



**10th International
Mine Water Association Congress**

FINAL PROGRAMME

**Mine Water and the Environment
June 2-5, 2008, Karlovy Vary, Czech Republic**

IMWA 2008 Congress Programme

Overview: Monday-Thursday, 2 – 5 June 2008



Sun 1 June		17.00-20.00 Registration
June		18.00-20.00 Welcome drink

Mon 2 June	8.30 -	9.10 -	10.00 -	10.20 -	12.20 -	14.00 -	15.20 -	15.40 -	17:30 -19.30
	9.10	10.00	10.20	12.20	14.00	15.20	15.40	17.20	
	Opening Ceremony	Keynote presentations	☉	Session 2	☉	Session 5	☉	Session 5	IMWA Executive Council Meeting
				Session 1	☉	Session 1		Session 3	
			Session 9		Session 9		Session 9		
Posters on display for poster session block 1									Plenary visit to posters

Tue 3 June	9.00-10.20	10.20 -	10.50 -	12.30 -	14.00 – 17.00				
	Session 5	10.50	12.30	14.00	mid conference excursion				
	Session 4	☉	Session 4	☉					
	Session 9		Session 9//10						
Poster session block 1: continuation									

Wed 4 June	9.00 -	10.20 -	10.50 -	12.30 -	14.00 -	15.20 -	15.30 -		18.00 (bus departure) -
	10.20	10.50	12.30	14.00	15.20	15.30	17:00		22.30
	Session 5		Session 5	☉	Session 7	☉	IMWA General Assembly		Conference Dinner
	Session 4/6	☉	Session 6	☉	Session 6				
Session 10		Session 10							
Posters on display for poster session block 2						Plenary visit to posters			

Thu 5	9.00 -	10.20 -	10.40 -	12.30 -	14.00 -	15.00
June	10.20	10.40	12.30	14.00	15.00	Closure
	Session 7	☉	Session 7	☉	Session 7	
	Session 6/8		Session 8			
Poster session block 2: continuation						

	Hall A
	Hall B
	Hall C

Oral presentations: 20 minutes (suggested 15 + 5 min discussion) ☉ coffee break ☉ lunch

Congress Programme

Sunday, June 1

Registration at the venue (Thermal Hotel), 17.00-20.00 o'clock

Welcome Reception at the venue (Thermal Hotel), 18.00-20.00 o'clock

Monday, June 2

Registration, from 7.30 o'clock

Authors of the entire day are requested to hand in their CD with oral presentation at the registration desk before 8.30 o'clock, or preferably Sunday afternoon. Thank you!

Opening of the Conference

8.30-9.10 Welcome on behalf of the Organizers and IMWA

9.10-9.40 Chris Wolkersdorfer

Keynote lecture We don't have a Mine Water Problem - Do we?

9.40-10.00 Tomáš Vylita

Contemporary Problems of Prospective Protection of Karlovy Vary Thermal Water Structure with respect to mining activities in Sokolov Coal Basin

10.00-10.20 Coffee break

Session 2 Water issues in open pit mining **Chairperson John Waterhouse**

10.20-10.40 S. J. Leech, M. P. McGann

Open Pit Slope Depressurization using Horizontal Drains – a Case Study

10.40-11.00 M. Palmroth, H. Huttunen, R. Rissanen, L. Rantala, I. Niskanen

Real-time Monitoring of Surface Water Quality Water Downstream of a Mine

11.00-11.20 T. Kuchovský, A. Říčka, J. Červenková

Impact of Gravel Pits on Ground Water: Case Study of Gravel Pits near the Mohelnice City, Czech Republic

11.20-11.40 L. Breckenridge, A.L. Hudson

Hydrogeologic Modelling to Improve Pit Slope Stability

11.40-12.00 D. Dimitrakopoulos, I. Koumantakis

Hydrogeological Conditions in Amynteon Open Lignite Mine and Design of Dewatering Measures

12.00-12.20 J. Waterhouse, J. Crisostomo, D. Nolan, A. Dutton

An Integration of Hydrogeology and Geotechnical Engineering for the Design of the Tutupan Coal Mine T100 Low Wall, South Kalimantan, Indonesia

Session 1 Water issues in underground mining **Chairperson Thomas Ruede**

10.20-10.40 C. J. Booth, E. Breuer

Using MODFLOW with TMR to Model Hydrologic Effects and Recovery in the Shallow Aquifer System Above Longwall Coal Mining

10.40-11.00 S. Veltman, A. R. Wilke

Groundwater Flow Mechanisms at Margaret Shaft, KOSH Gold Mining Area

11.00-11.20 G. Ziegenbalg

Directed and Controlled Crystallisation of Slightly Soluble Minerals - a New Technology to Seal Water Inflows and to Immobilise Contaminants

11.20-11.40 Z. Kaláb, E. Hruběšová, J. Knejzlík, R. Kořínek, R. Kukutsch, M. Lednická, P. Žůrek,

Mine Water Movement in Shallow Medieval Mine Jeroným (Czech Republic)

11.40-12.00 Ch. Wolkersdorfer, C. Kubiak

Low Density Sludge Storage In A Flooded Underground Mine

12.00-12.20 F. Pendás, P. Cienfuegos, J. Loredó

Hydrochemical Signature of Formation Waters Associated to Unconventional Gas Resources. Application to Central Coal Basin (Spain)

Session 9 Special session – pit lakes **Chairperson Martin Schultze**

- 10.20-10.40 I. Svoboda, E. Pecharová, I. Přikryl, I. Kašparová
Variant Solutions for the Development of Future Lakes Formed in Opencast Mine Residual Pits
- 10.40-11.00 I. Přikryl, L. Havel, I. Svoboda
Lake Ecosystem Development Monitoring in Barbora and Chabařovice Pits (Ústecký Region, Czech Republic)
- 11.00-11.20 E. Von Sperling, C.A.P. Grandchamp
Water Quality of a Deep Pit Lake: Case Study of Aguas Claras, Brazil
- 11.20-11.40 M.A. Lund, C.D. McCullough
Limnology and Ecology of Low Sulphate, Poorly-buffered, Acidic Coal Pit Lakes in Collie, Western Australia
- 11.40-12.00 B. Nixdorf, D. Lessmann, W. Uhlmann
Acidic Mining Lakes in Germany: Ecological potential acc. to the EC Water Framework Directive and Ecotechnological Remediation Strategies
- 12.00-12.20 C.D. McCullough, M.A. Lund, J.M. May
Field-scale Trials Treating Acidity in Coal Pit Lakes Using Sewage and Green Waste

12.20-14.00 Lunch

Session 5a Geochemical and biogeochemical processes **Chairperson Rosa Cidu**

- 14.00-14.20 F. Bilek, S. Wagner, T. Scharschmidt
Bench Scale Reactor to Test In-situ Remediation of Mining Influenced Groundwaters by Autotrophic Sulphate Reduction and Sulphide Stripping
- 14.20-14.40 A. Brown
Treatment of Metal-Containing Water using Processed Electric Arc Furnace Cinder
- 14.40-15.00 M.A. Caraballo, F. Macías, T.S. Rötting, J.M. Nieto, C. Ayora
First Results of a Full Scaled Passive Treatment System for High Metal Concentration AMD at the Iberian Pyrite Belt, SW Spain
- 15.00-15.20 J.A. Davis
Modeling Uranium(VI) Retardation in Groundwater

Session 1 Water issues in underground mining **Chairperson Colin Booth**

- 14.00-14.20 C.L. Waring, M.A. Peterson
Mine Subsidence Induced Hydraulic Connection tested by Geochemical and Geophysical Tracing Techniques
- 14.20-14.40 Ch. Wang, Y. Sun, X. Miao, G. Yang
History of Water Conservation in Shendong Mining Area, China
- 14.40-15.00 A. Říčka, T. Kuchovský, Josef Zeman
Stream Thermometry as an Effective Tool for Revealing Communication Areas between Mine Water and Surface Streams: Uranium Mine Rozna Case Study (Czech Republic)
- 15.00-15.20 D. Beattie, R. Bashir, J. Hatley
Impact of Geotechnical and Hydrogeological Parameters upon Shaft Sinking Performance in the Athabasca Basin Canada

Session 9 Special session – pit lakes **Chairperson Mark Lund**

- 14.00-14.20 Ch. Koch, B. Graupner, F. Werner
Pit Lake Treatment Using Fly Ash Deposits and Carbon Dioxide
- 14.20-14.40 T.F. Pedersen, P. Whittle, J. Crusius, J.J. McNee
Biogeochemical Manipulation of Pit Lakes to Limit Release of Dissolved Metals
- 14.20-14.40 J. May, C. McCullough, M. Lund
Starting down the path of pit lake bioremediation at an operational mine (and progressing along the long road to sustainability?)
- 15.00-15.20 B. Boehrer, M. Schultze
Meromixis in Mine Lakes

15.20-15.40 Coffee break

Session 5a Geochemical and biogeochemical processes **Chairperson Robert Kleinmann**

- 15.40-16.00 B. Plante, M. Benzaazoua, B. Bussiere, G. Pepin, D. Laflame
Geochemical Behaviour of Nickel Contained in Tio Mine Waste Rocks
- 16.00-16.20 G. Pepin, B. Bussière, M. Aubertin, M. Benzaazoua, B. Plante, D. Laflamme, G. J. Zagury
Field Experimental Cells to Evaluate the Generation of Contaminated Neutral Drainage by Waste Rock at the Tio Mine, Quebec, Canada
- 16.20-16.40 R. Marandi, F.D. Ardejani, M. Safaei
Biosorption of Lead and Zinc Ions by Phanerocheat Chrysochlorium-Research on Fixed Bed Column
- 16.40-17.00 M. Koschorreck, K. Wendt-Potthoff, A. Trosiener, W. Geller, S. Kleinsteuber, V. Preuss, M. Horn
Microbiology of an In-lake Reactor to Treat an Acidic Pit Lake
- 17.00-17.20 T. Harck, R. Reynecke, N. Bezuidenhout, K. Govender, P. Gunther
Managing the Groundwater Impact of Mine Water Treatment Waste

Session 3 Mine water uses – mineral water, geothermal energy **Chairperson Don Armstrong**

- 15.40-16.00 W. Rühak, P. Schätzl, A. Renz, H. J. G. Diersch
Numerical Modeling of Geothermal Processes: Issues and Examples
- 16.00-16.20 J. Raymond, R. Therrien, F. Hassani
Overview of Geothermal Energy Resources in Quebec (Canada) Mining Environments
- 16.20-16.40 G. Wieber, S. Pohl
Mine Water: a Source of Geothermal Energy – Examples from the Rhenish Massif
- 16.40-17.00 D. Vermeulen, B. Usher
Operation and Monitoring Guidelines for Irrigating with Coal Mine Water in South Africa
- 17.00-17.20 L. Razowska-Jaworek, I. Pluta, A. Chmura
Usage of Mine Waters in the Upper Silesia in Poland

Session 9 Special session – pit lakes **Chairperson Thomas Pedersen**

- 15.40-16.00 M. Schultze, B. Boehrer
Development of Two Meromictic Pit Lakes – a Case Study from the Former Lignite Mine Merseburg-Ost, Germany
- 16.00-16.20 Czop, J. Motyka, M. Szuwarzyński
Chemical Composition of the Extremely Alkaline Water within “Górka” Pit Lake (Chrzanow Region, South Poland)
- 16.20-16.40 J. Sanchez España, E. Lopez Pamo, M. Diez, E. Santofimia
Monimolimnetic Gradients in Meromictic Pit Lakes of the Iberian Pyrite Belt (SW Spain): Physico-chemical Description
- 16.40-17.00 F.C. Benthous, H. Mandel, J. Grossmann
Water Management – Modelling the Lauchhammer Region
- 17.00-17.20 M. A. A. Arias, J. L. D. Fernández
Water Quality Models in Limeisa Mining Lake

17.30 IMWA Executive Council Meeting

Plenary visit to posters

Tuesday, June 3

Session 5a Geochemical and biogeochemical processes **Chairperson Jorge Loredó**

- 9.00-9.20 W.M. Gitari, O.O. Fatoba, L.F. Petrik
Towards the Development of Sustainable Salt Sinks: Fundamental Chemical Studies
- 9.20-9.40 Sapsford D.J., Bowell R.J., Dey M., Williams C., Williams K.P.
A Comparison of Kinetic NAG tests with Static and Humidity Cell Tests for the Prediction of ARD
- 9.40-10.00 C. Ardaù, R. Cidu, S. Da Pelo, C. Dadea, L. Fanfani, F. Frau, E. Musu, P. Lattanzi
Arsenic in Mining Environments: Evidences from Sardinia (Italy)
- 10.00-10.20 A. Barnes, D. Sapsford, M. Dey, K. Williams
Non Oxidisable Sorbed Fe(II): Indicator of Strong and Weak Site Adsorption at the Goethite Surface

Session 4 Mine closure **Chairperson Andrzej Witkowski**

- 9.00-9.20 G. Beale, R. Boak
Mine Closure and Reclamation – Practical Examples of Options and Issues
- 9.20-9.40 J. Zeman, I. Šupfková, M. Černík
Mine Water Stratification at Abandoned Mines and its Geochemical Model
- 9.40-10.00 W. F. Ewert, G. Heerten, M. Lersow
Using Geosynthetics for Safety Mine Closure, Closure of Mining and Milling Residues and for Groundwater Protection
- 10.00-10.20 T. Kauppila
Transport of As from the Former Ylöjärvi Cu-W-As Mine – Sediment Chemical and Algal Records along a 7 km Watercourse

Session 9 Special session – pit lakes **Chairperson Kurt Friese**

- 9.00-9.20 A. G. Conly, P. F. Lee, A. Goold, A. Godwin
Experimental, Geochemical and Stable Isotopic Constraints on the Source and Fate of Sulfate Toxicity for the Hogarth and Caland Pit Lakes, Steep Rock Iron Mine, Northwestern Ontario, Canada
- 9.20-9.40 P.F. Lee, M. Van Cook, A.G. Conly
Predicting Discharge Water Quality from Steeprock Pit Lakes in Atikokan, Ontario, Canada
- 9.40-10.00 M. Müller, F. Werner, K. Eulitz, B. Graupner
Water Quality Modeling of Pit Lakes: Development of a Multiply-Coupled Groundwater Lake Circulation and Chemical Model
- 10.00-10.20 F. Werner, K. Eulitz, B. Graupner, M. Müller
Pit Lake Baerwalde Revisited: Comparing Predictions to Reality

10.20-10.50 Coffee break

Session 5a Geochemical and biogeochemical processes **Chairperson Jacek Motyka**

- 10.50-11.10 K. Vanbroekhoven, S. Van Roy, L. Diels, J. Gemoets
Stability of Metalprecipitates Formed after in Situ Bioprecipitation Induced by Sulfidogenesis
- 11.10-11.30 James D. Navratil
Mine Water Treatment Using Iron Ferrites and Magnetite
- 11.30-11.50 F. Barrez F., Carlier E., Carlier J. P., Shahrour I.
Hydrochemical Evolution of the Chalk Aquifer through the Coal Mine Basin of the Nord-Pas-de Calais Region (France)
- 11.50-12.10 L. Fanfani, R. Biddau, G. Lecca, F. Murgia
AQUAGRID: A Problem Solving Platform for Contaminated Groundwater (A Case Study in a Mining Area in Sardinia)
- 12.10-12.30 N.C. Balci
Effects of Bacterial Activity on the Release of Trace Metals from Sphalerite Oxidation

Session 4 Mine closure **Chairperson Josef Zeman**

- 10.50-11.10 O. Del Greco, C.A. Garzonio, C. Oggeri
Stability and Environmental Problems due to Groundwater Level Raising in the Abandoned Gavorrano Mine

- 11.10-11.30 J. Meyer, M. Paul, U. Jenk
Mine Water Hydrology of the Schneeberg Mine (Saxony) Fifty Years after Flooding
- 11.30-11.50 C. Sena, J. Molinero
Water Resources and Hydrogeological Modelling as a Tool for the Feasibility Assessment of the Closure Plan of an Open Pit (La Respina Mine, Spain)
- 11.50-12.10 R. Cidu, L. Fanfani, F. Frau, R. Biddau, R. Cabras, S. Da Pelo
The Abandoned Antimony-mines of SE Sardinia: Impact on Surface Waters
- 12.10-12.30 S. Reshetnyak, G. Melikhova, Y. Fedotova, M. Melikhov
Problems of Deep Open Pits Closure in the Kola Peninsula

Session 9 Special session – pit lakes

Chairperson Martin Schultze

- 10.50-11.10 D. Dunbar, R. Pieters
Modeling a Physical Mechanism for Removal of Trace Elements From Pit Lake Surface Waters

Session 10a Special session – water management in uranium

Chairperson Jan Slezák

- 11.10-11.30 J. Slezák
Recent Problems with Water Management in Uranium Mines
Environmental Impacts of Mine Waters from Chemical and Deep Uranium Mining – Straz pod Ralskem, Czech Republic
- 11.30-11.50 B. Jeuken, H. Maerten, R. Phillips
Uranium ISL Operation and Water Management under the Arid Climate Conditions at Beverley, Australia
- 11.50-12.10 D. Milenic, V. Dragisic, N. Savic, A. Vranjes
Environmental Impact of Uranium Mine Waters in Eastern Serbia
- 12.10-12.30 H. Liu, J. Hatley, R. Bashir, L. Atkinson
Depressurising an Underground Ore Body at the McArthur River Mine in Northern Saskatchewan, Canada

12.30-14.00 Lunch

14.00-17.00 Mid-conference excursion

Wednesday, June 4

Session 5b Geochemical processes AMD **Chairperson Walter Geller**

- 9.00-9.20 R.S. Gautama, G.J. Kusuma
Evaluation of Geochemical Tests in Predicting Acid Mine Drainage Potential in Coal Surface Mine
- 9.20-9.40 R. Schöpke
Experimental Development and Testing of an in Situ Technology to Reduce the Acidity of AMD-laden Groundwater in the Aquifer
- 9.40-10.00 D. T. Suryaningtyas, R. S. Gautama
Acid Mine Drainage Treatment of Overburden for the Removal of Cation Metals
- 10.00-10.20 M. Martins, E.S. Santos, R.J. Barros, M.C. Costa
Treatment of Acid Mine Drainage with Sulphate-reducing Bacteria Using a Two-stage Bioremediation Process

Session 4 Mine closure **Chairperson Josef Zeman**

- 9.00-9.20 I. Djokic, G. Letic, M. Cekic, S. Nuhovic, V. Canic, N. Djokic.
Restoration and Revitalization of the Abandoned “Suvo Rudiste” Mine Site on Kopaonik, Incorporating Collection, Treatment and Multipurpose Use of the Mine Waters

Session 6 Mine tailings **Chairperson Adam Jarvis**

- 9.20-9.40 E.M. Cukrowska, H.Tutu
Assessment of the Mobility of Toxic Elements in Gold Mine Polluted Land-column Leaching and Computer Modeling
- 9.40-10.00 C. L. Reichardt
Heap Leaching and the Water Environment – Does Low Cost Recovery Come at a High Environmental Cost?
- 10.00-10.20 E.B. Nsimba, H.Tutu, E.M. Cukrowska, I.M. Weiersbye
Characterisation of Cyanide in Gold-mine Tailings of the Witwatersrand

Session 10b Special session Mine closure – uranium mines **Chairperson Arnošt Grmela**

- 9.00-9.20 J-H. Ross, E.G. Dudel
Uranium Loads and Accumulation in a Mine Water Contaminated Wetland
- 9.20-9.40 J. Mužák
Remediation of Consequences of Chemical Leaching of Uranium in Stráž pod Ralskem
- 9.40-10.00 N. Rapantová, A. Grmela, B. Michalek, A. Hájek, P. Zábojník, J. Zeman
Utilization of Olsi-Dranonin Uranium Deposit After Mine Closure
- 10.00-10.20 H. Hudcová, H. Mojžíšková, J. Badurová, M. Rozkošný, P. Sedláček, J. Sova, R. Březinová
Monitoring of the Uranium Mining Industry Impact on the Water Ecosystem in the Middle Part of the Svratka River Basin

10.20-10.50 Coffee break

Session 5b Geochemical processes AMD **Chairperson Changsheng Wang**

- 10.50-11.10 Š. Klimková, M. Černík
Application of Zero-Valent Nanoparticles for Acid Mine Water Remediation
- 11.10-11.30 M. Egal, C. Casiot, G. Morin, O. Bruneel, F. Elbaz-Poulichet
Kinetic Controls on Iron and Arsenic Precipitation in Acid Mine Drainage (Carnoulès, France)
- 11.30-11.50 P. Lindsay, M. Pizey, P. Weber
Options for Treating Acid Mine Drainage at Stockton Mine, New Zealand
- 11.50-12.10 Ardejani F. D., Karami G. H., Assadi A. B., Dehghan R. A.
Hydrogeochemical Investigations of the Shour River and Groundwater Affected by Acid Mine Drainage in Sarcheshmeh Porphyry Copper Mine

Session 7 Water engineering – mine water management, mine dewatering **Chairperson Adrian Brown**

- 12.10-12.30 E.C.P. Lim, D. Holmes
The Moving Finger Writes – the Value of Hydrographs in Numerical Modelling

Session 6 Mine tailings Chairperson William Pulles

- 10.50-11.10 T.F. Pedersen, A.J. Martin, J.J. McNee
Permanent Underwater Storage of Disposed Mine Tailings: Pitfalls and Prospects
- 11.10-11.30 L. Alakangas, A. Lundberg, B. Öhlander
Pilot-scale Studies of Different Covers on Unoxidised Sulphide-rich Tailings, Northern Sweden: Oxygen Diffusion
- 11.30-11.50 P.M. Heikkinen, M.L. Räisänen, R.H. Johnson
Seepage Water Quality from Sulphide Mine Tailings Impoundments
- 11.50-12.10 Ch. Braungardt, J. Rieuwerts, K. Mighanetara, F. Azizi
Contaminant Export Potential of Selected Mine Waste in Southwest England
- 12.10-12.30 B.A. Azzie
Geochemical Characterization of Tailings, Kylälahti Cu-Co Project, Finland

Session 10b Special session Mine closure – uranium mines Chairperson Andrzej Kowalczyk

- 10.50-11.10 D.R. Jones, Ch. Humphrey, M. Iles, R. van Dam
Deriving Surface Water Quality Closure Criteria – An Australian Uranium Mine Case Study
- 11.10-11.30 M. Mkandawire, E.G. Dudel
Speciation Dynamics of Arsenic in Water from Springs on a Tailing Heap of Abandoned Uranium Mining
- 11.30-11.50 L. Braun, H. Märten, R. Raschke, A. Richter, K. Sommer, U. Zimmermann
Flood Water Treatment at the Former Uranium Mine Site Königstein – a Field Report
- 11.50-12.10 G. Földing, J. Éberfalvi, M. Csövári, G. Német, J. Csicsák
Post-closure Water Management Practice on the Former Uranium Mining Site in Hungary

12.30-14.00 Lunch**Session 7 Water engineering – mine water management, mine dewatering Chairperson Adrian Brown**

- 14.00-14.20 P. Schaetzl, V. Clausnitzer, H.-J. Diersch
Groundwater Modeling for Mining and Underground Construction – Challenges and Solutions.
- 14.20-14.40 R. Dickin, R. Mills, R. Freed
Hydrogeological Data Collection at Canadian Arctic Mines in Permafrost
- 14.40 -15.00 A. Kamkar-Rouhani
A Finite Difference Groundwater Modelling and Comparison of the Results with Those Obtained Using Finite Element Modelling Approach
- 15.00-15.20 S. Brouyère, P. Orban, S. Wildemeersch, J. Couturier, N. Gardin, A. Dassargues
The Hybrid Finite Element Mixing Cell Method: a New Flexible Method for Modelling Mine Water Problems

Session 6 Mine tailings Chairperson Danie Vermeulen

- 14.00-14.20 I.M.H.R. Antunes, A.M.R. Neiva, M.M.V.G. Silva
Environmental Contamination Associated with Some Abandoned Mines at Central Portugal
- 14.20-14.40 S. Shevrel, V. Kopačková, A. Bourguignon, P. Rojík, V. Metelka
Application of High Altitude and Ground-based Spectroradiometry in the Monitoring of Hazardous Waste Derived from Sokolov Open-pit
- 14.40 -15.00 MineZ. Bzowski, O. Sracek, G. Gzyl, A. Frolik, J. Kubica, M. Gwoździewicz
Evaluation of the Environmental Impact of Coal Waste Pile at Smolnica, Upper Silesia, Poland
- 15.00-15.20 Samper J., Moreira S., Alvares D., Montenegro L., Lu Ch., López C., Bonilla M., Ma H., Li Y., Pisani B., Arechaga F., Gil A., Menéndez J. A., Lucas T., Valle-García R.
Coupled Hydrological and Chemical Model of Coal Mine Dumps at As Pontes, A Coruña (Spain)

15.20-16.00 Coffee break**15.20-17.00 IMWA General Assembly****Plenary visit to posters****18.00-22.30 Conference Dinner**

Thursday, June 5

Session 7 Water engineering – mine water management, mine dewatering **Chairperson Volker Preuss**

9.00-9.20 F.S. Botha

Transforming Groundwater from Risk Management to Asset Management in the Mining Sector, South Africa

9.20-9.40 N.A.S. Kruse, P.L. Younger

Using a Novel Reactive Transport Model to Determine Flow Distribution between Major Roadways in a Partially Flooded Abandoned Underground Metal Mine.

9.40-10.00 S. Gairoard, A.-L. Courbis, B. Vayssade

Modelling and Simulation of the Pumping in a Former Mine Using Sequential Automata; Coal Mine of Rochebelle - St-Martin de Valgalgues, Cévennes, France

10.0-10.20 C. B. Mafa

Mine Dewatering Studies at Jwaneng Open Pit Diamond Mine - Botswana

Session 6 Mine tailings **Chairperson Ralph Schöpke**

9.00-9.20 A. Moradzadeh, F.Doulati Ardejani, S.F. Pisheh

An Investigation on the Environmental Effects of Sulphide Mines Using Geophysical Studies

9.20-9.40 S.M. Cabrera, J. Bryan, A. Kantzas

Characterization of Oil Sands Tailings using Nuclear Magnetic Resonance (NMR) Technique

Session 8 Mine water legal aspects, integrated water management **Chairperson Ralph Schöpke**

9.40-10.00 R. Cameron

Discussion on Implementation of the Water Framework Directive and Related Implications for the Metalliferous Mining Industry

10.0-10.20 T. Roetting, J. Amezaga, P. Younger, P. Jimenez, C. Talavera, J. Quintanilla, R. Oyarzún, G. Soto

Catchment Management and Mining Impacts in Arid and Semi-Arid South America: the CAMINAR Project

10.20-10.50 Coffee break

Session 7 Water engineering – mine water management, mine dewatering **Chairperson Rafael Fernandez Rubio**

10.50-11.10 A. Lecureuil, S. Delpierre, Ch. Grossin, C.Sauzay

Salsigne Gold Mine Water Flow Modelling

11.10-11.30 O. Arndt, U. Junghans, S. Kaden, P. Schätzl, F. Thilo

Grid-based Optimization in Groundwater Management

11.30-11.50 P. Nalecki

Development of a Groundwater and Water Supply Management Model for a Coal Bed Methane Project

11.50-12.10 J. Nosek, M. Černík, J. Zeman

Numerical Modelling of Natural Wetland System at Locality Zlaté Hory

12.10-12.30 K. Bru, A.-G. Guezennec, F. Bourgeois

Numerical Simulation: a Performing Tool for Water Management in Tailings Impoundments

Session 8 Mine water legal aspects, integrated water management **Chairperson Katrin Wendt-Potthoff**

10.50-11.10 A.P. Jarvis, D. Johnston, W.M. Mayes, H.A.B. Potter

Application of a New methodology for Assessing the Priorities for Abandoned Mine Water Pollution Remediation at a National Scale: Results and Implications from a Study across England and Wales

11.10-11.30 D. Johnston, S. Rolley

Abandoned Mines and the Water Framework Directive in the United Kingdom

11.30-11.50 B. Graupner, Ch. Koch, F. Werner

Can EU-WFD be Applied to Former Lignite Mining Districts? A Case Study for the Lausitz Mining District (Germany)

11.50-12.10 P. Nalecki, M. Gowan

Mine Water Management – Dynamic, Probabilistic Modelling Approach

12.10-12.30 C. M. Cote, Ch. J. Moran

A Systems Modelling Approach to Facilitate the Benchmarking of Water Use in the Mining Industry

12.30-14.00 Lunch

Session 7 Water engineering – mine water management, mine dewatering Chairperson Chris Wolkersdorfer

14.00-14.20 M. Struzina, C. Drebenstedt
Large Scale Laboratory Tests for Development of Dewatering System for Open Pit Mines Based on Horizontal Filter Wells Installed by Horizontal Directional Drilling

14.20-14.40 P. Corser
Cost Escalation Associated with Water Management for Mine Development and Mine Reclamation

14.40-15.00 J. Szczepinski
Modelling of the Future “Piaski” Open Pit Impact on the Water Environment

15.00 IMWA Congress Closure

POSTER SESSION 1

J. Kubica, P. Bukowski, G. Gzyl

Delimiting of Safety Pillars to Separate Multi-layer Thick-seam Mining Systems from an Aquifer in an Adjacent Flooded Mine

S. Bonetto, M. Fornaro, A. Giuliani, M. Lasagna

Underground Quarrying and Water Control: Some Cases from Northern Italy

I. Pluta

Influence of Salt Bed of the Zawada Basin on Mine Waters in the Upper Silesian Coal Basin (Poland)

N. Djuric

Ending the 100 Years Salt Water Industrial Exploitation in Mineral Salt Site in Tuzla

F. Pendás, P. Cienfuegos, J. Loredo

Preliminary Data On Groundwater Geodation in Central Coal Basin (Northern Spain)

I. Příkryl, E. Pecharová, O. Skácelová, P. Chvojka, O. Křiváčková

The Associations of Mine Water Infiltration in Podkrušnohorská Spoil Heap

S. M. Ntlhaile

The Importance of Groundwater Monitoring at Jwaneng Open Pit Mine

D. U. Yasin, G. Yuce

The Effect of Drought on the Quality of Water Resources Mixed With Leachate Waters From an Open-Pit Borax Mine

P. Bajtoš

Actual and Potential Utilisation of Mine Waters in the Spišsko-gemerské Rudohorie Mts., Slovakia

I. Pluta, A. Marcol, F. Dziendziel, M. Karwasiecka

Utilization and Purification of the Mine Waters at the Marcel and 1 Maja Coal Mines in the Upper Silesian Coal Basin (Poland)

I. Pluta, J. Jackowicz-Korczyński

Possibility of Using Waters from the Closed Coal Mines of the Upper Silesian Coal Basin (Poland) as the Resources of the Potentially Medicinal Waters

N. Djuric

Geothermal Energy New Energetic

T. Kuchovsky, D. Grycz, M. Drabova

Regional Impact of Mining on Stream Drainage Characteristics in the Rosice – Oslavany Coal Mining District, Czech Republic

D. Grycz, T. Kuchovský, A. Říčka, J. Zeman

Regional Impact of Mining Activity to the Groundwater Regime: Example Case Study of the Rosice–Oslavany Coal Mine District, Czech Republic

E. Pecharová, M. Martiš, I. Kašparová

Environmental Approach to Rehabilitation Methods of Landscapes Disturbed by Open Cast Mining

M. Slábová, H. Broumová, E. Pecharová

Communities of Small Mammals as Indicators of Biodiversity Changes in Reclaimed Areas after Coal Mining

S. Kihlman, T. Kauppila

Effects of a Historical Cu-Au Mine on Testate Amoebae in Lacustrine Sediments in Southern Finland (Haveri, Ylöjärvi)

M. Jankulár, T. Klimko, E. Jurkovič, B. Lalinská, P. Šottník, O. Lintnerová, M. Šutriepka

Mineralogical and Geochemical Research in a Contaminated Environment near the Abandoned Poproč Sb Deposit (Slovakia)

P. Bukowski, M. Bukowska

Changes in Geomechanical Properties of Carboniferous Rocks Under the Influence of Water and Their Possible Consequences in the Areas of Abandoned Mines of the Upper Silesian Coal Basin (Poland)

P. Sklenička

Stand Continuity - an Additional Parameter for Ecological Networks in Post-Mining Landscapes

J. Motyka, M. Czop

Vertical Changes of Iron and Manganese Concentration in Water from Abandoned "Zakrzówek" Limestone Quarry near Cracow (South Poland)

J. Loredó, J. López, V. Silva, P. Galán, A. Ordóñez, R. Alvarez, R. Fernández-Martinez, R. Larios, I. Rucandio

Environmental Impact of Drainage from Abandoned Mercury Mines in Tributaries of Caudal River (Northern Spain)

A. Kowalczyk, J. Motyka, A. Witkowski, K. Samborska, J. Wach

Impact of Zn-Pb Ore Mining Activity and Mine Closure on Groundwater and Surface Water in the Eastern Part of Upper Silesia (Poland)

POSTER SESSION 2

N. Maximovich

Use of Geochemical Barriers for Environment Remediation after Mine Closure

S. A. Shahraki, A. Ahmadimoghadam, F. Naseri, E. Esmailzade

Study the Accumulation of Strontium in Plant Growing around Sarcheshmeh Copper Mine, Iran

S. A. Shahraki, A. Ahmadimoghadam, F. Naseri, E. Esmailzade

Study of the Possibility of Arsenic Phytoremediation in the Soil of Sarcheshmeh Copper Complex by Native Plants

A. F. Da S. Gomes, A. P. Vinhal, A. C. Q. Ladeira

Estimation of Potential Pollution of Uranium Sludge from Acid Water Treatment.

F. D. Ardejani, S. Z. Shafaei, A. Moradzadeh, R. Marandi, R. Kakaei, B. J. Shokri

Environmental Problems Related to Pyrite Oxidation from an Active Coal Washing Plant, Alborz Sharghi, Iran

H. Paulava

Monitoring of Water Quality at the Bjorkdal Gold Mine, Northern Sweden

A. B. Assadi, F. D. Ardejani, G. H. Karami, B. D. Azma, A. D. Reza, A. Mahmood

Heavy Metal Pollution Problems in the Vicinity of Heap Leaching No. 3 of Sarcheshmeh Porphyry Copper Mine

B. Palumbo-Roe, R. Newsham, B. A. Klinck, S. Quigley, V. J. Banks

A GIS Based Risk Screening Approach to Abandoned Mine Waste in the Ystwyth Catchment of Mid-Wales, UK

T. Rudolph, W. G. Coldewey

Implications of Earthquakes on the Stability of Tailings Dams

S. Z. Shafaei, A. R. Karim, F. D. Ardejani, M. A. Zadeh, M. Kor

Environmental Protection by Paste Production and Storage Mechanism for Cyanide Disposal in Gold Processing- A Case Study, Aq Dareh, Takab, Iran

R. A. Dehghan, A. B. Assadi, F. D. Ardejani, A. A. Azizpour

Iranian Experience in Designing Heap Leaching Structures-Case Study: Heap Leaching Structure No. 3 of Sarcheshmeh Copper Mine

K. Kura, M. Korcz, J. Długosz, G. Gzyl, M. Odrzywólek

Application of Conceptual Hydrogeological Site Model Basing on GIS Database for the Area of Mine Waste Rock Pile

A. Turner, Ch. Braungardt, J. Rieuwert, K. Mighanetara

Unravelling the Complex Issues of Diffuse Metal Pollution from Abandoned Mine Workings

M. M. S. Cabral-Pinto, M. M. V. G. Silva, A. M. R. Neiva

Uranium Mineralization and Associated Pollution on Water and Stream Sediments

I. Pluta

Using of Mine Tailings in Treatment of Mine Waters in the Upper Silesian Coal Basin

Banks, V. J., Palumbo-Roe, B., Chenery, S., Kura, K. and Klinck, B.A.

Catchment scale study of point and diffuse water pollution in the Rookhope burn, a tributary of the River Wear (UK) affected by abandoned metal mines.