Outotec and Western Cape Branch

utotec is seeking to promote sustainable minerals processing in southern Africa. As a company, selling technology, sophisticated equipment, and plant solutions for minerals, metals, and water processing as well as energy recovery, the company also wishes to inspire the abundant young South African talent to innovate. With this in mind, Outotec has committed funds to the Western Cape Branch as a prize and travel grant. They believe this will showcase the importance of expertise in sustainability, an area that Outotec is passionate about, reflected in their mission statement: 'Sustainable use of Earth's natural resources'. Outotec has recognized the value derived from the Western Cape Branch's focus on tertiary education, and asked the Branch to handle these awards.

Prize for 'Sustainability in the Minerals Industry'

This annual prize will be awarded to registered students (not confined to the Western Cape) for papers presented and accompanied by a poster at the Branch's annual conference. To be considered for a prize, an extended abstract and a motivation as to why the author believes his presentation merits the award should be included.

The award will be adjudicated by a panel of judges appointed by the SAIMM, Western Cape Branch, whose decision will be final. For the 2012 event this panel was: Professor Mike Nicol (Curtin University), Richard Beck (SAIMM), and Professor Markus Reuter (Outotec). The finalists were preselected by the SAIMM Western Cape Branch. The main consideration for the prize is the value of the idea (technologically, economically, socially, and environmentally) and its potential to improve sustainability. Credit will be given for the quality, innovation, and excellence of the project, design, or engineering of the idea. Thus contributions can come from students at any level as long as the abstract presentation, and poster clearly present the merit dictated by these criteria.

long as the abstract, presentation, and poster clearly present the merit dictated by these criteria. At the 2012 Conference, two prizes were awarded: 1st R10 000 and 2nd R6 000. In future years depending on the standard of the submissions, a 3rd prize of R4 000 will also be awarded.

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This year's winners were:
1St Prize – Michael Kapembwa (UCT) for 'A study of ice growth mechanisms in electrolyte aqueous solutions', co-authored by M.R. Pascual and A.E. Lewis, also of UCT. *This presentation continues the work of Professor Alison Lewis's group investigating ice crystallization as a technique to separate salts from brines. Ice growth mechanisms are key factors to control size and morphology in industrial processes, enhancing separation, and giving the possibility to avoid ice scaling formation, inclusions, and impurity uptakes.*2nd Prize – Neehal Mooruth (UCT) for 'An overview of the integrated managed passive treatment system for the treatment of acid mine drainage (AMD)', co-authored by R.P. van Hille of UCT. *Passive remediation systems are being investigated to provide sustainable, economical and low-maintenance solutions for AMD. This presentation*

investigated to provide sustainable, economical, and low-maintenance solutions for AMD. This presentation investigates a system; of a biological sulphate reduction unit and a linear flow channel reactor (LFCR). A novel concept of a floating sulphur bio-film is utilized to convert the dissolved sulphides to elemental sulphur in the LFCR.

Outotec Travel Grant

This award is available to postgraduate students at Universities in the Western Cape towards the cost of attending an international conference.

Applicant	Univ	Presentation	Conference
Mohsen Karimi*	Stell.	 Comparison of different drag coefficients in CFD modelling of a laboratory-scale Rushton-turbine flotation tank Quantification of numerical and model uncertainties in the CFD simulation of the gas holdup and flow dynamics in a laboratory-scale Rushton-turbine flotation tank Numerical modelling of air core in hydrocyclones 	9th International Conference on CFD in the Minerals and Process Industries, Melbourne, Australia
Tsepang Khonthu*	UCT	Comparative study of the flotation performance of ores treated in an IsaMill and a ball mill	XXVI International Mineral Processing Congress (IMPC 2012), New Delhi, India
Evan Smuts*	UCT	Methodology for CFD-DEN modelling of particulate suspension rheology	9th International Conference on CFD, Melbourne
Lawrence Bbosa	UCT	Comparing power draw predictions in an experimental-scale tumbling mill using PEPT and DEM	IMPC 2012
Umraan Hendricks	UCT	Investigating barium sulphate precipitation kinetics using digital holographic microscopy	19th International Workshop on Industrial Crystallization (BIWIC 2012), Tianjin, China.
Michael Kapembwa	UCT	Ice growth mechanisms in electrolyte aqueous solutions	BIWIC 2012
Noko Ngoepe	UCT	Tracking the motion of particle-bubble aggregates in flotation using PEPT	IMPC 2012
Faustine Ngoroma	UCT	The effect of frother blends on the performance of selected PGM-bearing ores	IMPC 2012
Mehdi Safari	UCT	Effect of two-phase system parameters on the air bubble size in column flotation	IMPC 2012

*R25 000 was awarded to Mohsen Karimi, R20 000 was awarded to Tsepang Khonthu and R10 000 was awarded to Evan Smuts



This year nine applications were received. The official award of the travel prize to IMPC took place at Outotec's stand at the congress on Monday 24th September 2012. The SAIMM are very grateful to Outotec for their support of the Western Cape Branch.

From left: CEO of Outotec India, Professor Cyril O'Connor (UCT), Dr Pradip (Chairman of Organizing Committee of the XXVI IMPC) , Tsepang Khonthu, Professor Kari Heiskanen from Aalto University in Helsinki and consultant to Outotec, and Jenny Weise (UCT).

J. Petersen **Branch** Chairman

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