

Young Professionals 2017—Abstracts Submitted

The impacts of issuing Section 54 on the Staff Morale Impala Platinum

University of Johannesburg

Design considerations for critical coal measurement points: Towards accurate reconciliation for integrated mine planning

University of the Witwatersrand and University of Johannesburg

Establishment of a mathematical law to correlate fleet size vs equipment availability in open pit mine, using curve fitting techniques. (Case study of Mashamba copper deposit in the Democratic Republic of the Congo)

University of Lubumbashi

Rock fall and bench failure hazards at Mamatwan Mine

University of Johannesburg

Comparison of the effectiveness of the roof bolter and drill rig in the installation of long anchors in hard rock mines

Deep Level Gold Mine

The study of the effectiveness of flexi-bolts as a reinforcement system in a deep level gold mine in South Africa, Deep level gold mine

University of Venda

Application of 'project management approach' on a mining stoping section

University of Johannesburg

Accurate measurement of polarization potentials during electrodeposition of nickel metal from sulfate electrolytes

University of Pretoria

Modelling, design and optimisation of the NIMCIX adsorption column (AC)

Mintek

Strategic Mine Planning approach in the process of operational pushbacks determination using Datamine NPVS Scheduler. Case study of the Mashamba- East open pit mine in the Democratic Republic of the Congo

University of Lubumbashi

Fundamental analysis of the aluminium industry

The University of the Witwatersrand

Designing and building a low cost wireless mobile micro sensor for air quality monitoring

The Copperbelt University

The 'Law of the vital few' as Applied to the Status quo of the Mining Industry towards Sustainability

The throughput of Mining Engineering students in the University of Johannesburg (2013 Cohort)

University of Johannesburg

Removal of Nitrates from Plant Process Solution

Namibia University of Science and Technology

Heat Integration of Multipurpose Batch Plants Through the Use of Multiple Heat Storage Vessels

University of the Witwatersrand

Assessing Environmental Impacts Associated with Dimension Stone Industry in South Africa using Remote Sensing and GIS

Mintek

Graduate Unemployment in the Mining Sector - a South African perspective

University of Johannesburg

The application of process mineralogy on tailings samples from a beach placer deposit containing rare earth elements (REE)

Mintek and University of Witwatersrand

Human capital development and talent retention through workplace placement into the foundry network in the B-Tech dispensation

University of Johannesburg

Challenging Status Quo in the Mining Industry to Alleviate Unemployment Rate, Slow Economic Growth And Poverty In Sub-Saharan Region

University of Johannesburg

Mechanisms and kinetics of Se and Te removal from aqueous solutions using ionic liquid

University of Johannesburg

Slate-microwave interactions for processing purposes: A proof of concept

University of Johannesburg

Beneficiation of Zambian Cassiterit

Mintek

Fabrication processes for Aluminium matrix composites for automotive and mineral processing industries: A review

University of Johannesburg

Investigating the stage-gate model as a research and development implementation process in modernising the South African mining industry

University of Pretoria

Identifying cost factors relating to mining incidents

University of Pretoria

Creating a Technology Roadmap to Enhance Operational Risk Strategies in the Mining Value Chain

University of Pretoria

A study to determine the optimal net present value maximizing mining strategy for different price environments and practical considerations for an open pit iron ore mine

University of Pretoria

Investigating the impact of drilling and blasting on the highwall stability at a complex graben structure of mimosa opencast

University of Pretoria

Impact of inaccurate drilling on blasting outcome

University of Pretoria

Optimisation of opencast pillar mining for the secondary extraction of old pillars from previously mined underground bord and pillar operations

University of Pretoria

Impact of mining rate on seismic activity

University of Pretoria

An evaluation of innovative initiatives for improving energy efficiency of trucks and shovel system

University of Pretoria

A trade-off between mechanised machines and conventional drilling and blasting in underground platinum mines, to establish the required machine design criteria

University of Pretoria

The impact of South Africa's 'use it or lose it' principles on the platinum sector

University of Pretoria

South West Precursor Exploration at Finsch Mine

Petra Diamonds Project Geologist

Mintek's Advanced Process Control Toolbox

Mintek

Determining effective pulverizing time that will reduce the sample preparation time for XRF testing of foundry silica sand

University of Johannesburg

Young Professionals 2017—Abstracts Submitted (Continued)

Increasing mine life and making uneconomical projects viable by using Aachen™ Technology

Maelgwyn Mineral Services Africa (Pty) Ltd

Void filling and water sealing in the Kalahari manganese field, Advisian

Worley Parsons Group

Investigation into the Effect of Repeated and Single Particle Impact on Bond Crushability Work Index Measurement

Mintek

Product development of a high chrome white cast iron to yield consistent physical and mechanical properties

University of Johannesburg

Magnetic properties of chromite spinels, originating from various reefs

Mintek

Water reticulation system at Shamva mine (Zimbabwe)

The University of the Witwatersrand

Possible heavy metals transportation and ground erosion during heavy rainfall in the rural Mhangweni (Tzaneen, Limpopo, South Africa)

University of Johannesburg

Improved recovery of Base Metal bearing minerals from UG3

University of Johannesburg

Holistic growth in stakeholder partnership for transferring technology to the South Africa foundry industry

University of Johannesburg

Optimization techniques: A strategy for improving production scheduling of small scale mining projects

University of Johannesburg

Artisanal mining and small scale processing of sandstones in QwaQwa and its possible impacts on climate change and biodiversity

University of Johannesburg

The Role of Legislation and Management Practices in the Coal Mining Industry on the Olifants River Catchment, South Africa

SRK

Risk-related Aspects of the Geotechnical Model which may Hinder Realistic Determination of Slope Stability

SRK

Embracing Digital Technology to Improve Mining Productivity

Why should the mining industry invest in minerals beneficiation?

Platinum stock investment decision making informed through market analysis: a case study of Anglo American Platinum

The University of the Witwatersrand

Metallothermic production of cement extender from manganese waste slags

Mintek

Africa to Africa information sharing

University of Pretoria

Review of Mintek's experience on sorting Witwatersrand ore samples using the Rados XRF sorter

Mintek

The effect of magnesia and alumina crucible wear on the smelting characteristics of titaniferous magnetite

Mintek

A Comparative Study of the Vanadium Recovery from Titaniferous Magnetite Using Salt, Sulphate and Soda Ash Roast-Leach Processes

Mintek

The effect of CaO to MgO ratio on the smelting characteristics of vanadium bearing titaniferous magnetite

Mintek

Laboratory Scale Testwork and Thermochemical Simulation of the Sulphation Roasting of Copper and Cobalt Concentrates

Mintek

Recovery of Vanadium and Titanium from Discard Titaniferous Magnetite Slag Using a Combination of Roast-Leach and Upgraded Slag Processes

Mintek

A predictive mass and energy model for SiMn production in Submerged Arc Furnaces

Mintek

Quality control on the installation of carbon-based cold ramming paste installation

Mintek, Elkem Carbon

Round Robin Standard Composition: HFeMn Reference Material

Mintek

Slag Jewellery: A Waste to Art Concept

Mintek

Multi-stakeholder collaboration to unlock the potential of deep level mining in South Africa and ensure sustainability within the industry

Chamber of Mines

Considering the effect of pulp chemistry during flotation on froth stability

Mintek

Modelling of uranium leach kinetics

Namibia University of Science and Technology

Production of magnetite from a coal effluent

Mintek

African Sedimentary Phosphates Occurrence and Generic Minerals Processing Approach

Mintek

Cobalt recovery from waste dumps

Mintek

Impurities removal and NaOH regeneration by chemical precipitation

Mintek

Fatigue management in the South African mining industry

University of Pretoria

Cyanide destruction of gold cyanidation pulp with significant nickel content

Mintek

Identification of microbial communities in biological sulphate reduction systems for acid mine drainage treatment

Mintek

Effect of adding Ru in the weld metal of 316L austenitic stainless steel on their microstructural and mechanical properties

University of the Witwatersrand African Materials Science and Engineering Network

*This list of abstracts has been submitted for the Young Professionals Conferences 2017. Extended abstracts and papers will still go through the review process before final acceptance on the programme.