

ENVIRONMIN 2007 PROGRAM

22nd July 2007 - Sunday

10:00 – 16:00 Arrival, informal networking and book into Bakgatla

16:00 – 18:00 Registration at Bakgatla

18:00 – 19:30 Welcoming cocktail & snacks

Official opening of Environmin 2007

23rd July 2007 – Monday

06:30 – 09:30 **Time at leisure** / optional game drives
(Registration 07:00 – 09:30)

09:00 **Breakfast**

09:30 – 09:45 **Opening Address:** Prof Cheryl M E McCrindle University of Pretoria

Session I: Occupational Health

09:45 – 10:45 **Society and Silica: Dust, Tuberculosis and HIV / AIDS in South Africa**

J.C.A. Davies, Professor Emeritus, School of Public Health, University of the Witwatersrand, Johannesburg

10:45 – 11:10 **Tea Break & Viewing of posters and exhibits**

11:10 – 13:10 Presentations Papers

11:10 – 11:50 **Occupational exposure to aerosols and fluorides in the Norwegian Primary Aluminium Industry**

Nils Petter Skaugset, National Institute of Occupational Health, Oslo, Norway

11:50 – 12:10 **Evaluation of airborne lead levels in storage battery workshops and some welding environments in the Kumasi metropolis in Ghana**

E. Dartey, The Department of Chemistry, Faculty of Science Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

12:10 – 12:30 **Occupational Beryllium exposure in primary aluminium production**

Yngvar Thomassen, National Institute of Occupational Health, Oslo, Norway

12:30 – 12:50 **Asbestos related disease in South Africa: Burden of industrial and mining activities in the past**

Danuta Kielkowski, National Institute for Occupational Health (NIOH), NHLS; School of Public Health University of the Witwatersrand, Johannesburg, South Africa

12:50 – 13:10 **Noise induced hearing loss and hearing conservation in SA Mining Industry**

Lindiwe Zungu, University of Limpopo (Medunsa) School of Public Health, Dept of Environmental and Occupational Health, Box 215 Medunsa, 0204

13:10 – 14:00 **Lunch**

Session I: Continued - Occupational Health

14:00 – 14:30 **How can medical geology help address mining industry health issues?**

Robert B. Finkelman, University of Texas at Dallas, Dept of Geosciences

14:30 – 15:00 **Geochemical mapping in South Africa and its value to environmental and public health**

Marthinus Cloete, Council for Geoscience, Pretoria, South Africa

15:00 -15:20 **Respiratory health risks of miners due to exposure to associated minerals in South Africa**

Gill Nelson, School of Public Health, University of the Witwatersrand, Johannesburg, South Africa

15:20 – 15:40 **An epidemiological study of welders exposed to manganese**

Dag G Ellingsen, National Institute of Occupational Health, Oslo, Norway

15:40 – 16:00 **Tea Break**

Session II: Environmental Toxicology

16:00 – 16:20 **The effect of zinc sulphate, dicalcium phosphate and vitamin D on the absorption of lead acetate in calves**

R.S. Verster, Department of Animal Health, Faculty of Agriculture, Science & Technology, Northwest University, Mmabatho, South Africa

16:20 – 16:40 **Air Pollution and chronic respiratory diseases in selected Polokwane Areas**

N O Masekoa, Department of Epidemiology, University of Limpopo, School of Public Health, Medunsa, South Africa

16:40 – 17:00 **Effective measures taken by AngloGold Ashanti – Obuasi to ensure less negative environmental impact from mining**

K. Agyarko, Faculty of Agriculture Education, University of Education, Winneba, Mampong-Ashanti, Ghana

17:00 – 17:15 **Determination of carbon monoxide and sulphur dioxide in Botsalano Game Reserve**

Nkane Khasu, Department of Physics, North-West University, Mmabatho, South Africa

18:30 **Informal get together & braai at chalets** (bring own beverage) (indicate attendance during the morning registration)

24th July 2007 - Tuesday

06:30 – 09:30 **Breakfast and time at leisure (Optional Game Drives)**

09:30 - 10:30 **Ecotoxicological Assessment of acid mine drainage: Electrophysiological changes in earthworm (*Apporectodeal caliginosa*) and aquatic oligochaete (*Lumbriculus variegates*)**

Ravi Gooneratne, Cell Biology Group, Agriculture and Life Sciences Division, Lincoln University, Canterbury, New Zealand

10:30 – 11:00 **Tea Break & Poster Viewing & Exhibits**

Session II: Environmental Toxicology - Continued

11:00 – 11:30 **Skeletal pathology and disrupted bone metabolism in nesting white storks (*Ciconia ciconia*) subsequent to a mine tailings disaster in South Western Spain**

Judit E.G. Smits, Veterinary Pathology, University of Saskatchewan, Saskatoon, SK, Canada

11:30 – 12:00 **Use of short term tests to determine the impact of mining and refining on the spread of mutagens in the environment and in food of animal origin**

Beniamino T. Cenci Goga, Laboratory of Food Hygiene, School of Veterinary Medicine, University of Perugia, Via San Costanzo, Italy

12:00 – 12:20 **Cyanide speciation in the Witwatersrand Goldfields**

H. Tutu, E. B. Nsimba and E. M. Cukrowska. School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa

- 12:20 – 12:40 **Development of new EIA for quantification of DDTs**
Koji Arizono, Prefectural University of Kumamoto, Tsukide, Kumamoto, Japan
- 12:40 – 13:00 **MALDI Bio Typer – Reliable identification of microorganisms on species and subspecies level using MALDI- TOF MS fingerprinting**
Lisa Swanepoel, Daltonics Sales Engineer, Bruker South Africa
- 13:10 – 14:00 **Lunch**
- 14:00 – 14:20 **Contact patterns of birds with cyanide-containing water on AngloGold Ashanti tailings storage facilities in South Africa**
Henk Bouwman School for Environmental Sciences and Development, North-West University, P. Bag X6001, Potchefstroom, 2520, South Africa, henk.bouwman@nwu.ac.za
- 14:20 – 14:40 **Monitoring of vanadium in soils and grass around a vanadium processing plant**
Willem F.A. Kirsten, ARC-Institute for Soil, Climate and Water, Pretoria, South Africa
- 14:40 – 15:00 **Determination and analysis of particle size distribution of atmospheric aerosols using cascade impactors and particle induced X-Ray emission in selected areas of the North West Province**
Amanda Bubu, North West University, Mmabatho, South Africa
- 15:00 – 15:20 **Radiological Risks of cattle watering at polluted surface water bodies in the Wonderfonteinspruit catchment area**
Rainer Barthel, BS Associates Ltd. South Africa
- 15:20 – 17:00 **Excursion: Avian and aquatic ecosystems of Pilansberg: impacts of environmental pollution.** Discussion and presentation by Dr Jan Myburgh, Dr Ray Jensen and Dr Erika van Zyl. They will then follow the theme of avian and aquatic ecosystems with a guided walk through the wetlands and bird sanctuary at Manyane. Optional visit to Manyane Craft Centre.
- 17:30 **Return to Bakgatla – evening at leisure**
- 18:30 **Dinner**

Optional trips to Sun City or evening game drive (at own expense)

25th July 2007 – Wednesday

06:30 – 09:30 **Time at leisure, breakfast, optional game drives**

Session III: Analytical Trace Analysis

09:30 - 10:30 **Sampling handling and enrichment strategies for environmental samples**

Nelson Torto, Department of Chemistry, University of Botswana, P/Bag UB 00704, Gaborone, Botswana, E-mail: torton@mopipi.ub.bw

10:30 – 11:00 **Tea Break**

11:00 – 11:20 **Mercury speciation in the Witwatersrand Goldfield**

E. M. Cukrowska School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa, e-mail: ewa.cukrowska@wits.ac.za

11:20-11:40 **Radiological impact assessment of mining activities in the Wonderfonteinspruit catchment area**

Rainer Barthel BS Associates Ltd, P.O. Box 2031, Bedfordview 2008, Gauteng, South Africa

11:40 – 12:20 **Integration of a radially viewed CID ICP-AES and a collision Cell ICP-MS for multielement analysis of environmental and geological samples – IS sample preparation a limiting factor?**

Isaac (Joe) Brenner, Visiting Scientist, Facultad de Ciencias del Medio Ambiente, Universidad de Castilla-La Mancha, Antigua fabrica de Armas, Toledo, Spain

12:20 – 12:40 **Isolation and characterization of the blue Thetsane stream pollutant in Lesotho**

M.C. Matoetoe* and B. Ramokepa, Department of Chemistry and Technology, University of Lesotho, P O Roma 180, Lesotho

12:40 – 13:00 **Phytoremediation of arsenic contaminated soil: Evaluation of mesquite (*Prosopis* spp.)**

N.S. Mokgalaka-Matlala *et al*, Department of Chemistry, Tshwane University of Technology, Private Bag X 680, Pretoria, 0001

13:00 – 14:00 **Lunch**

Session III: Analytical Trace Analysis - Continued

14:00 – 14:15 **Determination of phosphorus species in water by chromatographic,**

colorimetric and spectrometric techniques

TP Boikhutso, Department of Chemistry, Tshwane University of Technology, Pretoria, South Africa

14:15 – 14:30 **Improved derivatisation methods for analyzing cyanide species in mine effluent**

Caliphs Zvinowanda, Department of Environmental, Water & Earth Sciences, Faculty of Science, Tshwane University of Technology, Pretoria, South Africa

14:30 – 14:45 **Environmental implications of acid rain on coal mines in Witbank, South Africa**

M Mujuru, Tshwane University of Technology, Department of Chemistry and Physics, Pretoria, South Africa

14:45 -15:00 **Simulation of atomization processes in electrothermal vaporizers for atomic spectrometry**

Nicholas Darangwa, Department of Chemistry, Tshwane University of Technology, Pretoria, South Africa

15:00 – 15:15 **Determination of sulphur using molecular absorption of sample vapor in the graphite filter vaporizer**

Gibson Jim, Department of Chemistry and Physics, Tshwane University of Technology, Pretoria, South Africa

15:15 – 15:30 **Compliant analysis of water, wastes and related solid environmental samples using inductively coupled plasma atomic emission and mass spectrometry – a critical comparison of QA / QC requirements of EPA and Standard Method Procedures**

I.B. Brenner, Environmental Analytical Services, Malkha, Jerusalem, Israel

15:30 – 16:00 **Tea Break**

Session IV: Epidemiology and Risk Assessment

16:00 – 16:30 **Assessing the consequences of vanadium mining on cattle and public health and estimating the risks**

Bruce Gummow, Faculty of Veterinary Science, University of Pretoria, Onderstepoort, South Africa

16:30 – 16:50 **The atmospheric impact of Sasol synfuels operations on bordering residential development**

Owen Pretorius, Sasol Synfuels, South Africa

16:50 – 17:10 **Occupational Health risks assessment: central to the management of occupational health**

Dr Casper J. Badenhorst, Group Occupational Hygiene Specialist, Anglo Platinum Limited, Marshalltown, Johannesburg, South Africa

18:30 **Traditional Gala Dinner at Boma**

26th July 2007 – Thursday

06:30 – 15:45 **Optional Visit to Platinum Mine with sponsored lunch (20 delegates only). Book in advance during registration.**

06:30 – 09:45 **Time at leisure: optional game drives; book out of chalets**

Session V: Short Communications and Posters

09:45 – 10:00 **An investigation of the extent of mercury exposure in the vicinity of coal-fired power station in South Africa**

Vathiswa Papu, Medical Research Council, Houghton, South Africa

10:00–10:10 **The public health implications of farming cattle in areas with high background concentrations of vanadium**

Bruce Gummow, Faculty of Veterinary Science, University of Pretoria, Onderstepoort, South Africa

10:10 – 10:20 **Development of ultrasound and microwave accelerated single extraction methods for rapid assessment of metal bioavailability in soils obtained from a CU and NI mineralized area in Botswana**

Kabo Moseitlha, Department of Chemistry, University of Botswana, Gaborone, Botswana

10:20-10:30 **Application of extraction methods for determining DDT and its metabolites in human breast milk**

Tshinanne Mutshatshi, Department of Environmental Sciences, Tshwane University of Technology, South Africa

10:35 – 11:15 **Workshop and Way Forward**

11:15 – 11:30 **Closing Ceremony**