

The Mine Health and Safety Council approved the SIMRAC RESEARCH PROGRAMME for 2003-2004 on 28 March 2003

The cost of the programme is as follows: Continuation projects (contingent upon satisfactory progress) R22 422 million; approved new projects R7 212 million, and provisional new proposals awaiting revisions, R7 580 million.

The following projects were approved:

New Projects

- ✂ 02 02 03b An effective face support system to minimise rockfalls (ext) UP
- ✂ 02 02 12 Database of pillar collapses suitable for statistical analysis (UP)
- ✂ 03 02 01 Technological transfer: Risk assessment tool for rock related issues (CSIR)
- ✂ 02 02 04b An effective face support system to minimise rock falls (Extension) (CSIR)
- ✂ 02 03 06 Investigation of a major seismic rupture (Wits)
- ✂ COL 713 Prevention of spontaneous combustion of coal discards (Grooteegeluk Mine)
- ✂ 03 05 03 Booklet: Locomotive design for the SA mining industry (Ergotech)
- ✂ 03 05 04 Booklet: Rail-bound transport hazard recognition & training (SRK)
- ✂ 03 06 02 Occurrence & impact on health of fungi in ventilation systems (UOVS)
- ✂ 03 06 04 Application of dust control system for thick seams (COL807) (CSIR)
- ✂ 03 08 01b Workshop on dermatitis in SA mining industry
- ✂ 03 08 02 Development of sensitive tools for active case-finding for TB (UP)

- ✂ 03 08 03 Markers for prediction & early detection of Pneumoconiosis (NCOH)
- ✂ 03 08 06 Prevalence of respiratory occupational diseases in the platinum industry (Medunsa)
- ✂ 03 09 01 Establish indicators/evaluate impact of pre-hospital care (AECC)
- ✂ 03 09 02d Web-based mining industry data base for audiograms (RMA)
- ✂ 03 09 04a Cost, appropriate use & effectiveness of PPE inc. footwear (CSIR)

Continuation projects contingent upon satisfactory progress:

- ✂ 02 02 03 An effective face support system to minimise rockbursts (UP)
- ✂ 02 02 04 An effective face support system to minimise rockbursts (CSIR)
- ✂ 02 02 05 Investigation into support systems in SA collieries (CSIR)
- ✂ 02 02 06 Guidelines for the design and testing of Thin Sprayed Linings (CSIR)
- ✂ 02 02 07 Technology transfer of strata control knowledge (CSIR)
- ✂ 02 02 08 The use of tendon support in tabular stopes (CSIR)
- ✂ 02 03 01 Integration of seismicity and numerical modelling (CSIR)
- ✂ 02 03 02 Proactive approaches to rockmass stability and control (ISSI)
- ✂ 02 03 03 Guidelines for safe extraction of remnants (CSIR)
- ✂ 02 03 04 Improved seismic locations and location techniques (UP)
- ✂ 02 03 05 Testing of stope support systems under dynamic loading (SRK)
- ✂ 02 03 07 Calibration of integration-ready models to real seismic data (ISSI)

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IMPORTANT INFORMATION

The newest SIMRAC CD, VOLUME 4 is now available free of charge.

ONLINE: <http://www.SIMRAC.co.za>

click on Reports and on View reports in Thrust areas

ORDER: Phone Noeleen 27 011 358 9180 or email nwoods@simpross.co.za

CALENDAR OF EVENTS

MEETINGS

SIMRAC: 27 May 2002, 19 August 2003

SIMPROSS: 1 August 2003

PROJECT LAUNCHES

July 2003: SIM 02 09 02 'Historical documents'

SIM 02 09 06 Welding CD and Handbook (with SA Welding Institute).

Contact Noeleen Woods Tel: 011 358 9180 or email nwoods@simpross.co.za

Aug 2003:

Health 806 Launch of two of the components "Noise and vibration measurements of drills" and "Handbook on noise and vibration for engineers" with an update seminar on the projects on HAVS follow up and Hearing conservation programmes. Contact Gill Nelson at nelsong@health.gov.za

SIMRAC ENGINEERING NEEDS ANALYSIS WORKSHOP

17 June 2003 Contact Alec Gumbie at 011 358 9186, to attend.

CONFERENCES

30th International Conference of Safety in Mines Research Institutes - 5 - 9 October 2003

at Caesars, Gauteng, Johannesburg. Contact: karen@saimm.co.za

THE 2002 SASOM AWARD was presented to the four editors of the Occupational Health Handbook, Mary Ross, John Johnston, Rodney Ehrlich and Haggis Guild, and to Paul van der Heever, for their contribution to occupational health.

SACMA AWARDS SILVER MEDAL

Dr André Fourie was awarded a silver medal by SACMA at its Annual General Meeting held on 21 February 2003, for SIMRAC Project COL 814 'Guideline on underground coal mine planning and design'.

Below: Duncan Adams and André Fourie



Research Programme 2003 *continued...*

- ✍ 02 04 01 Training package to reduce the risk of gas explosions (Itasca)
- ✍ 02 04 04 Ranging open path remote methane detector (CSIR)
- ✍ 02 05 01 Test modified detaching hooks & need to develop safer hooks (ATD)
- ✍ 02 06 02 Diesel exposure measurement and reduction (Infotox)
- ✍ HEALTH 806 Best practices to prevent adverse effects of Noise & Vibration (CSIR et al)
- ✍ 02 07 03 Vibration: Seating (Stellenbosch University)
- ✍ 02 08 01 Development of Xray reading skills in the mining industry (OMCRU)
- ✍ 02 08 03 Silicosis Programme (UCT)
- ✍ 02 09 03 Handbook of safety practice in South African mines (Fourie & Associates)

Provisional new proposals (awaiting revision)

- ✍ 03 01 01 Safety culture in the SA mining industry (IRCA)
- ✍ 03 01 02 Health & safety culture survey in SA mining industry (SafeMap)
- ✍ 02 02 09 Joint orientations, spacings & lengths
- ✍ 02 02 10 Corrosion on the behaviour of steel fibre reinforced shotcrete
- ✍ 02 02 11 3-D analyses of stress & strain distribution
- ✍ 03 04 01 Detection and control of flammable gases in hard rock mines (CSIR)
- ✍ 03 05 01 Investigate causes of scraper accidents in GAP sector (CSIR)
- ✍ 03 05 02 Booklet: Transport and tramming accidents in trackless vehicles
- ✍ 03 06 01 Control & manage dust in open cast and coal mines (Wits/CSIR)
- ✍ 03 06 03 Silicosis Eradication Programme Ph. 2
- ✍ Health 701 TB prevention RCT (Aurum)
- ✍ 03 08 01a Dermatitis in the SA mining industry (UCT/CSIR)
- ✍ 03 08 04 Bursary
- ✍ 03 08 05 Bursary
- ✍ 03 09 05 Direct and indirect effects of HIV on health and safety review needs

Delayed projects

- ✍ Health 704 (ext.) Real time dust measurement
- ✍ 03 09 03 Compendium on SIMRAC research and evaluate penetration

For more information, please contact the research Manager, Paul van der Heever; Occupational Health programme Manager, Mary Ross; Engineering Programme Manager, Alec Gumbie and Rock Engineering Programme Manager, Duncan Adams at telephone number 27 011 358 9180.

ROCK ENGINEERING PUBLICATIONS

New publications resulting from SIMRAC Projects GAP 607 and GAP 633 were introduced to the SA mining industry on Tuesday, 25 March 2003, in Saxonwold, Johannesburg.

Project GAP 607 investigated practices employed in stoping areas in gold and platinum mines that encounter anomalous ground conditions. Such areas usually require different treatment in terms of support to counter the higher rockfall risk. The project has produced a booklet 'Practices for anomalous geotechnical areas in platinum and gold mines stopes', by Leach, Naidoo, Rangasamy and Spencer – ISBN 1 919853 07 03. The booklet is available free of charge and can be obtained by phoning Noeleen Woods at 011 358 9180.

A previous SIMRAC project produced the *Rock Engineering handbook* which has been extensively and effectively applied in the gold and platinum sectors of the South African mining industry and internationally. The GAP 633 project has produced a companion book in which the *Rock Mechanics* principles applicable to South African gold and platinum mines are set out.

This textbook deals with the fundamentals of rock mechanics and as such will be widely welcomed, particularly by students, teachers and practitioners in rock mechanics and mining engineering.

Free copies of the book were presented to gold and platinum mines that contributed to the project's funding. The book can be bought at R600-00 per copy (\$US100). The price for students is R300-00. Phone Marianne Maccelari 011 358 0119 to order.

Other SIMRAC ISBN publications on aspects of rock engineering are:

Booklets (available free of charge)

- ✂ Stability and support for stope backs in the shallow depth mining of steeply dipping vein/tabular deposits – Johnson, Quaye, Roberts.
- ✂ Guidelines for stope gully stability in platinum and gold mines – Leach, Naidoo, Spencer.
- ✂ Methods of combating mud rushes in diamond and base metal mines – Butcher, Joughin, Stacey.
- ✂ The hydraulic design of coal barrier pillars – Rangasamy, Leach, Cook.
- ✂ Practical rock engineering practice for shallow and opencast mines – Stacey, Swart. (Includes a CD)

Handbooks (available at cost)

- ✂ Rock Engineering for underground coal mines – Van der Merwe, Madden. (Order copies from the SAIMM)
- ✂ Rock Engineering Practice - Editors: Jager, Ryder (Order copies from Marianne Maccelari telephone number 011 358 0119)

A list of all SIMRAC publications and ordering information is available on the SIMRAC Website

www.simrac.co.za

SIMRAC Publications



Attending the launch: Tony Jager, Duncan Adams, John Ryder, Kumesh Naidoo and Güner Gürtunca



South Deep introduces an innovative behavioural safety process

- by Ralph Rossouw

As 75 to 80 percent of all accidents and fatalities are associated with at-risk behavior, changing how people think and react to safety is imperative.

South Deep, a Placer Dome managed gold mine, has introduced a five-year behavioural safety process to eliminate at-risk behaviour. Believing that safety is non-negotiable and a key value on its mines, Placer Dome is committed to implementing this comprehensive, all encompassing process to achieve zero fatalities and accidents. By creating an enabled safety climate that will develop sustainable attitudes, a safety culture will start to emerge. The programme will position it as a top-of-mind activity.

This innovative programme and a first in deep-level mining, is a move away from previous safety methods that have had little impact on reducing accidents. The programme creates risk competence within the entire workforce, instils visible leadership as a value, recognises and rewards safe behaviour and provides a more enabled environment by removing system barriers and negative consequences to safe behaviour.

Australian-based company SafeMap has been appointed to drive the first phase of the programme. Using four integrative training processes simultaneously, a 'top-down bottom-up' approach will be adopted spanning all employees from supervisors and operational crews to the workforce. Throughout the process, progress will be managed, monitored, and performance will be assessed to see that training is being properly implemented and on track. This is the first time that this method has been used in deep-level mining.

South Deep will be focussing on the positive aspects that will be measured by lead and preventive indicators, and by removing system barriers. On-the-spot cash incentives, gifts, tokens and monthly draws using a scratch card (Scratchy) will be awarded to those who are seen to be practising proactive and continuous safety excellence. Supervisors will be able to use this as a means of acknowledging and recognising safe behaviour.

One of the key processes is not just addressing the person, but creating an environment making it easier for people to comply with safety standards.

Whilst the issues of behaviour, attitude, culture and perceptions are addressed, the key objective is to remove barriers and negative consequences to safe behaviour through problem solving, and at the same time change perceptions to positive at-risk behaviour.

For more information contact Koos Oosthuizen, Risk Manager, South Deep Gold Mine Tel: 011 411 1478. Cell: 082 789 8091 Email: koosthui@southdeep.co.za

Elsie Zinsser produces the SIMRAC Newsletter four times per year. Contributions are very welcome. Please contact her by email ezinsser@simpross.co.za telephone 011 358 9188.

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