



Julius Kruttschnitt
Mineral Research Centre

[<<back to News Archive](#)

Research venture to boost platinum production

South Africa's requirements for higher platinum group metal production could be met due to significant support from a joint research venture announced between The University of Queensland's Julius Kruttschnitt Mineral Research Centre and the University of Cape Town.

Given the recent announcement by the Russian Government to 'lock up' their palladium resources, attention has turned to South Africa, the next largest supplier of palladium, to supply the world's needs for platinum group metals. Platinum producers such as the Anglo American Platinum Corporation Ltd (Amplats) expect demand to outstrip supply unless technology is brought into line within the next few years to increase mineral recovery rates and speed up processing.



University of Cape Town mineral processing engineer Dr Dee Bradshaw, left, takes a closer look at JKFrothCam with the system's developer Dr Khoi Nguyen during a recent technical visit to the JKMRC's headquarters in Brisbane.

A critical phase in processing platinum ore is through flotation, which is the process of separating the mineral from rock by floating the desired particles to the surface of large tanks, then 'skimmed' off the top and further processed.

First developed in Australia during the early 1900s, the flotation process has become the preferred method for processing platinum and gold in South Africa, and has attracted considerable R & D support from South African mining houses looking to further refine flotation technology.

Through a memorandum of understanding, a research venture to integrate JKMRC's commercial image analysis system 'JKFrothCam' with UCT's prototype machine vision system 'SmartFroth' will provide mineral processors with the world's most powerful tool for flotation plant control.

"The work being done by the JKMRC and UCT in this area couldn't be better timed," Amplats' Manager of Research and Development Mr Martin Wright said.

At a time when Amplats is committed to major growth, such as the recently announced Maandagshoek project which represents an investment of R1,35 billion, Mr Wright said the need to maximise metal recoveries from existing operations has never been greater.

"SmartFroth must represent a major opportunity in this regard, and we whole-heartedly endorse the alliance between UCT and JKMRC for the next stage of the venture."

He said an improvement of one per cent in recovery across the board would yield 20,000 additional platinum ounces annually, representing additional revenue from all metals of R15 million.

The JKMRC, through its commercial division JKTech, will drive the commercial development of the new system, while drawing on research support from South Africa's leading flotation experts, including Professor Cyril O'Connor from UCT's Department of Chemical Engineering, and Professor Gerhard De Jager from UCT's Department of Electrical Engineering.

UCT Mineral Processing Research Unit spokesperson Dr Dee Bradshaw said that while the platinum group metal industry was doing well at the moment, PGM processing remained highly complex.

"For that reason we are addressing increasingly important technical challenges in froth flotation with Australia's JKMRC, who are acknowledged as world leaders in this field," Dr Bradshaw said during a technical visit to Brisbane.

Contacts:

- Professor Tim Napier-Munn, Director, JKMRC: +61 7 3365 5806 (Brisbane) Email: t.napier-munn@mailbox.uq.edu.au
- Mr David Goeldner, Media Liaison, JKMRC: +61 7 3365 5848 Mobile: 0416164243 (Brisbane) Email: d.goeldner@mailbox.uq.edu.au
- Mr Martin Wright, Manager Research and Development, Amplats: +27 11 8719896 (Johannesburg) Email: mwright@amplats.co.za
- Professor Cyril O'Connor, Head of Department, UCT Chemical Engineering: + 27 21 6502701 (Cape Town) Email ctoc@chemeng.uct.ac.za

Released: 14 March 2000