

Volume: 17 | September 2026

NEWSLETTER

SACAC members are organisations, e.g., universities, engineering societies, corporate bodies or companies interested in research, development and applications of automation technology.

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Engineers rely on visual information every day, yet much of it remains unmeasured and underutilised. This edition’s feature article explores how machine vision is transforming visual observations into valuable engineering insights through computer vision, image processing and artificial intelligence. Drawing on the recent SACAC Machine Vision Workshop, Zander Oosthuizen, a PhD candidate in Chemical Engineering at Stellenbosch University, shares how accessible tools and pretrained models such as YOLO are making real-time object detection and image analysis practical for engineers. His reflections highlight the growing potential of machine vision to advance robotics, automation, quality control and process monitoring, offering a glimpse into a future where engineers are teaching computers to see as they do.

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President's address



The South African Council for Automation and Control is guided by its goal of promoting the science and practice of automation and control for the benefit and economic prosperity of the people of South Africa. The year began with our Annual General Meeting, during which we reflected on how best to realise this goal in 2026.

The meeting agreed that while the number of online activities—including guest lectures, workshops, and symposia—is commendable, it is equally important to strengthen networks through personal interaction. The new Executive Committee therefore looks forward to creating additional opportunities to build stronger working relationships through in-person events.

We are also pleased to introduce several new members of the Executive Committee elected at the AGM. Lebohang Mokhele (Rand Water) and Ronaldo Pestana (Opti-Num Solutions) are serving on the SACAC ExCo for the first time, while Daniel Rabopape (Valterra Platinum) returns to the ExCo after a period away. We also welcome Marcelle Saffy (Mintek) in her new role as Vice-President. We thank all new and returning members for their willingness to dedicate their time and energy to serving the automation and control community.

SACAC remains in a strong financial position. The investment fund supported conference attendance at IFAC MMM2025 and SIMS2025. The fund nevertheless grew from R3.8 million to just under R4.1 million. The fund will again be utilised in 2026 to support member participation at conferences and IFAC Council meetings, including the IFAC World Congress in Busan, Republic of Korea, in August.

Corporate and institutional membership fees were increased by 5% to R7 760 and R4 610, respectively. The alternate membership model was also discussed: this option enables member organisations to send up to three delegates to SACAC workshops or events free of charge. An increasing number

of organisations have adopted this model (three corporate and two institutional members), reflecting the value placed on SACAC activities. The alternate corporate and institutional membership fees of R17 850 and R9 660, respectively, were also approved.

The AGM concluded with a guest lecture presented by Prof Frank Zhu, Distinguished Professor at the School of Chemical and Metallurgical Engineering, University of the Witwatersrand, and author of *Digitalization and Analytics for Smart Plant Performance* (2021).

It is also a pleasure to report on several SACAC events in 2026, beginning with an IFAC Distinguished Lecturer visit by Prof Mustafa Khammash (ETH Zürich), who delivered a series of guest lectures around South Africa (see p 6). We have already hosted four guest lectures (p 4-5), as well as a hybrid workshop presented by Prof Callen Fisher on Applied Machine Vision (p 3).

There is much to look forward to in the second half of the year, including another IFAC Distinguished Lecturer visit in September by Prof Kirsten Morris (University of Waterloo), an in-person two-day Observer Design workshop facilitated by Prof Derik le Roux (University of Pretoria) and Prof Denis Dochain (UCLouvain) in October, and of course the IFAC World Congress 2026, the premier event of the international automation and control community, which was held in August and will be reported on in a future newsletter.

It is a privilege to be part of such an active community, and I am grateful to every member who continues to contribute in meaningful ways.

Best wishes,

Tobi Louw
SACAC President

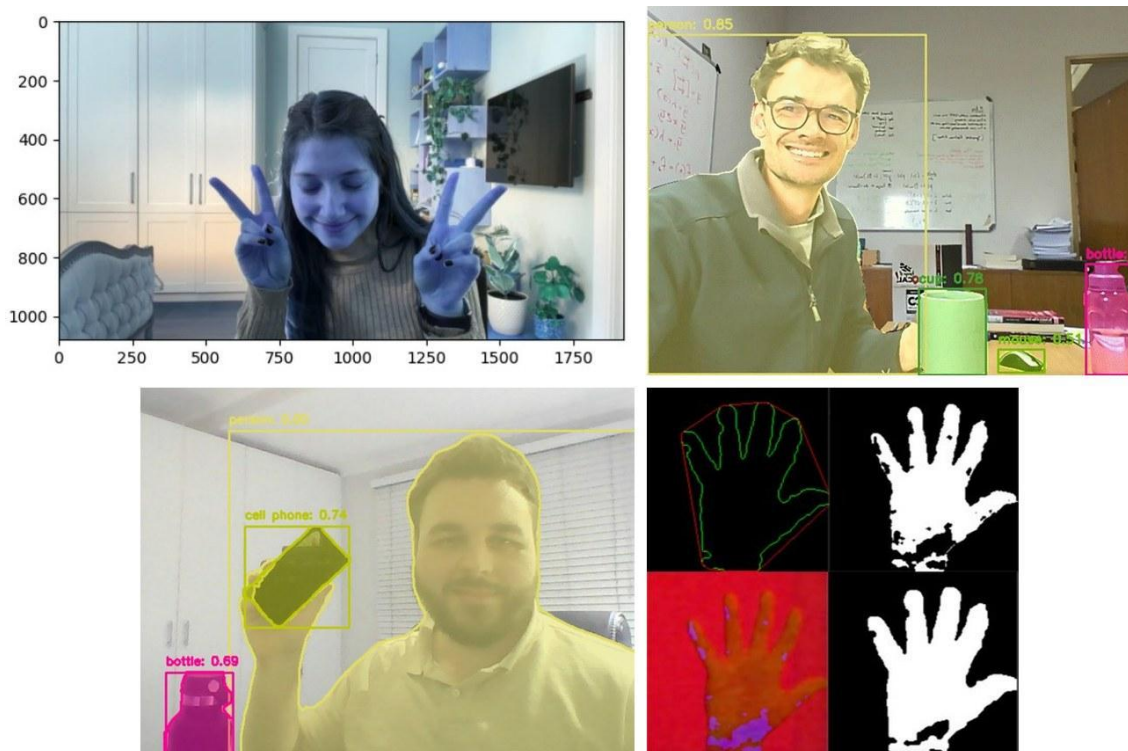
ORGANISATIONAL STRUCTURE

The SACAC Executive Committee

NAME	AFFILIATION	NAME	AFFILIATION
Tobi Louw	Stellenbosch University	Derik le Roux	University of Pretoria
Marcelle Saffy	Mintek	Antony Higginson	University of the Witwatersrand
Laurentz Olivier	Analyte	Johan Venter	University of Johannesburg
Daniel Rabopape	Valterra platinum	Carl Kriger	Cape Peninsula University of Technology
Lebohang Mokhele	Rand Water	John Burchell	Sibanye-Stillwater
Lidia Auret	Stone Three	Kevin Brooks	APCSmart
Ronaldo Pestana	Opti-Num solutions	Loutjie Coetzee	Draslovka
Arnold Pretorius	University of Cape Town	Ian Craig	University of Pretoria
Syamala Krishnannair	University of Zululand		

Applied Machine Vision

By Zander Oosthuizen



Output from the Applied Machine Vision workshop: live object detection with YOLO, hand-gesture recognition and colour-based segmentation.

As chemical engineers we are surrounded by visual information such as a gauge reading, colour change in a stream or the behaviour of a flame. This kind of information is routinely interpreted by experienced operators and engineers, yet very little of it is formally captured or used in any systematic way. Machine vision offers a route to change that, and the SACAC Applied Machine Vision workshop was an excellent introduction to the various techniques and concepts involved in machine vision.

The workshop was well paced, building from the basics of how cameras work and how images are processed, through to implementing code that could detect and track objects through a live camera feed. What stood out was how quickly things became practical. Within the session we had functional code that could recognise objects in real time, respond to hand gestures, and outline and identify multiple items in a scene simultaneously. The workshop and examples of machine vision implementation was set in the context of applications for robotics. This provided an intuitive understanding as a case study of when and how one might want to implement these techniques for tasks such as object detection, sorting on a production line or navigating an autonomous vehicle.

The workshop also touched on the role of machine learning in machine vision, demonstrating how pretrained models can be applied without requiring deep expertise in the underlying algorithms. We were introduced to YOLO (You Only Look Once), a widely used real-time object detection model, and were able to get it running and detecting objects through a live camera feed within the session. This was a particularly interesting part of the workshop as it illustrated how much is possible while utilizing existing tools and how one does not necessarily need to train a model from scratch to start drawing meaningful inferences from a camera.

Overall, this workshop provided an excellent point of departure for anyone new to machine vision. It opened the door to the wealth of visual information that surrounds us daily yet remains largely untapped by traditional instrumentation and made it clear that the tools to start extracting that information are well within reach. How far one takes it from there is limited only by the creativity of the engineer.

Zander Oosthuizen
PhD candidate
Chemical Engineering, Stellenbosch University

SACAC continue to serve at the highest level in IFAC

By Derik le Roux



Picture: Derik le Roux (right) is in front of the St Stephen's Cathedral in Vienna alongside the IFAC Treasurer, Silvia Mastellone (middle), and the current IFAC Secretary, Dimitri Peaucelle (left).

SACAC EVENTS

Guest lectures online

The monthly SACAC guest lectures continue to serve as a healthy platform for academics and industry members to share new developments and best practice in the field of automation and control. We've hosted seven guest lecturers so far, with an average of ~40 attendees across our membership. Topics ranged from a couple of perspectives on digital twins, to project benefit estimation and reflections on a career on process control.

Past guest lectures



Instrument data acquisition, control, analysis and visualisation systems at the Necs Neutron Diffraction Facility

By Deon Marais (30 January 2026)

Deon presented the data acquisition, control and visualisation systems used at the Necs Neutron Diffraction Facility (NDIFF) on the SAFARI-1 research reactor. He described the facility's control architecture, centred on the SINC Instrument Control System (SICS) and an event-mode histogram server, and explained how instrument motion, sample environments and detector systems were integrated into a unified automation framework. The talk also highlighted the GumTree and ScanManipulator software environments and concluded with an overview of the planned Neutron Beam Line Centre, outlining opportunities for scalable control and automation in future scientific infrastructure.



Bridging the gap between digital twins and current engineering practice

By Alex Schulze-Hulbe (13 March 2026)

In his talk on digital twins in the process industries, Alexander examined the gap between theoretical expectations and real-world industrial implementation. He developed a practice-informed definition of digital twins grounded in literature and practitioner input, and used this to identify the enabling technologies and their roles within industrial systems. The presentation concluded with a set of criteria for designing robust and sustainable digital twins that align with engineering constraints and operational realities.



Beyond The PID Loop: My Real-World Journey of Advanced Control and AI in Industrial Automation

By Charles Blackbeard (10 April 2026)

Industrial automation is ever evolving, but industry is not always quick to follow: Charles examined why the adoption of advanced control technologies beyond traditional PID control has remained limited in energy-related industries. He explored the historical, technical and organisational factors contributing to this slow uptake, and showed how these factors have influenced the growing market for AI-driven automation solutions. The talk concluded with practical considerations for communicating value, reducing perceived risk and positioning AI-enabled automation as a credible and effective approach to industrial improvement.



Benefit Estimates and Benefit Audits – The Same or Different

By Kevin Brooks (8 May 2026)

Kevin examined the role of benefit estimation and auditing in process control projects. He presented a method for estimating benefits using historical data and straightforward statistical arguments, and discussed approaches to benefit auditing based on both statistical measures and before-and-after performance comparisons. Particular attention was given to data selection, statistical testing, changing economic conditions and the impact of confounding factors on benefit assessments.



Digital twin for complex processes: smart water and wastewater treatment works as examples

By Lijun Zhang (12 June 2026)

A Cognitive Digital Twin (CDT) methodology for managing complex industrial and infrastructure processes, using smart

water and wastewater treatment works, was the focus of Lijun's talk. He demonstrated how physics-informed models, forecasting, predictive control and agentic AI could be integrated to monitor, predict and optimise plant performance. The talk also showed how large language model-based assistants could support operators through natural-language scenario analysis and verification, providing a pathway towards trustworthy autonomous operation.



Modelling, state estimation and control concepts in pharmaceutical drug product development

By Jonathan Meyer (7 August 2026)

Jonathon discussed pharmaceutical drug product development, which involves complex particulate and multiphase processes. This presentation demonstrated how first-principles modelling can improve process understanding and accelerate development through simulation and virtual experimentation. Case studies included pharmaceutical mixing, model predictive control, and moisture estimation using an extended Kalman filter soft sensor.

SACAC EVENTS

10th Girls in Control Workshop

Zululand Region (7 May 2026)

The 10th Girls in Control (GIC) Workshop for the Zululand Region was successfully held on 7 May 2026 at the UNIZULU Science Centre.



Grade 9 learners from Bhakeshowe High School at the 10th Girls in Control workshop, UNIZULU Science Centre.

The workshop engaged 30 Grade 9 girls from Bhakeshowe High School and aimed to inspire them to explore opportunities in Science, Technology, Engineering, and Mathematics (STEM), with a particular focus on Control Engineering.

The programme introduced learners to feedback control systems through practical examples, followed by an interactive Scratch coding session presented in isiZulu to enhance accessibility and understanding. Participants were also inspired by motivational talks from Ms Aisha Khan (Fives Group Richards Bay) and Mrs Sethabile Madolo (Anglo American), who shared their career journeys and encouraged the learners to pursue STEM-related careers.

The workshop concluded with a science exhibition, mathematics challenges, and a hands-on robotics session, providing learners with their first meaningful exposure to STEM and Control Engineering concepts.

The success of the workshop was made possible through the generous support of SACAC and IFAC, together with the logistical and technical support provided by the University of Zululand. The event served as an important platform for motivating and empowering the next generation of young women in STEM



Prof Mustafa Khammash

Professor of Control Theory and Systems Biology
in the Department of Biosystems Science and Engineering at ETH Zürich

SACAC had the pleasure of hosting Mustafa Khammash in February 2026. Prof Khammash visited South Africa in his capacity as an IFAC Distinguished Lecturer.



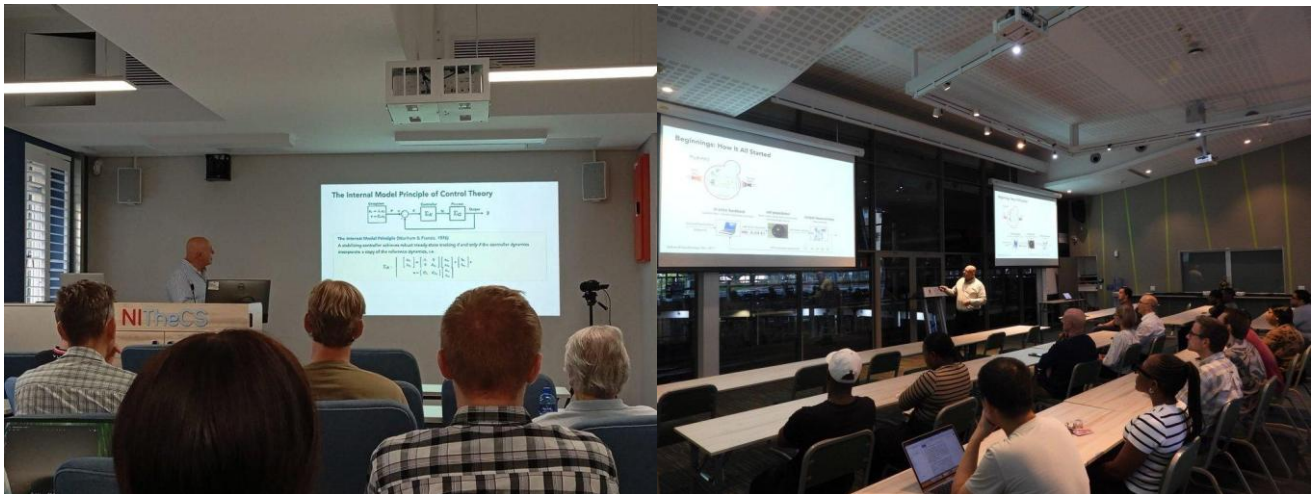
Prof Mustafa Khammash (ETH Zürich) during his IFAC Distinguished Lecturer visit to South Africa.

During his visit, Prof Khammash delivered a series of three lectures across the University of Pretoria, Stellenbosch University, and the University of Cape Town. The first lecture, "Opto-Cybergenetics for Bioreactor Optimisation: Feedback Control of Cellular Function with Light", introduced optogenetic

control strategies for implementing feedback regulation in living cells, with applications to improving and optimising bioreactor performance through light-mediated inputs. The second, "The Mathematics of Life's Robustness: Internal Models and Perfect Adaptation in Biological Control", explored how biological systems achieve robustness and perfect adaptation through feedback principles that mirror classical control-theoretic internal models. The third, "Cybergenetics: From Theory to Therapy", provided an overview of cybergenetic control frameworks and their potential to bridge synthetic biology with therapeutic applications, including real-time regulation of cellular behaviour.

Across all three presentations, a central theme was the use of feedback control concepts to regulate and understand living systems, demonstrating how tools from control theory can be translated into synthetic biology to enable programmable and responsive cellular behaviour.

We are grateful for the funding provided by the IFAC Distinguished Lecturer programme, as well as our co-hosts, the National Institute for Theoretical and Computational Sciences (NITheCS) and the University of Cape Town Centre for Bioprocess Engineering Research (CeBER), for making this visit possible.



Lectures at the University of Pretoria and Stellenbosch University, co-hosted with NITheCS and the UCT Centre for Bioprocess Engineering Research.

Introduction to FPSOs and the Role of Model Predictive Control

By Kevin Brooks

Floating Production Storage and Offloading (FPSO) facilities are among the most complex offshore process plants, operating under constantly changing conditions and tight operational constraints. This article explores how Model Predictive Control (MPC) helps maximise production, improve safety and optimise performance by intelligently managing multiple interacting process variables.

Floating Production Storage and Offloading (FPSO) units are offshore facilities used for the processing, storage, and export of hydrocarbons produced from subsea reservoirs (**Figure 1**). They are typically deployed in deepwater or remote locations where fixed infrastructure is economically or technically unfeasible. An FPSO integrates multiple process systems, including separation, gas compression, dehydration, stabilisation, and utilities (**Figure 2**), within a constrained topsides footprint while operating under continuously varying conditions driven by reservoir dynamics, well interactions, and marine motion. It is estimated that there are 180 FPSOs operating worldwide, with 40 off West Africa alone.

Unlike onshore plants, FPSOs must handle significant disturbances such as slugging flow, fluctuating gas-oil ratios (GOR), changing reservoir pressures, and operational constraints linked to safety, flaring limits, and power availability. Additionally, process units are tightly coupled; for example, separator performance directly affects compression load, while compression constraints can propagate upstream and limit production throughput. These characteristics make FPSO operation inherently multivariable and constraint-driven—well suited to advanced control strategies.

Model Predictive Control (MPC) is particularly effective in this environment due to its ability to manage multiple interacting variables while explicitly handling constraints. MPC uses a dynamic process model to predict future system behavior over a defined horizon and computes optimal control actions by

solving a constrained optimization problem at each control interval. Possibly for commercial reasons, there is little literature that discusses industrial MPC applications on FPSOs.

Key Benefits of MPC on FPSOs

- **Maximise throughput:** Operate closer to separator, compressor, and export constraints.
- **Constraint Management/Safety:** Enforce pressure, level, temperature, and flare limits.
- **Disturbance Rejection:** Anticipate slugging and GOR changes.
- **Reduced Flaring and Energy Optimization:** Improve gas handling and efficiency, and reduce carbon footprint
- **Multivariable Coordination:** Manage interactions across units.
- **Improved Product Quality Control:** Maintain export specifications.

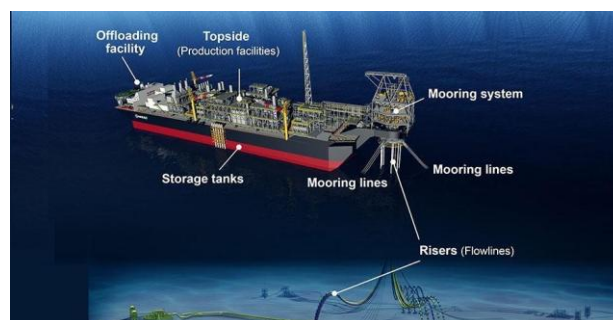


Figure 1 – Hydrocarbons produced from subsea reservoirs

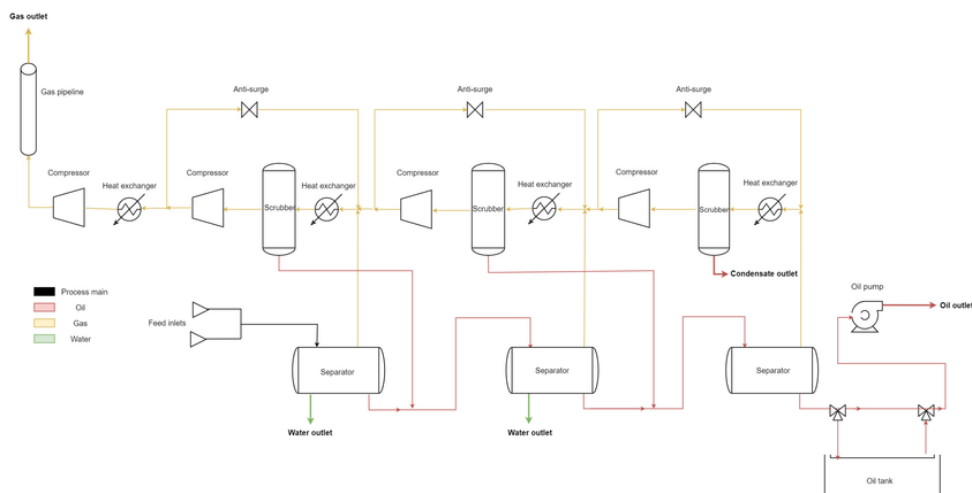


Figure 2 – Floating Production Storage and Offloading (FPSO) units

A workshop on Observer Design for Dynamic Systems



SOUTH AFRICAN
COUNCIL FOR AUTOMATION
AND CONTROL

2-DAY HANDS-ON WORKSHOP

OBSERVER DESIGN FOR DYNAMIC SYSTEMS



12–13 OCTOBER 2026



UNIVERSITY OF PRETORIA
Engineering Building 1:
Exhibition Space



15–16 OCTOBER 2026



STELLENBOSCH UNIVERSITY
General Engineering Building:
Short Course Seminar Room

Join Prof Denis Dochain (Université catholique de Louvain, Belgium) and Prof Derik le Roux (University of Pretoria) for a two-day intensive workshop on **Observer Design for Dynamic Systems**, presented at the University of Pretoria (12–13 October) and Stellenbosch University (15–16 October) respectively.

Designed for engineers, researchers, postgraduate students, and control practitioners from both industry and academia, the workshop will provide a practical and rigorous introduction to observability, observer design, Kalman filtering, nonlinear estimation, disturbance observers for offset-free model predictive control, and advanced topics in parameter and state estimation.

Through a combination of lectures and MATLAB/Simulink simulation exercises, participants will gain valuable insight into modern estimation techniques used in process, chemical, mechanical, and industrial control systems. Don't miss out on this opportunity to learn from Prof Dochain, who is an internationally acclaimed researcher in the field of observer design! For further information, contact the SACAC Secretariat.

Enquiries and registration: secretariat@sacac.org.za · [Registration: Pretoria](#) · [Registration: Stellenbosch](#)



Venues and dates

University of Pretoria, 12–13 October 2026 — Engineering Building 1, Exhibition Space

Stellenbosch University, 15–16 October 2026 — General Engineering Building, Short Course Seminar Room

The programme for the event will be distributed before 15 September 2026.

Registration

Student **R2 000**

SACAC member **R5 000**

Non-member **R6 000**

The workshop is generously supported by the International Federation of Automatic Control through its Activity Fund Committee.

AI-Based Learning Methods for Automatic Tuning of MIMO PID Controllers

By Jonathan van Niekerk, Derik le Roux, Ian Craig

Proportional–integral–derivative (PID) controllers remain the most widely used control strategy in industrial process plants, regulating variables such as temperature, pressure, flow, and composition. However, tuning PID controllers—especially for multi-input multi-output (MIMO) systems—remains challenging. Many industrial loops are poorly tuned or run in manual mode, leading to reduced performance and efficiency.

Recent research by Jonathan van Niekerk reviews how artificial intelligence methods can be used to automate the tuning of fixed-parameter MIMO PID controllers. Rather than replacing classical control, AI acts as a temporary supervisory auto-tuner that optimises controller parameters in vector (such as controller gain and integral time constant) based on an objective function J_{yp} and then disconnects, leaving the tuned PID controller operating in the plant. Robust stability analysis is used to ensure the tuning is safe in the sense that only PID parameters are chosen which result in stable closed-loop operation. The generalized framework is depicted in **Fig.1**.

The research was recently published in Control Engineering Practice. [10.1016/j.conengprac.2026.106847]

Jonathan van Niekerk is a Technical Director in the Industrial Power and Automation division at Zutari and is a PhD student at the University of Pretoria under the supervision of Prof Ian Craig and Prof Derik le Roux.

AI Methods for PID Autotuning

AI-based autotuning methods can be broadly grouped into computational intelligence (nature-inspired optimisation algorithms) and machine learning methods. The review compares three representative approaches widely studied in the literature: Particle Swarm Optimisation (PSO), Proximal Policy Optimisation (PPO), and Bayesian Optimisation (BO). These methods differ primarily in how they search for optimal PID parameters and use process data. PSO is a population-based optimisation technique where candidate solutions iteratively improve by sharing information, making it simple and fast, but sometimes prone to convergence to local optima. PPO, a reinforcement learning method, learns a tuning policy by interacting with the process and optimising a performance-based reward.

This allows it to handle nonlinear and complex systems effectively, although it typically requires more data and careful design of the reward function. BO, in contrast, builds a probabilistic model of controller performance and uses it to select informative tuning experiments. This makes it highly data-efficient and particularly suitable for industrial applications where experiments are costly or time-consuming. While computational complexity can increase with data, BO generally provides a strong balance between performance and practicality, outperforming the other methods in terms of efficiency and robustness in the reviewed study.

Key Findings

All three AI-based approaches - PSO, PPO, and BO - were successfully applied to tune fixed-parameter MIMO PID controllers for a nonlinear grinding mill circuit, demonstrating their capability to improve closed-loop performance in challenging industrial systems. The results confirm that AI can be implemented at a supervisory level without modifying the underlying PID control structure, enabling straightforward integration into existing plant control systems. Among the methods, BO achieved the best overall performance due to its efficient use of data, converging to high-quality controller parameters with fewer evaluations.

While PSO provided fast convergence and PPO showed strong performance in nonlinear settings, both required more iterations to reach similar results. This highlights data efficiency and safe exploration as key considerations for industrial deployment.

Implications for Industry

The study highlights a practical approach to improving control performance in existing plants by using AI as a supervisory autotuning layer for PID controllers. This enables optimisation of controller parameters while retaining the robustness, transparency, and widespread use of PID control in distributed control systems (DCS) and programmable logic controllers (PLCs). The approach is particularly attractive in industries such as mining, energy, and chemical processing, where minimising risk and downtime is essential.

Data efficiency is a key factor for adoption, as methods requiring fewer plant experiments reduce disruption and operational risk. In this context, BO is especially well suited. Overall, the work demonstrates that combining modern AI techniques with established control practices provides a practical route to improved industrial performance without compromising reliability or maintainability.

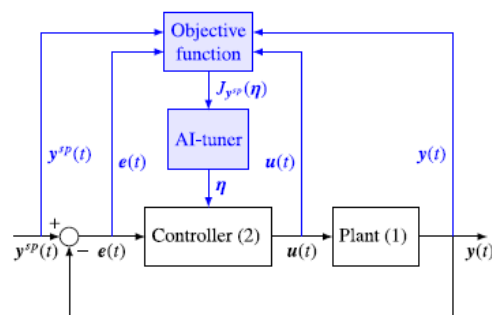


Figure 1 - PID controller framework

The comparison is summarized in **Table 1** below.

Method	AI Category	Key Idea	Advantages	Limitations
Particle Swarm Optimisation (PSO)	Nature-inspired optimisation	Population of candidate solutions explores parameter space	Simple implementation and fast convergence	May converge to local optima
Proximal Policy Optimisation (PPO)	Reinforcement learning	Agent learns tuning policy through interaction with process	Handles nonlinear and complex systems	Requires training data and reward design
Bayesian Optimisation (BO)	Probabilistic machine learning	Gaussian-process model predicts performance and guides experiments	Highly data-efficient for expensive experiments	Computational complexity grows with data

Table 1: Conceptual comparison of AI optimisation strategies for controller tuning.

Reference

Van Niekerk, J.A., le Roux, J.D., & Craig, I.K. (2026). Artificial intelligence based learning methods for the automatic tuning of fixed-parameter MIMO PID controllers for industrial applications: A review and comparison. Control Engineering Practice, 170, 106847. <https://doi.org/10.1016/j.conengprac.2026.106847>

TC SPOTLIGHT

Spotlight on IFAC TC 9.4: Control Education

By Antonio Visioli, Jose Luis Guzman Sanchez, Damiano Varagnola

IFAC Technical Committee 9.4 on Control Education is the IFAC community devoted to develop, share, test, and discuss ideas and methodologies about how control engineering is taught, learned, shared, and promoted. Its scope is deliberately broad: from introductory control courses and laboratory activities to advanced and multidisciplinary education, online and remote learning, industrial needs, assessment practices, and the societal role of control. In this sense, TC9.4 is not only about “teaching control better”, but also about making control more accessible, visible, and meaningful to students, colleagues, industry, and society.

A central activity of TC9.4 is to provide meeting points for the control-education community. The IFAC Symposium on Advances in Control Education, held every three years, is the main dedicated forum where researchers and practitioners exchange new ideas, teaching experiences, learning technologies, laboratory concepts, and evidence-based educational approaches. TC9.4 also supports discussions and initiatives around internet-based control education, virtual and remote laboratories, open educational resources, and the evolving role of digital tools in engineering education.

Looking ahead, several themes are becoming particularly important. One is the development of small, reusable “microlabs”: compact experimental or simulation-based activities that allow students to experience modelling, feedback, uncertainty, implementation constraints, and debugging in a hands-on way. Another is learning analytics: using data from quizzes, exercises, laboratories, and online platforms to understand where students struggle, to improve

teaching practices, and to support more timely feedback. At the same time, the rapid emergence of Artificial Intelligence is reshaping engineering education and calls for new teaching methodologies.

Rather than simply incorporating AI-based tools into existing courses, control educators need to rethink learning activities, assessment methods, and laboratory experiences so that students develop both a solid understanding of fundamental control concepts and the critical skills required to use AI effectively, responsibly, and creatively in modern engineering practice. The central theme remains, though, that of sharing teaching practices across institutions, so that instructors can exchange not only polished course material, but also concrete examples of what works, what fails, and how students respond.

Control education sits indeed at the intersection of mathematics, engineering intuition, computation, experimentation, and communication. Helping students move between these layers is often the real educational challenge. TC9.4 gives an opportunity to build a more connected community around this challenge: supporting reflective teaching practices, and stronger links between control education research and everyday classroom experience.

SACAC members interested in control education are warmly encouraged to engage with TC9.4 activities, contribute examples from their own courses and laboratories, and use the TC as a channel for connecting South African initiatives with the broader IFAC education community!

Looking ahead

The second half of 2026 brings the premier event of the international automation and control community, a second IFAC Distinguished Lecturer visit, and the first details of the conference SACAC will host in 2027.

IFAC World Congress 2026

The IFAC World Congress took place in Busan, Republic of Korea, in August 2026. The World Congress is held every three years and is the largest gathering of the automation and control community worldwide. SACAC will be represented at the IFAC Council meeting, where the outcomes of the Officers' Meeting reported on earlier in this issue will be tabled, and where Derik le Roux takes up his term as IFAC Secretary for the 2027–2029 triennium.

SACAC's investment fund again supported member participation in 2026. Delegates who received conference support will be profiled in the next issue.

IFAC Distinguished Lecturer: Prof Kirsten Morris

SACAC hosts a second IFAC Distinguished Lecturer visit in September 2026. Prof Kirsten Morris (University of Waterloo, Canada) presents *Optimal actuator and sensor placement* at the University of Pretoria and at Stellenbosch University.

[University of Pretoria 15 September 2026](#) ·
[Stellenbosch University 17 September 2026](#) ·

Upcoming guest lectures

The monthly online guest lecture series continues through the second half of the year:

- 4 September 2026 — Margret Bauer
- 2 October 2026 — Tobi Louw

SAVE THE DATE

CCA & MMM 2027 comes to South Africa

SACAC will host a joint conference of the 4th Control Conference Africa and the 8th IFAC Workshop on Mining, Mineral and Metal Processing. The joint meeting brings together the exchange of ideas and developments in control engineering in Africa with global leaders in mining, minerals and metal processing.

6 – 8 September 2027 · Tshikwalo Game Lodge, Dinokeng, Pretoria, South Africa · [Join the mailing list](#)

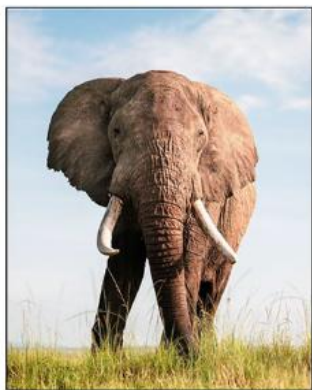


Control Conference Africa and IFAC Workshop on Mining, Mineral and Metal Processing 2027

6 – 8 September 2027, Tshikwalo Game Lodge, Dinokeng, Pretoria, South Africa

SAVE THE DATE

SACAC will be hosting a joint conference of the 4th Control Conference Africa, and the 8th IFAC Workshop on Mining, Mineral and Metal Processing, to promote the exchange of ideas and developments in control engineering in Africa and bring together global leaders in Mining, Minerals and Metal Processing.





Support, affiliation and dates

The IFAC affiliate portal

SACAC is the South African National Member Organisation of the International Federation of Automatic Control. Individuals at SACAC member organisations can register as IFAC affiliates, which gives access to the IFAC affiliate portal and to the technical committee structure that underpins IFAC's conferences and publications.

Conference support for SACAC members

SACAC uses its investment fund to support member participation at IFAC and related conferences. The fund

supported attendance at IFAC MMM2025 and SIMS2025, and is being used again in 2026 for member participation at conferences and IFAC Council meetings, including the IFAC World Congress in Busan. Members of SACAC member organisations are encouraged to apply. Upcoming events within the scope of the support programme include:

- IFAC World Congress 2026 — Busan, Republic of Korea, August 2026
- CCA & MMM 2027 — Dinokeng, South Africa, 6–8 September 2027
- IFAC Symposium on Advances in Control Education — see the IFAC events calendar for the next edition

SACAC calendar

DATE	EVENT	VENUE
4 September 2026	Guest lecture: Margret Bauer	Online
15 September 2026	IFAC Distinguished Lecture: Prof Kirsten Morris — Optimal actuator and sensor placement	University of Pretoria
17 September 2026	IFAC Distinguished Lecture: Prof Kirsten Morris — Optimal actuator and sensor placement	Stellenbosch University
2 October 2026	Guest lecture: Tobi Louw	Online
12–13 October 2026	Workshop: Observer Design for Dynamic Systems	University of Pretoria, Engineering Building 1
15–16 October 2026	Workshop: Observer Design for Dynamic Systems	Stellenbosch University, General Engineering Building
6–8 September 2027	CCA & MMM 2027	Dinokeng, Pretoria