



**SOUTH AFRICAN
COUNCIL FOR AUTOMATION
AND CONTROL**



SAIMM
THE SOUTHERN AFRICAN INSTITUTE
OF MINING AND METALLURGY

Topic:**Advanced Process Control for MMM – Control and Optimize Using Models and Data****Date: 9 March 2022**

Time: 14:00-15:30 | Online via Zoom

About the Webinar

Advanced Process Control (APC) and in particular Model Predictive Control (MPC) has been a very successful technology for real time control and optimization in the oil refining and petrochemical industries since the mid-80s. The uptake of MPC in the minerals field has been slower but is increasing. The technology has found application in milling, flotation, evaporation and crystallization, boilers, leaching and thickening. The webinar will describe the use of linear dynamic models in MPC. A flotation case study will be given, where the benefits of implementation were in the \$1M (Australian) region.

Speakers:**Dr Kevin Brooks***Director, APC Smart*

Visiting Adjunct Professor, School of Chemical and Metallurgical Engineering,
University of the Witwatersrand, Johannesburg, South Africa

Bio:

Kevin obtained his B.Sc (Chemical Engineering) in 1980 and his Ph.D. in 1986, both from the University of the Witwatersrand (Wits) in Johannesburg, South Africa. He was a lecturer at Wits until 1990, where his area of research was spontaneous combustion of coal. On leaving academia he joined AECI where he worked on the scale-up of gasifiers for an ammonia plant.

He joined Honeywell Hi-Spec Solutions in 1995 and was involved in dynamic simulation and advanced process control (APC) and optimization. He undertook projects in both South Africa and Europe in the oil refining, hydrometallurgy and pulp and paper fields. In 2007 he was appointed Global APC discipline lead for Honeywell.

In September 2007 Kevin joined BluESP. He has performed projects in ethylene, as well as fuel gas optimization. More recently he has been working with various mining houses on the control and optimization of hydro and pyro-metallurgical processes. In 2021 Kevin formed his own consultancy to pursue his vision for MPC in MMM.

Kevin has been involved in the South African Council for Automation and Control (SACAC) since 2007, as was president of the body between 2013 and 2014 when SACAC hosted the International Federation of Automatic Control's world congress in Cape Town. Kevin has over 25 publications and was appointed Visiting Adjunct Professor at Wits in July 2019.

**Loutjie Coetzee***Head: Instruments, Pr. Eng, PhD (Eng)
Measurement & Control Division*

Mintek

Bio:

Loutjie Coetzee obtained his B.Eng (Electronic Engineering) in 2003 and his Ph.D. on Robust Nonlinear Model Predictive Control of a Closed Milling Circuit in 2009 from the University of Pretoria.

He started working at Mintek in 2008 with the main purpose to develop the Robust Nonlinear Model Predictive Controller (RNMP) into an industrial applicable controller and commercializing it. The RNMP has been successfully commercialized in the minerals processing space on milling circuits, thickeners, DMS, Leaching, and even on an underground mine cooling system. The systems are installed in many countries worldwide, from Australia, the USA to Chile, Mexico, and Sweden to name a few.

Loutjie has been involved in the South African Council of Automation and Control (SACAC) as part of Mintek since 2008 and more recently started serving on the executive committee of SACAC. He is currently serving as the vice president of SACAC.

FOR FURTHER INFORMATION, CONTACT:

Camielah Jardine: Head of Conferencing | E-mail: camielah@saimm.co.za | Tel: +27 11 538-0241 | Web: www.saimm.co.za