



are hosting the

Physical Beneficiation 2010 Conference

4-6 May 2010

CSIR, PRETORIA

BACKGROUND

Physical beneficiation covers the mineral processing areas of dense medium separation (DMS), gravity concentration, magnetic separation and electrostatic separation. These processes are widely used in the Southern African mining industry.

Dense medium separation (DMS) is critical to the operation of coal and diamond beneficiation plants. It is also utilised in iron ore, manganese, chromite and andalusite beneficiation as well as pre-concentration for PGM-bearing UG2 ore.

Gravity concentration plays an important role in the processing of diamonds, coal, gold, titanium minerals (ilmenite and rutile), zircon, chromite, iron ore and manganese.

Magnetic separation is key to the success of DMS by ensuring efficient recovery and recycle of the dense medium, namely magnetite and ferrosilicon. It features in iron ore recovery circuits and beneficiation of vanadium bearing magnetite. It is an important component in the concentration and separation of ilmenite, rutile and zircon. It is used for removing iron impurities from industrial minerals.

Electrostatic separation is an important component in the concentration and separation of ilmenite, rutile and zircon.

This conference will focus on the operation of DMS, gravity concentration, magnetic separation and electrostatic separation circuits in the Southern African Mining industry. The current status of the technologies and equipment employed will be presented as well as future developments. Operators, equipment and technology suppliers and researchers will participate.

WHO SHOULD ATTEND

The conference should be of value to:

- Plant managers and metallurgists
- Mining company technical personnel
- Equipment suppliers
- Technology development companies
- Industry consultants
- Industry contractors
- Research and academic personnel
- Dense media suppliers

SPONSORSHIP

Sponsorship opportunities are available. Companies wishing to sponsor or exhibit should contact the Conference Co-ordinator.

For further information contact:

Head of Conferencing,
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Second Announcement and Preliminary Programme

PRELIMINARY PROGRAMME

Day 1: Tuesday 4 May 2010

- 08:00–08:50 **Registration and Coffee**
- 08:50–09:00 **Welcome Addresses**
J.C. Ngoma, *President, SAIMM*
- 09:00–09:25 **Keynote Address:**
Johan Engelbrecht, *Multotec*

MAGNETIC SEPARATION

- 09:25–09:50 **Optimising the performance of wet drum magnetic separators**
Marek Dworzanowski, *Anglo American*
- 09:50–10:15 **Overcoming magnetic separator limitations in the mineral processing industry**
Misty Dobbins, Peter Dunn and Ian Sherrell, *Outotec*
- 10:15–10:40 **From dumps to iron ore product: Palabora Mining Company's magnetite beneficiation story**
Fuzi Maseko, *Palabora Mining Company*
- 10:40–11:00 **Mid-morning refreshments**
- 11:00–11:25 **Characterisation of the Slon magnetic separator**
Isabel King, *Mintek*

GRAVITY CONCENTRATION—SPIRALS

- 11:25–11:50 **Spiral circuit modelling**
Carl Bergman, *Mintek*
- 11:50–12:15 **Experiences in the production of metallurgical and chemical grade UG2 chromite concentrates from PGM tailings streams**
N. Dawson, *Xstrata*
- 12:15–13:15 **Lunch**
- 13:15–13:40 **Case study: High capacity spiral concentrators**
P. Ramsaywok, M.K.G. Vermaak, and R. Viljoen, *Exxaro*
- 13:40–14:05 **Spiral concentrator modelling using Qemscan®**
J.D. Grobler, *Exxaro*

GRAVITY CONCENTRATION—JIGGING & HINDERED SETTLING

- 14:05–14:30 **The influence of control and mechanical condition of certain parameters on jigging**
H.A. Myburgh, *Kumba Iron Ore*
- 14:30–14:55 **Precis on ferro alloy recovery from slag using jigs**
Brian Hockly, *All Mineral*
- 14:55–15:15 **Mid-afternoon refreshments**
- 15:15–15:40 **The use of teetered bed separators in South Africa**
Peter Hand and Mark Craddock, *QVA Process Technologies (Pty) Ltd*
- 15:40–16:05 **Teetered bed separator installation at Kleinkopje Colliery**
T.J. Letsapa, *Anglo Coal*
- 16:05–16:10 **End of day summary**
- Cocktail Party:** Hosted by SAIMM
Don't miss this first class opportunity to network with your peers at this prestigious event whilst enjoying refreshments

Day 2: Wednesday 5 May 2010

- 08:00–09:00 **Registration and Coffee**
- 09:00–09:25 **Keynote Address:**
Johan de Korte, *Coaltech*

DENSE MEDIUM SEPARATION—COAL

- 09:25–09:50 **The economic evaluation of the 5 seam plant efficiency at Greenside**
Vicky van Schalkwyk, *Anglo Coal*
- 09:50–10:15 **Efficiency of Wemco drums at the Kleinkopje plant over the past 30 years**
Thamaga Matuludi, *Anglo Coal*
- 10:15–10:40 **Leeuwpan fine coal dense medium plant**
M. Lundt, *Exxaro*
- 10:40–11:00 **Mid-morning refreshments**

DENSE MEDIUM SEPARATION—GENERAL

- 11:00–11:25 **Laboratory density fraction: High density media investigation on a larger scale**
P.A.P. Fouché, J.D. Grobler, R.A. Green, and M.K.G. Vermaak, *Exxaro*
- 11:25–11:50 **Dense medium separation of UG2 ores**
Ashma Singh, *Mintek*
- 11:50–12:15 **Understanding inlet pressure in cyclone operation and process design**
Kurt Petersen, *Metal Dog Minerals*
- 12:15–12:40 **High density washability using the FeSi-cone**
Jan van Schoor, *Kumba Iron Ore*
- 12:40–13:40 **Lunch**

PHYSICAL BENEFICIATION—GENERAL

- 13:40–14:05 **The future of ore sorting in the mineral processing industry**
S. Shamaila and M. Buxton, *Anglo American*
- 14:05–14:30 **Matching coal type and metallurgical circuit**
Ian du Plessis, *Multotec*
- 14:30–14:55 **Dry processing research for Kumba Iron Ore materials**
S. Shamaila and C. Masango, *Anglo American*
- 14:55–15:15 **Mid-afternoon refreshments**
- 15:15–15:40 **Dry processing research for Kumba Iron Ore materials**
S. Shamaila and C. Masango, *Anglo American*
- 15:40–16:05 **Case study: The influence of fines on FGX operation on North Block Complex (NBC) coal seams and optimization**
N. Masilela, W. Hefer, and J. de Korte, *Exxaro*
- 16:05–16:30 **The use of Limn: The flowsheet in the simulation of physical beneficiation circuits**
Peter Hand, *QVA Process Technologies (Pty) Ltd* and David Wiseman, *David Wiseman (Pty) Ltd*
- 16:30–16:55 **New flow measurement technology for physical beneficiation plants**
C. O'Keefe, *Cidra Minerals Processing*
- 16:55–17:00 **Chairman's closing remarks—End of Conference**

REGISTRATION FORM

2 ECSA CPD points will be allocated to all attending delegates

PHYSICAL BENEFICIATION 2010 CONFERENCE

4-6 May 2010 • *No cancellations will be accepted after 26 April 2010*

TITLE AND INITIALS:SURNAME:
PREFERRED NAME:..... (for use on name tag)
COMPANY:
DESIGNATION:
COMPANY VAT REGISTRATION (COMPULSORY—MUST BE COMPLETED)
POSTAL ADDRESS:
..... POSTAL CODE:
TEL: FAX:..... E-MAIL:.....

Please note: Non-members are entitled to free membership of the SAIMM, up to 30 June 2011, for attending this Conference

REGISTRATION FEES: Prepayment is required for all Registration Fees on or before the date of this event. Delegates who have not paid will not be permitted to attend the conference.

SAIMM MEMBER STUDENT COMPANY AFFILIATE MEMBERSHIP No.....
NON-MEMBER

EARLY BIRD REGISTRATION (BEFORE 26 MARCH 2010)

SAIMM MEMBER/AUTHOR/COMPANY AFFILIATE: R8 800.00 NON-MEMBER: R9 700.00 STUDENT / RETIRED MEMBER: R2 700.00

REGISTRATION (AFTER 26 MARCH 2010)

SAIMM MEMBER/AUTHOR/COMPANY AFFILIATE: R9 300.00 NON-MEMBER: R10 200.00 STUDENT / RETIRED MEMBER: R2 700.00

Delegates can attend for one day only

Please indicate which day you will be attending: Tuesday 4 May Wednesday 5 May

SAIMM MEMBER STUDENT COMPANY AFFILIATE MEMBERSHIP No.....
NON-MEMBER

SAIMM MEMBER/AUTHOR/COMPANY AFFILIATE R5 200.00 NON-MEMBER R5 500.00 STUDENT / RETIRED MEMBER R1 890.00

TECHNICAL VISITS—THURSDAY, 6 May 2010 - R500.00

THERE WILL BE SITE VISITS TO: MAFUBE COLLIERY OR THE MULTOTEC FACILITY

PLEASE PROVIDE THE FOLLOWING INFORMATION: BOOT SIZE..... OVERALL SIZE..... IDENTITY No.....
Mobile No.....

I am personally responsible for full payment of these fees in the event that my company does not pay the fees. Contribution to the SAIMM Scholarship Fund R..... This is tax deductible, and tax certificates will be issued (Information for Scholarship Trust on request)

Please find enclosed a cheque/money order for R..... payable to SAIMM OR Please charge the above amount to:

VISA MASTERCARD AMERICAN EXPRESS DINERS CLUB

Account Number:

Expiry Date:/...../..... Last three digits on the back of the card.....

SIGNATURE DATE:

KINDLY NOTE:

If replacements are made delegates are asked to advise the SAIMM Secretariat.
Company Affiliates are allowed to send two non-members at the member rate.
Cheques must be made payable to The Southern African Institute of Mining and Metallurgy.
No telephone bookings will be accepted. No cancellations will be accepted after the closing date.
VAT invoices will be issued to all delegates.
Delegates requiring accommodation must make their own arrangements.
Due to the delay in the postal system it is advisable to fax or e-mail through the registration form before posting.

ENQUIRIES TO:

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Our banking details are:

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