of waste printed circuit boards using *Aspergillus niger***
F. Faraji[1]; R. Golmohammadzadeh[1]; F. Rashchi[1]; [1] University of Tehran, Tehran/IR

P 006 **Optimization of Ni, Cu and Zn Recoveries in Bioleaching of Electronic Scraps**
M. Mostafavi[1]; F. Rashchi[2]; S. Beikzadeh-Noei[2]; N. Mostoufi[2]; [1] University of Tehran, Kish International Campus, Kish/IR; [2] University of Tehran, Tehran/IR

P 007 **Revisiting the chromeazurol S assay for various metal ions**
M. Mehnert[1]; R. Schwabe[1]; S. Vater[1]; T. Heine[1]; G. Retamal[2]; G. Levicán[2]; M. Schlömann[1]; D. Tischler[1]; [1] TU Bergakademie Freiberg, Freiberg/D; [2] Universidad de Santiago de Chile, Santiago/RCH

P 008 **Rapid removal of zinc from circum-neutral pH waste waters using a novel low pH biosulfidogenic reactor**
R. Holanda[1]; D.B. Johnson[1]; [1] Bangor University, Bangor/UK

P 009 **Electrochemical process engineering in biohydrometallurgical metal recovery from mineral sulfides**
C. Tanne[1]; A. Schippers[1]; [1] Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hannover/D

P 010 **Adsorption of Chromium (VI) and Desorption as Chromium (III) from the Aqueous Chromium (VI) Solution Using Persimmon Gel**
T. Tsuruta[1]; T. Hatano[1]; [1] Hachinohe Institute of Technology, Hachinohe/J

P 011 **Siderophore purification via immobilized metal affinity chromatography**
T. Heine[1]; M. Mehnert[1]; R. Schwabe[1]; D. Tischler[1]; [1] TU Bergakademie Freiberg, Freiberg/D

P 012 **Thermochelin, a hydroxymate siderophore from *Thermocrispum agreste* DSM 44070**
T. Heine[1]; M. Mehnert[1]; R. Schwabe[1]; D. Tischler[1]; [1] TU Bergakademie Freiberg, Freiberg/D

P 013 **Extremophilic Bioreduction of Elemental Sulfur for Recovery of Valuable Metals**
A. Hidalgo[1]; J. Weijma[1]; I. Sanchez-Andrea[1]; C. Buisman[1]; [1] Wageningen University, Wageningen/NL

P 014 **Approaches to eliminate bacteria introduced during active bioleaching from the deep subsurface**
H. Ballerstedt[1]; A. Schippers[1]; E. Pakostova[2]; D.B. Johnson[2]; [1] Federal Institute for Geosciences and Natural Resources (BGR), Hannover/D; [2] University of Bangor, Bangor/UK

P 015 **Bioleaching of copper slag material**
A. Schippers[1]; [1] Federal Institute for Geosciences and Natural Resources (BGR), Hannover/D

P 016 **Electrochemical impedance spectroscopy studies of chalcopyrite involving iron (II) ions**
D. Bevilaqua[1]; F. Arena-Delfino[1]; A. Benedetti[1]; [1] Institute of Chemistry, Sao Paulo State University, Araraquara/BR

POSTER PROGRAMME

P 017 **Evaluation of substrate consumption kinetics in different support materials for biotrickling filters aiming biogas desulfurization**
L. Hidalgo[1]; J. Santos[1]; A. Sarti[1]; S. Tayar[1]; M. Palmieri[1]; D. Bevilaqua[1]; [1] Institute of Chemistry, Sao Paulo State University, Araraquara/BR

P 018 **Biotechnical selenate removal in inverse fluidized bed reactor**
K. Cheng[1]; M. Ginige[1]; A. Kaksonen[1]; [1] CSIRO, Floreat/AUS

P 019 **Pilot scale bioleaching of metals from pyritic ashes**
E. Vestola[1]; J. Mäkinen[2]; T. Korhonen[3]; R. Neitola[3]; A. Kaksonen[4]; [1] Talis Consultants, Leederville/AUS; [2] VTT Technical Research Centre of Finland, Espoo/FIN; [3] Geological Survey of Finland, Outokumpu/FIN; [4] CSIRO, Floreat/AUS

P 020 **Monitoring of biofilm development on surfaces using an electrochemical method**
O. Fysun[1]; [1] Robert Bosch GmbH, Waiblingen/D

P 021 **Screening of important variables of organic acids degradation by *Phanerochaete chrysosporium* using Plackett-Burman design in refractory arsenic-bearing and carbonaceous gold ores**
Q. Liu[1]; H. Yang[2]; L. Tong[2]; J. Peng[2]; [1] Shanghai Polytechnic University, Shanghai, China, Shanghai/CN; [2] School of Metallurgy, Northeastern University, Shenyang/CN

P 022 **Bioleaching of chalcopyrite-bornite mixed ores in the presence of mixed culture**
H. Zhao[1]; X. Huang[1]; R. Liao[1]; Y. Zhang[1]; J. Wang[1]; W. Qin[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

P 023 **Manganese Removal from Metal Refinery Wastewater using Mn(II)-oxidizing Bacteria**
S. Kitjanukit[1]; K. Takeda[2]; S. Asano[2]; N. Okibe[1]; [1] Kyushu University, Fukuoka/J; [2] Sumitomo Metal Mining Co.,Ltd, Ehime/J

P 024 **Investigating the microbial colonization and leaching of an arsenic mine tailing using a mixed mesophilic culture**
E. Ngoma[1]; K. Shaik[1]; D. Borja[2]; M. Smart[1]; J. Park[3]; H. Kim[2]; J. Petersen[4]; S. Harrison[1]; [1] University of Cape Town, Cape Town/ZA; [2] Chonbuk National University, Jeonju/ROK; [3] Mine Reclamation Corporation, Wonju-si/ROK; [4] University of Cape Town, Rondebosch/ZA

P 025 **Microbiological As(III) oxidation and immobilization as scorodite at moderate temperatures**
Y. Era[1]; T. Hirajima[1]; K. Sasaki[1]; N. Okibe[1]; [1] Kyushu University, Fukuoka-shi/J

P 026 **Microbial community analysis inside a biooxidation heap for gold recovery in Equador**
C. Aspiazu[1]; P. Aguirre Chamba[2]; S. Hedrich[3]; A. Schippers[3]; [1] Orenas S.A., Guayaquil/EC; [2] Universidad Técnica Particular de Loja (UTPL), Loja/EC; [3] Federal Institute for Geosciences and Natural Resources (BGR), Hannover/D

P 027 **Explore bioleaching technique to recover valuable metals from mobile phones**
E. Benzal Montes[1]; M. Solé[1]; C. Lao-Luque[1]; X. Gamisans[1]; A. Dorado[1]; [1] Universitat Politècnica de Catalunya, Manresa/E

P 028 **Investigation of the flotation interface with spectroscopic reflection techniques**
T. Firkala[1]; F. Lederer[1]; K. Pollmann[1]; M. Rudolph[1]; [1] Helmholtz-Zentrum Dresden-Rossendorf, Dresden/D

P 029 **The surface chemistry characterization during bioleaching and biooxidation**
S. Ghassa[1]; H. Abdollahi[1]; M. Gharabaghi[1]; S. Chehreh Chelgani[2]; M. Jafari[1]; [1] University of Tehran/IR; [2] University of Michigan/USA

P 030 **Examining the effects of typical reagents for sulfide flotation on bio-oxidation activity of Ferrooxidans microorganisms**
M. Jafari[1]; S. Shafaei[1]; H. Abdollahi[1]; M. Gharabaghi[1]; S. Chehreh Chelgani[2]; S. Ghassa[1]; [1] University of Tehran/IR; [2] University of Michigan/USA

P 031 **The decreasing and whereabouts of iron ions in the pure culture process of extremely acidophilic microorganism**
W. He[1]; J. Wang[1]; L. Wu[1]; C. Fang[1]; Y. Wuv; Y. Zi[1]; H. Zhao[13]; W. Qin[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

P 032 **Fabrication of Magnetic Polymer Composite Sorbents and its Application for Recovery of Platinum from Acidic Solution**
M. Song[1]; D. Reddy[1]; Y. Yun[1]; [1] Chonbuk National University, Jeonju/ROK

P 033 **Method for decomposition of the metallorganic matter of graptolite-argillite by microbial consortium**
A. Menert[1], M. Kivisaar[1], A. Heinaru[1], S. Sipp Kulli[2]; [1] University of Tartu, Institute of Molecular and Cell Biology, Tartu/EST; [2] BiotaTec Ltd, Tallinn/EST

P 034 **Molecular response of the acidophilic iron oxidizer "*Ferrovum*" sp. JA12 to the exposure to elevated concentrations of ferrous iron**
S. Ullrich[1]; A. Poehlein[2]; M. Schlömann[1]; M. Mühling[1]; [1] TU Bergakademie Freiberg, Institute of Biological Sciences, Freiberg/D; [2] Georg-August-University Göttingen, Göttingen Genomics Laboratory, Göttingen/D

P 035 **The responses of microbial community and zinc leaching efficiency to temperature in sphalerite bioleaching system**
Y. Xiao[1], [1] Central South University, Changsha/CN

P 036 **The use of heap bioleaching as a pre-treatment for platinum group metal leaching**
J. Mwase[1]; J. Petersen[2]; [1] Universite de Liege, Liege/B; [2] University of Cape Town, Rondebosch/ZA

P 037 **Effect of galactose on EPS production and attachment of *Acidithiobacillus thiooxidans* to mineral surfaces.**
P. Aguirre[1]; A. Sanchez[2]; J. Gentina[3]; A. Schippers[4]; [1] Universidad Técnica Particular de Loja, Loja/EC; [2] Universidad Tecnica Particular de Loja, Loja/EC; [3] Pontificia Universidad Católica de Valparaiso, Valparaíso/RCH; [4] Federal Institute for Geosciences and Natural Resources (BGR), Hannover/D

P 039 **Addition of surfactant to improve the microbial treatment of a sulfur-spent catalyst**
M. Gomez-Ramirez[1]; A. Rico-Chavez[1]; J. Aburto[2]; R. Garcia de Leon[2]; N. Rojas-Avelizapa[1]; [1] Instituto Politécnico Nacional (IPN), Queretaro/MEX; [2] Instituto Mexicano del Petroleo, Mexico City/MEX

P 041 **Effect of Marmatite on Bioleaching Behaviors of Chalcopyrite**
R. Liao[1]; J. Wang[1]; H. Zhao[1]; X. Wang[1]; X. Huang[1]; M. Hong[1]; [1] Central South University, Changsha/CN

P 042 **Resistance of Moderately Thermophilic Acidophilic Microorganisms to Ferric Iron Ions**
A. Bulaev[1]; [1] Research Center of Biotechnology of the Russian Academy of Sciences, Moscow/RUS

P 043 **Pyrite Oxidation by Moderately Thermophilic Microorganisms**
A. Bulaev[1]; M. Labyrich[2]; [1] Research Center of Biotechnology of the Russian Academy of Sciences, Moscow/RUS; [2] Russian State Agrarian University - Moscow Agricultural Academy named after K.A. Timiryazev, Moscow/RUS

P 044 **Biogenic hydrogen sulphide for cyanide regeneration in solutions during cupriferous gold ore processing**
A. Faiberg[1]; A. Mikhailova[1]; V. Dementiev[1]; S. Gudkov[1]; [1] JSC Irgiredmet, Irkutsk/RUS

POSTER PROGRAMME

P 045 **Evolution of compositions and contents of capsule and slime EPSs for adaptation to and action on energy substrates and heavy metals by typical bioleaching microorganisms**
Z. Nie[1]; H. Liu[1]; J. Xia[1]; H. Liu[1]; Y. Cui[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

P 046 **Differential expression of sulfur activation relevant genes of typical bioleaching microorganisms**
H. Liu[1]; J. Xia[1]; Z. Nie[1]; Y. Ma[1]; Y. Yang[1]; L. Liu[1]; X. Pan[1]; P. Yuan[2]; [1] Central South University, Changsha/CN; [2] Chinese Academy of Sciences, Guangzhou/CN

P 047 **Effects of air on microbial community and tailing wastewater remediation in reducing bacteria remediation process**
M. Zhang[1]; X. Liu[1]; M. Sun[2]; Y. Li[1]; J. Wen[1]; [1] General Research Institute for Nonferrous Metals, Beijing/CN; [2] China Certification & Accreditation Institute, Beijing/CN

P 048 **Investigation of the bioleaching of REE from fluorescent phosphor with *Yarrowia lipolytica***
S. Hopfe[1]; S. Kutschke[1]; K. Pollmann[1]; [1] Helmholtz-Zentrum Dresden-Rossendorf, Institut für Ressourcentechnologie, Freiberg/D

P 049 **Potential Bioleaching Effects in In-situ Recovery Applications**
C. Richter[1]; H. Kalka[1]; H. Märten[1,2]; [1] Umwelt- und Ingenieurtechnik GmbH Dresden (UIT), Dresden/D; [2] ; Heathgate Resources Pty. Ltd. (Heathgate), Adelaide, South Australia/AUS

P 050 **Comparative Variants of Microbial Pretreatment and Subsequent Chemical Leaching of a Gold-Bearing Sulphide Concentrate**
I. Spasova[1]; M. Nicolova[1]; P. Georgiev[1]; S. Groudev[1]; [1] University of Mining and Geology, Sofia/BG

P 051 **The effect of co-culture microorganisms with different ferrous- and sulfur-oxidizers on chalcopyrite bioleaching**
X. Feng[1]; L. Ma[1]; J. Tao[1]; X. Liu[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

P 052 **Effect of Acidithiobacillus ferrooxidans magnetotaxis on bornite bioleaching**
W. He[1]; L. Wu[1]; C. Fang[1]; X. Qiu[1]; H. Zhao[1]; J. Wang[1]; [1] Central South University, Changsha/CN

P 053 **Investigation of fluoride tolerance in *Acidithiobacillus ferrooxidans***
J. Tao[1]; L. Ma[1]; C. Qin[1]; H. Yin[1];Y. Liang[1], G. Qiu[1]; X. Liu[1]; [1] Central South University, Changsha/CN

P 054 **Genomic Characterization of the Arsenic-Tolerant Actinobacterium, *Rhodococcus erythropolis* S43**
G. Retamal Morales[1]; M. Mehnert[2]; R. Schwabe[2]; D. Tischler[2]; M. Schlömann[2]; G. Levicán[3]; [1] Universidad de Santiago de Chile, Santiago/RCH; [2] IMFD Technische Universität Freiberg/D; [3] Universidad de Santiago de Compostela, Santiago/D

P 055 **Fabrication and Application of Polyethylenimine/Ca-Alginate Blended Hydrogel Fibers as High-Capacity Adsorbents for Recovery of Gold from Acidic Solutions**
J. Bediako[1]; Y. Yun[1]; [1] Chonbuk National University, Jeonju/ROK

P 056 **Biological Mn(II) oxidation as the final stage of an integrated bioremediation process for mitigating acidic, metal-rich mine waters**
A. Santos[1]; D.B. Johnson[1], [1] Bangor University, Bangor/UK

P 057 **Oxygen and extraction rate distribution during heap bioleaching of copper sulfides with forced aeration**
M. Huang[1], X. Miao[1]; [1] University of Science and Technology Beijing, School of Civil and Resource Engineering, Beijing/CN

P 058 **Simplified Expression and Production of Small Metal Binding Peptides**
R. Braun[1]; F. Lederer[1]; S. Matys[1]; K. Pollmann[1]; [1] Helmholtz-Zentrum Dresden-Rossendorf, Helmholtz-Institut Freiberg für Ressourcentechnologie, Dresden/D

P 059 **Comparative study on the bioleaching of gold-containing arsenopyrite or arsenopyrite + pyrite minerals**
Y. Song[1]; H. Yang[1]; L. Tong[1]; A. Auwalu[1]; Y. Chen[1]; Y. Chen[1]; [1] School of Metallurgy, Northeastern University, Shenyang/CN

P 060 **Development of Gallium Ion Binding Peptides Using Phage Surface Display Technology**
N. Schönberger[1]; S. Matys[2]; F.Lederer[2]; K. Pollmann[2] [1] Technische Universität Bergakademie Freiberg, Institut für Nichteisen Metallurgie, Freiberg/D ; [2] Helmholtz-Zentrum Dresden-Rossendorf, Helmholtz-Institut Freiberg für Ressourcentechnologie, Dresden/D

P 061 **The surfactant Tween-80 promotes the biooxidation of arsenopyrite**
H. Yang[1]; Y. Song[2]; L. Tong[2]; A. Auwalu[2]; W. Sand[3]; Y. Chen[2]; Y. Chen[2]; [1] Northeastern University, Shenyang/CN; [2] School of Metallurgy, Northeastern University, Shenyang/CN; [3] Aquatische Biotechnologie, Biofilm Centre, Universität Duisburg, Essen/D

P 062 **Metagenome-derived draft genome sequence of *Acidithiobacillus ferroxidans* (clone RV1) from an abandoned gold tailing in Neuquén, Argentina**
R. Ulloa[1]; F. Issotta[2]; A. Moya-Beltrán[3]; H. Nuñez[2]; P. Covarrubias[2]; R. Quatrini[2]; A. Giaveno[1]; [1] Universidad Nacional del Comahue - PROBIEN (CONICET), Neuquén/RA; [2] Fundación Ciencia & Vida, Santiago de Chile/RCH; [3] Fundación Ciencia & Vida - Universidad Andres Bello, Santiago de Chile/RCH

P 063 **EPS Characterization of a Cell Wall-Lacking Archaeon *Ferroplasma Acidiphilum***
R. Zhang[1]; V. Blanchard[2]; T. Neu[3]; M. Vera[4]; W. Sand[5]; [1] Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hannover/D; [2] Charité Medical University, Berlin/D; [3] Helmholtz Centre for Environmental Research-UFZ, Magdeburg/D; [4] Pontificia Universidad Católica de Chile, Institute for Biological and Medical Engineering. Schools of Engineering, Biological Sciences and Medicine, Department of Hydraulic and Environmental Engineering, School of Engineering, Santiago/RCH; [5] TU Bergakademie Freiberg/Donghua University, Freiberg/D

P 064 **Immobilization of Arsenic by a thermoacidophilic mixed culture with pyrite as energy source**
S. Vega[1]; J. Weijma[1], [1] Wageningen University, Wageningen/NL;

P 065 **Bioleaching of a nickel-cobalt sulfide flotation concentrate**
H. Yang[1]; L. Tong[1]; H. Yang[1]; S. Zhao[1]; X. Wang[1]; [1] Northeastern University, Shenyang/CN

P 066 **pH dictates the relative toxicities of cationic metals and anions (other than sulfate) to acidophilic bacteria**
C. Falagan[1]; D.B. Johnson[2]; [1] Bangor University, Menai Bridge/UK; [2] Bangor University, Bangor/UK

P 067 **Biooxidation of a refractory gold ore: implications of whole-ore heap biooxidation**
B. Chen[1]; J. Sun[1]; H. Shang[1]; B. Wu[1]; J. Wen[1]; [1] National Engineering Laboratory of Biohydrometallurgy, General Research Institute for Nonferrous Metals, Beijing/CN

P 068 **Type IV secretion systems diversity in the *Acidithiobacillus* genus**
R. Flores-Ríos[1]; A. Moya-Beltrán[2]; N. Harold[1]; R. Quatrini[1]; [1] Fundación Ciencia & Vida, Santiago/RCH; [2] Fundación Ciencia & Vida; Universidad Andres Bello, Santiago/RCH

P 069 **Biological production of copper concentrate from flotation tailings and low grade ore**
I. Nancucheo[1]; [1] Universidad San Sebastián, Concepción/RCH

P 070 **Abiotic leaching of chalcopyrite in sulfuric acid solution**
S. Joe[1]; C. Inoue[1]; T. Kamiya[2]; T. Chida[2]; [1] Tohoku University, Sendai/J; [2] Japan Oil, Gas and Metals National Corporation, Tokyo/J

P 071 **Complete genome sequence of *Leptospirillum ferriphilum* YSK, a super ferrous oxidizer with nitrogen fixation ability**
L. Ma[1]; X. Liu[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

P 072 **Reaction between ferric and fluoride ions and its applied implications for the bioleaching of fluoride containing ore**
X. Wang[1]; W. Qin[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

P 073 **Analysis of Microbial Community in Heap Bioleaching of Low-grade Copper Sulfide Ores**
H. Shang[1]; J. Wen[1]; B. Wu[1]; B. Chen[1]; [1] National Engineering Laboratory of Biohydrometallurgy, General Research Institute for Nonferrous Metals, Beijing/CN

P 074 **In-situ bioremediation of a lead-zinc sulfides mine tailings by sulfate reducing bacteria and iron reducing bacteria : Mine Tailings Remediation Experiment of Pilot- and Field-Scale**
X. Liu[1]; M. Zhang[1]; Y. Li[1]; Z. Wang[1]; J. Wen[1]; [1] General Research Institute for Nonferrous Metals, Beijing/CN

P 075 **Introduction to high-throughput sequencing technologies and review of its application in bioleaching**
P. Lei[1]; M. Gan[1]; B.Yang[1]; X. Liu[1]; S. Yang[2]; S. Zhou[2];[1] Central South University, Changsha/CN; [2]Changsha Medical University, Changsha/CN

P 076 **Recovery of copper from pyritic copper ores using a biosurfactant-producing mixotrophic bacterium as bioflotation reagent**
E. Sanwani[1]; T. Wahyuningsih[1]; S. Chaerun[1]; [1] Institute of Technology Bandung, Bandung/RI

P 077 **An Effective Rare Earth Element Bio-Accumulator *Penidiella* sp. Strain T9 for Selective Recovery from Acidic Mine Drainage**
T. Horiike[1]; H. Kiyono[2]; M. Yamashita[2]; [1] Shibaura Institute of Technology, Saitama/J; [2] Shibaura Institute of Technology, Tokyo/J

P 078 **Bioleaching of Mt.Weld monazite by phosphate solubilisation: Evidences of induced dissolution of rare earth elements**
H. Fathollahzadeh[1]; E. Watkin[2]; A. Kaksonen[3]; J. Eksteen[4]; [1] Western Australian School of Mines, Curtin University, Perth/AUS; [2] CHIRI Biosciences, Curtin University, Perth/AUS; [3] Commonwealth Scientific and Industrial Research Organisation (CSIRO), Perth/AUS; [4] Western Australian School of Mines, Curtin University, Perth/AUS

P 079 **A new view about the taxonomy of *Leptospirillum* Group II by whole-genome sequencing**
C. Qin[1]; L. Ma[1]; J. Tao[1]; H. Yin[1], Y. Liang[1], G. Qiu[1]; X. Liu[1]; [1] Central South University, Changsha/CN

P 080 **Selective chemical and biological metal recovery from Cu-rich bioleaching solutions**
S. Hedrich[1]; R. Kermer[2]; T. Aubel[2]; M. Martin[2]; D.B. Johnson[3]; A. Schippers[1]; E. Janneck[2]; [1] Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hannover/D; [2] GEOS Ingenieurgesellschaft mbH, Halsbrücke/D; [3] Bangor University, Bangor/D

P 081 **Comparative bioleaching and mineralogical characterization of black shale-hosted ores and corresponding flotation concentrates**
A. Kamradt[1]; J. Schaefer[2]; A. Schippers[3]; S. Hedrich[3]; [1] Martin Luther University Halle-Wittenberg, Halle/D; [2] UVR-FIA GmbH, Freiberg/D; [3] Federal Institute for Geosciences and Natural Resources (BGR), Hannover/D

P 082 **Construction of a cell surface engineered yeast aims to selectively recover molybdenum, a rare metal**
M. Chien[1]; N. Ikeda[2]; K. Kubota[3]; C. Inoue[2]; [1] Graduate School of Environmental Studies, Tohoku University, Sendai City/J; [2] Graduate School of Environmental Studies, Tohoku University, Sendai/J; [3] Department of Civil and Environmental Engineering, Tohoku University, Sendai/J

P 083 **Identifying the mechanisms of chloride ion tolerance in halotolerant acidophiles**
H. Khaleque[1]; J. Ramsay[1]; A. Kaksonen[2]; N. Boxall[2]; E. Watkin[1]; [1] CHIRI Biosciences, Curtin University, Perth/AUS; [2] CSIRO Land and Water, Perth/AUS

P 084 **A Flocculation Method to Eliminate the Third Phase in the Solvent Extraction Process of a Bioleaching Liquid Containing Cobalt and Copper Ions**
L. Tong[1]; H. Yang[1]; Y. Liu[2]; Z. Jin[1]; G. Chen[1]; [1] Northeastern University, Shenyang/CN; [2] CNMC Luanshya Copper Mines PLC, CNMC Luanshya Copper Mines PLC/Z

P 085 **In situ characterization of surface organic composition changes of thermoacidophilic archaea *Acidianus manzaensis* YN25 in response to energy substrate**
L. Liu[1]; X. Pan[1]; X. Xia[1]; Y. Zhou[1]; Z. Nie[1]; J. Xia[1]; [1] Central South University, Changsha/CN

P 086 **Selective bioleaching of cobalt from a Zambian copper and cobalt flotation concentrate**
L. Tong[1]; H. Yang[1]; Y. Liu[2]; Z. Jin[1]; A. Ali[1]; [1] Northeastern University, Shenyang/CN; [2] CNMC Luanshya Copper Mines PLC, CNMC Luanshya Copper Mines PLC/CN

P 087 **Bioleaching of Low-grade Chalcopyrite Ores by the Thermophilic Archaean *Acidianus brierleyi***
N. Saitoh[1]; T. Nomura[1]; Y. Konishi[1]; [1] Osaka Prefecture University, Sakai/J

P 088 **Adaptation of the Iron-Oxidizing *Ferrimicrobium acidiphilum* to Chloride and to Oxidative-Stress Conditions Caused by NaCl**
M. Kaszuba[1]; S. Schopf[1]; J. Rivera-Araya[2]; G. Levicán[2]; M. Schlömann[1]; [1] TU Bergakademie Freiberg, Institute of Biological Sciences, Freiberg/D; [2] Universidad de Santiago de Chile, Facultad de Química y Biología, Santiago de Chile/RCH

P 089 **Experimental study on column bioleaching of a refractory copper – cobalt oxide ore in Zambia**
Y. Liu[1]; H. Yang[2]; L. Tong[2]; F. Xiao[2]; G. Chen[2]; Z. Jin[2]; W. Sand[3]; [1] CNMC Luanshya Copper Mines PLC, Luanshya/Z; [2] School of Metallurgy, Northeastern University, Shenyang/CN; [3] Donghua University, College of Environmental Engineering, Freiberg/D

P 090 **Isolation of specific binding peptides for ionic species of nickel and cobalt using the phage surface display technique**
S. Matys[1]; N. Schönberger[2]; K. Flemming[3]; F. Lehmann[1]; F. Lederer[1]; K. Pollmann[1]; [1] Helmholtz-Zentrum Dresden-Rossendorf/Helmholtz Institute Freiberg for Resource Technology, Freiberg/D; [2] Technische Universität Bergakademie Freiberg, Institute of Non-Metallurgy and Pure Substances, Freiberg/D; [3] Helmholtz-Zentrum Dresden-Rossendorf, Institute of Resource Ecology, Dresden/D

P 091 **Phage display – a new tool for the recovery of critical elements from primary and secondary sources**
F. Lederer[1]; S. Matys[1]; S. Bachmann[1]; S. Curtis[2]; R. MacGillivray[3]; [1] Helmholtz-Zentrum Dresden-Rossendorf/Helmholtz Institute Freiberg for Resource Technology, Freiberg/D; [2] University of British Columbia/Norman B. Keevil Institute of Mining Engineering, Vancouver/CDN; [3] University of British Columbia/Centre for Blood Research, Vancouver/CDN

P 092 **Production of Amphiphilic Hydroxamate Siderophores Marinobactins by *Marinobacter* Sp. DS40M6 for Bioflotation Process**
S. Schrader[1]; S. Kutschke[1]; M. Rudolph[1]; K. Pollmann[1]; [1] HZDR, Dresden/D

P 093 **A New Technology for Bacterial Sulfur Removal from High Sulfur Anode Mud**
Q. Chen[1]; L. Tong[1]; H. Yang[1]; W. Sand[2]; [1] School of Metallurgy, Northeastern University, Shenyang/CN; [2] Aquatische Biotechnologie, Biofilm Centre, Universität Duisburg-Essen, Essen/D

P 094 **Bioleaching Experiments on a low-grade Complex Zinc Ore from Inner Mongolia**
J. Li[1]; L. Tong[1]; Q. Chen[1]; Z. Jin[1]; H. Yang[1]; [1] School of Metallurgy, Northeastern University, Shenyang/CN

P 095 **The Mechanism of Skutterudite Acid Leaching:a DFT Study of H^+ Effect on CoO(010)surface**
J. Xu[1]; H. Yang[2]; L. Tong[2]; Z. Jin[2]; S. Yan[2]; [1] Northeastern University, ShenYang/CN; [2] School of Metallurgy, Northeastern University, ShenYang/CN

P 096 **Insights into Heap Bioleaching at the Agglomerate-Scale**
A. Cox[1]; C. Bryan[1]; [1] University of Exeter, Penryn/UK

P 097 **Research on bio-leaching of nickel-bearing tailings in Jilin,China**
X. Wang[1]; H. Yang[1]; L. Tong[1]; Z. Jin[1]; S. Zhao[1]; [1] School of Metallurgy, Northeastern University, Shenyang/CN

P 098 **Analysis for transformation of acid - alkaline system in the process of biooxidation – gold extraction**
Z. Liu[1]; Y. Song[2]; H. Yang[2]; [1] China National Gold Group Corporation, Beijing/CN; [2] School of Metallurgy, Northeastern University, Shenyang/CN

P 099 **A comparison of bioleaching behavior of two different chalcopyrite by moderately thermophiles through investigating the chalcopyrite crystallographic properties**
Y. Zhang[1]; J. Zhang[1]; B. Zhang[1]; W. Qin[1]; K. Chang[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

P 100 **Removal of arsenic from aqueous solution by *Aeromonas hydrophila***
L. Castro[1]; M. Blázquez[1]; F. González[1]; J. Muñoz[1]; A. Ballester[1]; [1] Universidad Complutense de Madrid/E

P 101 **Biosynthesis of copper nanoparticles from bioleaching solutions using aqueous extracts of *Aloe vera* and *Geranium***
A. Pawlowska[1]; Z. Sadowski[1]; [1] Wroclaw University of Science and Technology, Wroclaw/PL

P 102 **Investigation of the Ga complexation behaviour of the siderophore Desferrioxamine B**
R. Jain[1]; K. Pollmann[1]; [1] Helmholtz-Zentrum Dresden - Rossendorf, Dresden/D

P 103 **The Effect of Initial Solution pH on Surface Properties of Ferric Iron Precipitates Formed during Biooxidation of Ferrous Iron by *Leptospirillum ferriphilum***
B. Mabusela[1]; T. Ojumu[1]; [1] Cape Peninsula University of Technology, [1]Cape Town/ZA

P 104 **Adhesion Studies of Microorganisms on Natural Ore Material – who are the Key-Players in Bioleaching of Sulfidic Mineral Surfaces**
N. Eisen[1]; S. Schopf[1]; M. Schlömann[1]; [1] TU Bergakademie Freiberg, Institute of Biological Sciences, Freiberg/D

P 105 **Biochemical Aspects of Energy Metabolism in Thermotolerant Sulfobacillus**
A. Panyushkina[1]; V. Melamud[1]; I. Tsaplina[1]; [1] Federal Research Center of Biotechnology of Russian Academy of Sciences, Winogradsky Institute of Microbiology RAS, Moscow/RUS

P 106 **Use of specific metal binding of self-assembling S-layer proteins for metal bioremediation and recycling**
M. Vogel[1]; S. Matys[1]; F. Lehmann[1]; B. Drobot[1]; T. Günther[1]; K. Pollmann[1]; J. Raff[1]; [1] Helmholtz-Zentrum Dresden-Rossendorf, Dresden/D

P 107 **Comparative Study of NaCl-tolerance Mechanisms in Acidophilic Iron-oxidizing Bacteria**
J. Rivera-Araya[1]; M. Schlömann[2]; G. Levicán[1]; [1] Universidad de Santiago de Chile, Facultad de Química y Biología, Santiago/RCH; [2] IMFD Technische Universität Freiberg, Freiberg/D

P 108 **Influence of Citrate on Metal Dissolution and Respiration Rate of Microbial Leaching Cultures**
F. Giebner[1]; J. Rolle[2]; J. Helmich[2]; M. Schlömann[2]; S. Schopf[2]; [1] TU Bergakademie Freiberg, Freiberg/D; [2] TU Bergakademie Freiberg, Institute of Biological Sciences, Freiberg/D

P 109 **The influence of pyrite on galvanic assisted bioleaching of low grade chalcopyrite ore**
B. Wu[1]; [1] General Research Institute for Nonferrous Metals, BeiJing/CN

P 110 **Microbial ferrous iron oxidation versus ferric ion precipitation at low temperature conditions**
E. Chukwuchendo[1]; B. Mabusela[1]; T. Ojumu[1]; [1] Cape Peninsula University of Technology, Cape Town South Africa, Cape Town/ZA

P 111 **Innovative biohydrometallurgical approaches in the EU project FAME**
S. Reichel[1]; M. Martin[1]; C. Bryan[2]; C. Vila[3]; A. Fiuza[4]; W. Reimer[5]; [1] G.E.O.S. Ingenieurgesellschaft mbH, Halsbrücke/D; [2] University of Exeter, Camborne School of Mines, Penryn/UK; [3] University of Porto, Porto/P; [4] University of Porto, Porto/D; [5] Geokompetenzzentrum Freiberg e. V., Freiberg/D

P 112 **Comparison of chemical and biotic leached mineral ore sections**
J. Heinrich[1]; A. Korda[1]; N. Eisen[1]; G. Heide[1]; [1] TU Bergakademie Freiberg, Freiberg/D

P 113 **Transcription Dynamics of Calvin-Benson-Bassham (CBB) Pathway Genes in *Acidithiobacillus thiooxidans* Growing under Different Carbon Dioxide Levels**
S. Marín[1]; Y. Villegas[2]; P. Galleguillos[3]; M. Acosta[1]; C. Demergasso[1]; [1] Universidad Católica del Norte, Antofagasta/RCH; [2] Universidad de Antofagasta, Antofagasta/RCH; [3] Centro de Investigación Científico y Tecnológico para la Minería, Antofagasta/RCH

P 114 **Influence of air flow rate and CO_2 supplementation on the bioleaching of a Cu concentrate from Kupferschiefer ore**
A. Guezennec[1]; C. Joulian[1]; J. Jacob[1]; F. Bodenan[1]; P. D'Hugues[1]; S. Hedrich[2]; [1] Bureau de Recherches Géologiques et Minières (BRGM), Orléans/F; [2] Federal Institute for Geosciences and Natural Resources (BGR), Hanover/D

P 116 **Bioleaching of pyrite by iron-oxidizing acidophiles under the influence of reactive oxygen species**
N. Huynh[1]; S. Bellenberg[2]; M. Vera[3]; P. Ansgar[4]; W. Sand[1]; [1] Insitute of Biosciences, Environmental Microbiology, TU Bergakademie Freiberg/D; [2] Biofilm Centre, Aquatische Biotechnologie, Universität Duisburg-Essen, Essen/D; [3] Institute for Biological and Medical Engineering. Schools of Engineering, Medicine and Biological Scienes, Department of Hydraulic and Environmental Engineering. School of Engineering, Pontificia Universidad Católica de Chile, Santiago/RCH; [4] Ruhr Universität Bochum/D

P 117 **Expression of candidate cold adaption and metabolic related genes in *Acidithiobacillus ferrivorans* PQ33 strain growth at 5°C in ferrous iron**
G. Guerra-Bieberach[1]; R. Ccorahua[1]; A. Eca[1]; J. Bernaldo[1]; C. Rojas-Ayala[1]; P. Ramirez[1]; [1] National University of San Marcos, Lima/PE

P 118 **Bioleaching for removal of chromium and phosphor from LD slag**
S. Thallner[1]; W. Schnitzhofer[1]; C. Hemmelmair[1]; S. Martinek[1]; [1] ACIB GmbH, Linz/A

P 122 **Bioleaching of tailings resulting from benefication of polymetallic ores for recovery of valuable metals**
N. Vardanyan[1]; G. Sevoyan[2]; A. Vardanyan[1]; [1] SPC „Armbiotechnology" of NAS of Armenia, Yerevan/ARM; [2] Armenian National Politechnic University, Yerevan/ARM

P 123 **Biooxidation of a high-grade arsenopyritic gold ore in a stirred tank reactor using a mixed culture of moderate thermophile microorganisms**
H. Abdolahi[1]; A. Ahmadi[1]; H. Zilouei[1]; M. Khezri[2]; ; [1] Isfahan University of Technology, Isfahan/IR; [2] Amirkabir University of Technology, Teheran/IR

P 124 **Microorganisms Oxidize Iron (II) Ions in the Presence of High Concentrations of Sodium Chloride – Potentially Useful for Bioleaching**
N. Huynh[1]; S. Kaschabek[1]; W. Sand[1]; M. Schlömann[1]; [1] Insitute of Biosciences, Environmental Microbiology, TU Bergakademie Freiberg, Freiberg/D

P 125 **Effect of X-ray µ-CT scanning on the growth and activity of microorganisms in a heap bioleaching system**
M. Ghadiri[1]; M. Fagan-Endres[1]; S. Harrison[1]; [1] University of Cape Town, Cape Town/ZA

P 126 **Are there viruses in industrial bioleaching econiches?**
P. Covarrubias[1]; R. Muñoz[2]; R. Bobadilla-Fazzini[3]; P. Martinez[3]; R. Quatrini[1]; [1] Fundación Ciencia & Vida, Santiago/RCH; [2] Anglo American Chile, Santiago/RCH; [3] CodelcoTec SpA, Santiago/D

P 127 **Evaluation of Long-Term Post Process Inactivation of Bioleaching Microorganisms**
M. Bomberg[1]; H. Miettinen[1]; P. Kinnunen[1]; [1] VTT Technical Research Centre of Finland Ltd., Espoo/FIN

P 128 **Microbial survey on industrial bioleaching heap by high-throughput 16S sequencing and metagenomic analysis**
M. Acosta[1]; P. Galleguillos[2]; C. Demergasso[1]; [1] Universidad Católica del Norte, Antofagasta/RCH; [2] Centro de Investigación Científico y Tecnológico para la Minería, Antofagasta/RCH

P 129 **Leaching of pyrite by *Acidithiobacillus ferrooxidans* monitored by electrochemical methods**
A. Saavedra[1]; [1] Buenos Aires University, Buenos Aires/RA

P 130 **FISH Analysis of Mixed Microbial Communities involved in Biological Sulphate Reduction for ARD Bioremediation**
T. Hessler[1]; T. Marais[1]; R. Huddy[1]; R. van Hille[1]; S. Harrison[1]; [1] University of Cape Town/ZA

P 131 **Genetic basis of metal resistance in *Acidiphilium* sp. DSM 27270 (Yenapatur)**
F. Issotta[1]; R. Bobadilla-Fazzini[2]; A. Moya-Beltran[3]; P. Covarrubias[1]; R. Quatrini[1]; P. Martinez[2]; [1] Fundación Ciencia & Vida, Santiago/RCH; [2] CodelcoTec SpA, Santiago/RCH; [3] Universdad Andres Bello, Santiago/RCH

P 132 **Numerical Modelling of Copper Bioleaching from Chalcopyrite (SysMetEx)**
O. Ilie[1]; A. Buetti-Dinh[1]; W. Sand[2]; M. Dopson[3]; I. Pivkin[1]; [1] Università della Svizzera Italiana, Lugano/CH; [2] Universität Duisburg-Essen, Essen/D; [3] Centre for Ecology and Evolution in Microbial Model Systems (EEMiS), Linnaeus University, Kalmar/S

P 133 **Bioleaching of minor element from European copper shale**
S. Kutschke[1]; R. Bertheau[2]; K. Pollmann[2]; [1] HZDR, Freiberg/D; [2] HZDR/ HIF, Freiberg/D

P 134 **Bacterial leaching of minerals using *Streptomyces***
J. Hurtado[1]; [1] Universidad Peruana Cayetano Heredia, Liam/PE

P 135 **Microbial fuel cell operating with thiosulfate and an acidophilic mixed culture**
J. Hurtado[1]; [1] Universidad Peruana Cayetano Heredia, Lima/PE

P 136 **Possible biooxidation of arsenopyrite from refractory gold ore using the bacteria *Acidithiobacillus ferrivorans* ACH isolated from the Chilean Altiplano**
F. Remonsellez[1]; [1] Universidad Católica del Norte, Antofagasta/RCH

P 138 **An XRD, XPS and XANES study on the bioleaching of arsenopyrite with or without pyrite**
Y. Yang[1]; W. Liu[1]; C. Wang[2]; M. Chen[1]; [1] Commonwealth Scientific and Industrial Research Organisation (CSIRO), Clayton/AUS; [2] ZIJIN Mining Group Co. Ltd, Xiamen/CN

P 139 **Process and cost improved agitator solutions for bioleaching reactors**
J. Jung[1]; W. Keller[1]; [1] EKATO RMT, Schopfheim/D

P 140 **Preliminary study on in-situ realtime quantitation of target bacteria on the principle of flow cytometry**
S.Y. Khaing[1], Y. Sugai[1]; G. Murakami[1]; K. Sasaki[1]; [1] Kyushu University, Fukuoka/J

P 141 **Intensification of Arsenic Mobilization by Combination of Bio-chemical Leaching with EDTA in the Soil and Sediment Bioremediation**
I. Štyriaková[1]; D. Štyriaková[1]; A. Bekényiová[1]; I. Styriak[1]; J. Šuba[1]; [1] Institute of Geotechnics SAS, Kosice/SK

P 142 **Microbial dissolution of iron surface coatings in industrial minerals**
J. Šuba[1]; I. Štyriaková[1]; I. Štyriak[1]; D. Štyriaková[1]; [1] Slovak Academy of Sciences, Institute of Geotechnics, Košice/SK

P 143 **Utilizing of bioceramic filters in As removal from bioleachates**
A. Bekényiová[1]; Z. Danková[1]; I. Štyriaková[1]; D. Štyriaková[1]; [1] Slovak Academy of Sciences, Institute of Geotechnics, Košice/SK

P 144 **Bio Degradation of Thiocyanate and Cyanide in CIL leaching wastes's liquid phase**
A. Belyi[1]; A. Teleutov[1]; A. Revenko[1]; N. Solopova[1]; V. Sekachev[1]; A. Malashonok[1]; G. Krasilnikov[1]; [1] JSC "Polyus", Krasnoyarsk/RUS

P 145 **Microbial Population of Industrial Bioleach Reactors**
A. Bulaev[1]; A. Belyi[2]; A. Panyushkina[1]; N. Solopova[2]; T. Pivovarova[1]; [1] Winogradsky Institute of Microbiology, Moscow/RUS; [2] JSC "Polyus", Krasnoyarsk/RUS

P 146 **Heap biooxidation of gold-sulfide and polymetallic ores and tailings**
A. Epiforov[1]; [1] JSC Irgiredmet, Irkutsk/RUS

P 147 **Processing of complex gold-bearing sulfide ores using a biohydrometallurgical method**
A. Seleznev[1]; L. Shketova[1]; N.V.Kopylova[1]; [1] JSC Irgiredmet, Irkutsk/RUS

P 148 **Enzymatic pre-treatment of carbonaceous matter in preg-robbing gold ores: Effect of iron additives**
K. Konadu[1]; K. Sasaki[2]; [1] Kyushu University, Fukuoka/D; [2] Kyushu University, Fukuoka/J

P 149 **Biomineralization processes in Río Tinto**
R. Amils[1]; M. Oggerin[1]; N. Rodríguez[2]; [1] Universidad Autónoma de Madrid, Madrid/E; [2] Centro de Astrobiología, Torrejón de Ardoz/E

P 150 **Changes of cobalt and molybdenum forms from catalyst for hydrodesulfurization of oil in the process of bioremediation of complex pollutants from the oil industry**
M. Vrvic[1]; [1] Faculty of Chemistry, University of Belgrade, Belgrade/SRB

P 151 **Bioleaching of Cadmium from Contaminated Paddy fields by Consortium of Autotrophic and Indigenous Cadmium-tolerant bacteria**
Y. Deng[1]; X. Liu[1]; [1] Central South University, Changsha/CN

P 153 **Characterization of a novel psychrotolerant *Acidithiobacillus ferrivorans* strain from metal mine-impacted environment**
A. Chen[1]; Y. Liang[1]; [1] School of Mineral Processing and Bioengineering, Central South University, Changsha, Hunan/CN

SCIENTIFIC LECTURE PROGRAMME

P 154 **Identification and Denitrification Function of a Novel Strain of *Pseudomonas aeruginosa* Isolated from Aquifers of a Sand Stone Uranium Deposit**
Y. Liu[1]; Z. Chen[1]; Z. Li[1]; L. Xu[1]; X. Wang[1]; J. Liu[2]; [1] East China University of Technology, Nanchang/CN; [2] East China University, Shanghai/CN

P 155 **Uranium Column Bioleaching with Additional Pyrite from Fluoride-Contained Uranium Ore**
Y. Liu[1]; Z. Sun[1]; G. Chen[1]; J. Li[1]; L. Xu[1]; W. Xu[1]; [1] East China University of Technology, Nanchang/CN

P 156 **Microbial community in Chromate slags and isolation of Cr-reducing bacteria**
J. Hu[1]; D. Meng[2]; X. Liu[2]; Y. Liang[2]; L. Xu[2]; H. Yin[2]; H. Liu[2]; [1] Central South University, Changsha/CN; [2] School of Mineral Processing and Bioengineering, Central South University, Changsha/CN

P 157 **The mud accident in Fundão - after the mud, the dust comes**
C. Fernandes[1]; A. Santos[1]; M. Teixeira[2]; [1] Federal University of OuroPreto, OuroPreto/BR; [2] Federal Universityof Ouro Preto, Ouro Preto/BR

P 158 **Investigating the microbial metabolic activity on mineral surfaces of pyrite rich waste rocks in an unsaturated heap-simulating column system**
D. Makaula[1]; [1] University of Cape Town, Cape Town/ZA

P 159 **South African coal tailings bioflotation for desulphurization using *Mycobacterium phlei***
M. Fagan-Endres[1]; S. Harrison[1]; [1] University of Cape Town, Cape Town/ZA

P 160 **X-Ray Diffraction of Iron Containing Samples: the Importance of a Suitable Configuration**
Y. Mos[1]; A. Vermeulen[2]; C. Buisman[1]; J. Weijma[1]; [1] Sub-department of Environmental Technology, Wageningen University, Wageningen/NL; [2] PANalytical GmbH, Almelo/NL

P 161 **Linking microbial community dynamics in BIOX leaching tanks to process conditions: Integrating lab and commercial experience**
M. Smart[1]; R. Huddy[1]; C. Fourie[2]; T. Shumba[2]; J. Irons[2]; S. Harrison[1]; [1] University of Cape Town, Rondebosch/ZA; [2] Barberton Mines, Barberton/ZA

P 162 **Growth and activity of mesophilic microorganisms on low-grade ore in a simulated heap bioleaching environment**
E. Govender-Opitz[1]; S. Harrison[1]; [1] University of Cape Town, Cape Town/ZA

P 163 **Preliminary extraction of copper from waste printed circuit boards by indigenous *Penicillium chrysogenum* strain Y5**
M. Xia[1]; W. Zeng[1]; G. Qiu[1]; [1] Central South University, Changsha/CN

P 164 **Biosorption of heavy metals through the use of organic waste from the tequila processing process**
R. Rivera Santillán[1]; [1] UNAM-Facultad de Quimica, México/MEX

P 165 **Bioleaching of chalcopyrite with mesophilic bacteria in saline medium**
R. Rivera Santillán[1]; [1] UNAM-Facultad de Quimica, México/MEX

P 166 **Effect of acetate and citrate on chemical and biological leaching of pyrite and chalcopyrite with sulfooxidant and ferrooxidant mesophilic bacteria**
R. Rivera Santillán[1]; [1] UNAM-Facultad de Quimica, México/MEX

LMP 167 **Genomics-Driven Improvements in Bioleaching, Sulfur and Selenium Stabilization in Mine Operations**
N. Mykytczuk[1], V. Papangelakis[2], S. Baldwin[3], E. Edwards[2], K. Mahadevan[2], A. Yakunin[2], E. Bobicki[2], B. Saville[2], J. Gunn[1], T. Merritt[1], C. Barriault[1], M. Khan[1]; [1] Laurentian University, Sudbury/CDN; [2] University of Toronto, Toronto/CDN; [3] University of British Columbia, Vancouver/CDN

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SOCIAL PROGRAMME

Sunday, 24 September 2017 18:15 – 20:00

Welcome reception

Meet old friends and new colleagues at the welcome reception after the opening and the honorary talk, from 18:15 to around 20:00 at the conference venue “Alte Mensa”.

Tuesday, 26 September 2017 19:30 – 23:00

Conference Dinner

Enjoy the conference dinner at the impressive historial Tivoli concert hall, indulge in a buffet with regional specialities, savour local wines and beers and join in when a traditional miners’ band intones the historical “Steigerlied”.

The social programme is kindly supported by
Newmont Mining Corportion, Greenwood Village, CO/USA.

EDUCATIONAL COURSES AND EXCURSIONS

In the context of the IBS 2017, educational courses and excursions will be offered:

Taught Course “Strategic Metal Recovery”
11 – 22 September 2017 at TU Freiberg (two-weeks course)

Taught Course “Bioremediation of Mining Sites”
23 September 2017 in Dresden

EXCURSION A

Visit of the underground in-situ bioleaching site for indium and zinc in the mine Reiche Zeche, Freiberg
28 and 29 September 2017

EXCURSION B

Open lignite mine Welzow & Dresden
28 – 29 September 2017

EXCURSION C

Mine Water Treatment Plants Schlema/Alberoda and Pöhla and Mine “Zinnkammern Pöhla e.V.”
28 September 2017

For detailed information please go to www.dechema.de/IBS2017 or contact the conference organiser.

VENUE

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Please find all information at www.dechema.de/IBS2017, the conference website will be updated frequently.

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