

NEWSLETTER

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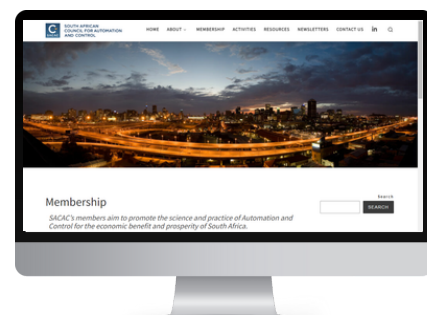
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www.sacac.org.za



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

» Become a Member



President's Address

There were many highlights during the second half of 2025 for the South African Council for Automation and Control, thanks to the hard work and dedicated effort of the executive committee members. One such highlight was the Model-Based Control workshop. Anthony Rossiter (University of Sheffield), Kevin Brooks (APC Smart, University of the Witwatersrand), and Loutjie Coetzee (Draslovka Mining Process Solutions) shared a wealth of theoretical knowledge and practical experience, making for a fantastic learning opportunity. The workshop was hosted at the University of Pretoria (4–5 August) as well as Stellenbosch University (7–8 August). Special thanks to Derik le Roux for his hard work in organising the event. A similar workshop is planned for 2026—we'll keep you updated.

We were also very pleased with this year's Control Systems Day, a symposium aimed specifically at providing postgraduate students with an opportunity to share their research. Control Systems Day 2025 took place in parallel at the University of the Witwatersrand and the University of Cape Town, with live-streaming between the two venues to accommodate students from a diverse range of research groups. The day opened with an excellent keynote lecture by Prof Ed Boje (UCT) on estimation techniques used in temperature control at CERN. Thank you to Arnold Pretorius, Johan Venter, and Antony Higginson for your arrangements.

SACAC was well represented abroad, with members attending the 66th International Conference of the Scandinavian Simulation Society (SIMS 2025) in Stavanger, Norway, as well as the 20th IFAC Symposium on Control, Optimisation and Automation in Mining, Minerals and Metal Processing (MMM 2025) in Lima, Perú. We are also very pleased to announce that SACAC will host MMM 2027 in South Africa. This forms part of a joint conference with Control Conference Africa 2027. Antony Higginson will chair the National Organising Committee, and we are confident that the event will be a great success under his leadership.

The Girls-in-Control initiative continued throughout the year, with events at the UNIZULU Science Centre, the University of Pretoria Science Centre, and the Cape Town Science Centre. We are very grateful to Syamala Krishnannair, who continues to drive these workshops, as well as to Marcelle Saffy who has joined her. The initiative has received significant support from the IFAC Diversity and Inclusion Activity Fund as well as from the various science centres, but we are eager to ensure the long-term sustainability of the outreach by securing financial support from our industry partners. If you are interested in supporting the Girls-in-Control initiative, please contact Syamala, Marcelle, or myself—we would be glad to hear from you.

Looking forward, 2026 promises to be equally impactful. We have already hosted our first monthly guest lecture, as well as a lecture series by Prof Mustafa Khammash from ETH Zurich (more on that in our next newsletter), and of course we look forward to the IFAC World Congress to be held in Busan, Republic of Korea. We will once again provide author sponsorships for those planning to attend. Please join our mailing list and follow us on LinkedIn to stay up to date.



Best wished
Tobi Louw
SACAC President



ORGANIZATION STRUCTURE

EXECUTIVE COMMITTEE

NAME	AFFILIATION
TOBI LOUW	STELLENBOSCH UNIVERSITY
JASON MISKIN	OPTI-NUM SOLUTIONS
LAURENTZ OLIVIER	ANALYTE
LOUTJIE COETZEE	DRASLOVKA
DERIK LE ROUX	UNIVERSITY OF PRETORIA
LIDIA AURET	STONE THREE
ANTONY HIGGINSON	UNIVERSITY OF WITWATERSRAND
ARNOLD PRETORIUS	UNIVERSITY OF CAPE TOWN
SYAMALA KRISHNANNAIR	UNIVERSITY ZULULAND
CALLEN FISHER	STELLENBOSCH UNIVERSITY
PASCAL MOTSOASELE	RAND WATER
JOHAN VENTER	UNIVERSITY OF JOHANNESBURG
IAN CRAIG	UNIVERSITY OF PRETORIA
JOHN BURCHELL	SIBANYE-STILLWATER
KEVIN BROOKS	APC SMART
MARCELLE SAFFY	MINTEK
MOHLALAKOMA THERECIA NGWAKO	UNIVERSITY OF WITWATERSRAND



Exco members from left to right: Jason Miskin (vice president), Laurentz Olivier (Honorary treasurer), Johan Venter (University of Johannesburg), Marcelle Saffy (Mintek), Pascal Motsoasele (Rand Water), Tobi Louw (president), Kevin Brooks (APC-Smart), Derik le Roux (University of Pretoria),

Not pictured: Lidia Auret (Stone Three), Syamala Krishnannair (University of Zululand), Arnold Pretorius (University of Cape Town), and Loutjie Coetzee (immediate past president).

MODEL-BASED CONTROL WORKSHOP: ADVANCING LINEAR AND NONLINEAR MPC SKILLS ACROSS SOUTH AFRICA

The Model Based Control Workshop, presented at both the University of Pretoria and Stellenbosch University, brought together industry practitioners, postgraduate students and academics for an intensive two-day introduction to modern model predictive control (MPC). The workshop combined conceptual foundations, mathematical insights, and hands-on practical sessions to give delegates a comprehensive understanding of both linear and nonlinear MPC. The workshop successfully blended theory with real-world application, equipping attendees with deeper insight into predictive control strategies and greater confidence in applying both linear and nonlinear MPC in practice.

We were honoured to welcome Dr Anthony Rossiter from the University of Sheffield (UK) as a presenter. Dr Rossiter is well known across the world for his teaching skills, especially as it relates to MPC. He was supported by two local giants, Dr Kevin Brooks from the University of the Witwatersrand and APC Smart, and Dr Loutjie Coetzee from Draslovka. They have a combined industry experience in advanced process control spanning almost half a century.

On the first day Dr Rossiter led participants through the core concepts of MPC. Using intuitive examples from classical feedback control, Dr Rossiter illustrated why MPC is often the preferred strategy for multivariable systems, constraint handling, and processes with challenging dynamics.

His sessions covered the conceptual basis of MPC and its human-inspired decision-making approach, the underlying mathematics required to formulate an MPC optimisation problem, MATLAB demonstrations showing how tuning choices affect controller behaviour, systematic guidance on selecting prediction and control horizons, and approaches to constraint handling and the role of dual-mode MPC.

Dr Rossiter also addressed the fundamentals of nonlinear MPC and the added modelling and computational considerations that arise when moving beyond linear system assumptions.

The first day concluded with the first practical component, led by Dr Brooks, who introduced a well-established industrial methodology for designing and implementing linear MPC. He continued on the second day with model identification, guiding delegates through step-testing procedures and the construction of ARX models using MATLAB, Python or Excel. This led into further workshop activities involving controller simulation, commissioning, and verification using Prime5. This is an industrial APC platform proudly provided and supported by 4Sight.



In the afternoon, the emphasis shifted to nonlinear MPC, led by Dr Coetzee. Using an integrated grinding-flotation circuit as the case study, Dr Coetzee demonstrated when and why nonlinear elements provide meaningful performance improvements over purely linear approaches. Mintek generously provided their StarCS advanced process control platform for the workshop. Delegates used the platform to model the circuit with nonlinear elements, specifically related to the economics of the process, and to simulate the nonlinear MPC to observe the controller's ability to guide the process to a new economically optimal operating point.

SACAC ACTIVITIES

UPCOMING EVENTS 2026

SACAC AGM 2026



FRIDAY

13 FEBRUARY 2025



STARTS AT

09:00AM - 12:00AM

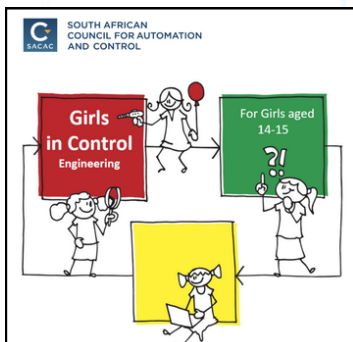


VENUE

54 Bath Avenue

Rosebank, Johannesburg, 2196

(Located in Rosebank Mall)



GIRLS IN CONTROL WORKSHOP

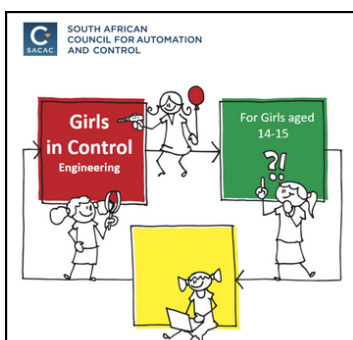
- 7 MAY 2026
- UNIZULU SCIENCE CENTER

The Girls in Control Workshop, hosted by SACAC and inspired by IFAC, empowers girls aged 14-15 through hands-on coding, control theory, science tours, and motivational talks to spark interest in STEM careers.

GIRLS IN CONTROL WORKSHOP

- 30 JULY 2026
- UNIZULU SCIENCE CENTER

The Girls in Control Workshop, hosted by SACAC and inspired by IFAC, empowers girls aged 14-15 through hands-on coding, control theory, science tours, and motivational talks to spark interest in STEM careers.



GIRLS IN CONTROL WORKSHOP

- 6 AUGUST 2026
- CAPE TOWN SCIENCE CENTER

The Girls in Control Workshop, hosted by SACAC and inspired by IFAC, empowers girls aged 14-15 through hands-on coding, control theory, science tours, and motivational talks to spark interest in STEM careers.

SACAC ACTIVITIES

EVENTS TO LOOK FORWARD TO IN 2026

FRI
13/02

SACAC AGM

09:00AM - 12:00AM
54 Bath Avenue



MAY
2026

Machine Vision Workshop



AUG
2026

IFAC World Congress 2026

Busan, Republic of Korea



OCT
2026

Observer Design workshop

University of Pretoria and
Stellenbosch University



2027

Control Conference Africa / Control, Optimization and Automation in Mining, Minerals and Metal Processing 2027

Dinokeng, South Africa



SACAC: GENERAL CONFERENCE AUTHOR SPONSORSHIP

SACAC invites members to apply for its Conference Author Sponsorship to support attendance at IFAC-sponsored and co-sponsored international events. The sponsorship contributes towards economy flights, 3-star accommodation, and early-bird registration fees. Only one author per paper will be supported, and a short post-conference report is required for the SACAC newsletter.

Eligibility:

Applicants must:

- Be the author and presenter of an accepted paper
- Be a student or employee of a SACAC member in good standing

Application Requirements:

Submit to secretariat@sacac.org.za:

- Motivation letter (max 500 words)
- Conference details
- Submitted paper and proof of acceptance
- Employer/supervisor details
- Budget (flights, accommodation, registration)

Deadline:

- More information in April 2026

[CONTACT THE SACAC
SECRETARIAT](#)

Note: If paper acceptance is confirmed after the deadline, please notify the Secretariat. Your application may still be considered pending final confirmation.

SACAC

SCANDINAVIAN SIMULATION SOCIETY, SIMS 2025

The 66th International Conference of Scandinavian Simulation Society, SIMS 2025



SACAC-Sponsored Researcher Wins Best Young Author Award at SIMS 2025

The South African Council for Automation and Control (SACAC) proudly sponsored Mr Nawa Uriel Punabantu to attend and present at the 66th International Conference of the Scandinavian Simulation Society (SIMS 2025), held in Stavanger, Norway, from 22-24 September 2025. The conference, hosted by the University of Stavanger in collaboration with the Norwegian Association of Electric and Automatic Control (NFEA), was co-sponsored by IFAC and featured full integration with IFAC-PapersOnLine.

SIMS 2025 showcased leading research and industrial developments in modelling, simulation, control and optimisation, with contributions spanning carbon capture and storage, model-based control, energy systems, autonomous vehicles, advanced system identification, and simulation-based decision-making. The programme included three keynote lectures addressing artificial intelligence in healthcare simulation, digital twins in hydropower systems, and generative AI and optimisation in high-speed sports aerodynamics. A dedicated panel discussion also explored career navigation in academia for early-career researchers.

Representing Stellenbosch University, Mr Punabantu presented his first conference paper, titled "Constrained Multi-Objective Bayesian Optimization of Simulated Moving Bed Chromatography," co-authored with Prof. Tobias M. Louw, Prof. Robert W.M. Pott, and Prof. Johann Görgens.



His contribution was recognised with the prestigious SIMS Best Young Author Award, which was jointly awarded to two outstanding presenters from a competitive field of finalists.

Reflecting on the experience, Mr Punabantu expressed sincere appreciation to SACAC for the research travel grant that enabled his participation. He noted that engaging with international researchers broadened his perspective on developments in simulation, automation, and control, and highlighted the relevance of South African research within global discourse. A particular highlight was the keynote by Dr Knut Erik Giljarhus on Bayesian optimisation in sports aerodynamics, which sparked ideas for further applications within chemical engineering.

Beyond the technical programme, the conference provided valuable networking opportunities, fostering connections with fellow Master's and PhD students from across the world.

Mr Punabantu described the experience as both professionally enriching and personally memorable. SACAC congratulates Mr Punabantu on this significant achievement and remains committed to supporting emerging researchers in advancing South Africa's presence in the international control and automation community.

CONTROL SYSTEMS DAY 2025

Control Systems Day 2025 was held on 14 November as a dual-venue symposium hosted by the University of Cape Town and the University of the Witwatersrand. The event adopted a simultaneous, multi-site format, with live streaming enabling seamless interaction between audiences in Cape Town and Johannesburg, as well as purely online attendees. This structure broadened participation and created a more integrated national platform for postgraduate researchers in the field of control systems.

The symposium provided master's and doctoral candidates with an opportunity to present their latest work spanning robust control, optimisation, mechatronic systems, and autonomous robotics. The quality of presentations reflected the strength and diversity of control systems research across South Africa's universities.



Professor Ed Boje delivered the invited address, offering insights into current trends and emerging challenges in advanced state estimation. His talk was well received at both venues and stimulated extensive discussion among attendees.

Mintek generously sponsored cash prizes for the top two presentations. The award for best presentation went to Louis Jordaan from Stellenbosch University, while the runner-up prize was awarded to Charl van der Merwe from the University of the Witwatersrand.



20th IFAC Symposium on Control, Optimization and Automation in Mining, Minerals and Metal Processing



SACAC-Supported Participation at IFAC MMM2025 Symposium, Peru

The South African Council for Automation and Control (SACAC) was well-represented this past October at the 20th IFAC Symposium on Control, Optimization and Automation in Mining, Minerals and Metal Processing (MMM2025) held in Lima, Peru. This prestigious event gathered approximately 50 elite researchers and engineers from across the globe to discuss the foundation of modern technology: the MMM industry.



A Hub for Global Innovation

The symposium offered a unique, single-track experience that allowed all delegates to attend every presentation, fostering a deeply shared learning environment. Key highlights included:

- **Workshops:** Attendees gained insights into V-nets for event sequencing and fault-tolerant control, the latter led by research pioneer Ron Patton.
- **Plenary Sessions:** Notable talks covered mineral liberation sensing in grinding-flotation control by Jocelyn Bouchard (Laval University) and advanced process control for grinding by Xiaoli Wang (Central South University).
- **Emerging Themes:** Discussions centered on the rapid integration of machine learning for performance monitoring and the continued necessity of model-based control fundamentals for plant operations.



South African Contributions

Our local delegates were active participants in the technical program and international committee meetings:

- **Lidia Auret (Stone Three):** Presented three sessions, including a talk on flotation dynamic simulation and a semi-plenary on flotation froth and pulp measurements. Lidia noted the potential to apply new fault-tolerant control concepts to Stone Three's current sensor and monitoring solutions.



- Alex Schulze-Hulbe: Shared research on the "Identification and Online Classification of Ore Crushing Circuit Process Modes," marking a successful first foray into the world of minerals processing.



- Derik le Roux: Contributed to the technical discourse and noted the strong representation from South American industry leaders like Vale and Metso, indicating a thriving sector in the region.



Looking Ahead: MMM 2027

The future looks bright for the South African MMM community. At the TC6.2 meeting, Derik le Roux and Lidia Auret officially tabled SACAC's interest in hosting MMM2027, a proposal that was very well received by the international committee. Furthermore, Kevin Brooks has expressed interest in serving as the next chair of TC6.2.

"Research is often conducted in relative isolation, and conferences like IFAC MMM provide a rare opportunity to have face-to-face discussions with others who are deeply interested in the same areas you are." — Alex Schulze-Hulbe

SACAC is proud to have sponsored our members' attendance at this vital event, strengthening South Africa's influence in the global automation and control landscape

GIRLS IN CONTROL WORKSHOP

Girls in Control (GIC) Workshops 2025: Inspiring the Next Generation of Women in STEM



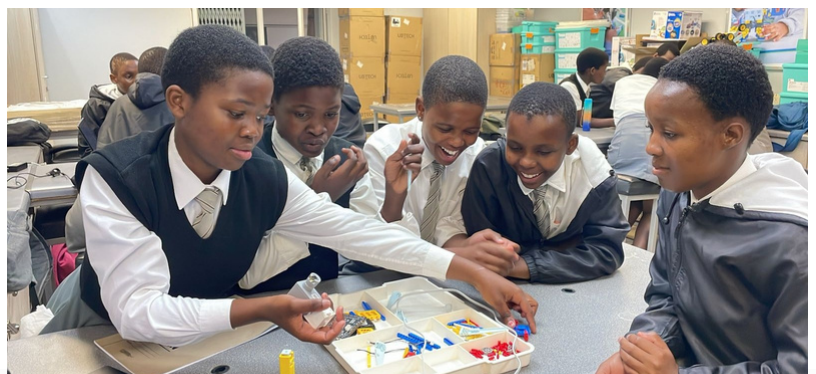
The Girls in Control (GIC) workshops are designed to inspire young girls aged 14 to 16 years across South Africa to explore careers in Science, Technology, Engineering, and Mathematics (STEM), with a particular focus on Control Engineering. By engaging learners at a critical stage of their development, the programme aims to break gender stereotypes, build confidence, and spark curiosity through interactive learning and mentorship.



In 2025, six GIC workshops were conducted between 19 March and 17 November with financial and logistical support from SACAC and IFAC. Three workshops were hosted at the UNIZULU Science Centre in the Zululand region, while the remaining sessions took place at the University of Pretoria Science Centre, the Cape Town Science Centre, and the University of KwaZulu-Natal Science Centre. The workshops introduced learners to key Control Engineering concepts, including feedback loops and real-world applications, using IFAC-developed material translated into isiZulu and Sepedi to enhance accessibility.

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Empowering Girls in STEM: 'Girls in Control' Workshop



GUEST LECTURE SERIES 2025

In 2025, SACAC successfully continued its monthly online Guest Lecture Series, reinforcing its commitment to advancing knowledge and professional development in process automation, control engineering, and emerging digital technologies. The series provided a valuable platform for students, academics, and industry practitioners to engage with leading experts from academia, research institutions, and industry. The 2025 programme covered a diverse range of topics, reflecting both foundational control principles and cutting-edge technological developments shaping modern engineering practice.

The series commenced on 14 March 2025 with a technical presentation on the operation and control of a gas-cooled nuclear reactor. Through detailed cycle modelling, the lecture examined reactor neutronics, thermal-hydraulic behaviour, gas circuit dynamics, heat exchanger performance, and control rod mechanisms. By integrating mathematical and physical models, the session demonstrated how subsystem interactions influence cycle stability and performance, while clearly explaining why such reactors are controllable and which control strategies may be implemented in practice.

On 4 April 2025, Prof Nico Wilke (University of the Witwatersrand) delivered "The Subtle Art of Mismatch", a thought-provoking exploration of the challenges associated with aligning data, models, objectives, and mathematical proxies in data science. The talk addressed multi-fidelity data, epistemic uncertainty, latent spaces, and optimisation objectives, highlighting how misalignment can hinder insight and performance. The presentation offered foundational perspectives for navigating imperfect data and models in real-world applications.

The 9 May 2025 lecture by Pascal Motsoasele (Rand Water) focused on Industrial Automation Engineering in Water Infrastructure Asset Management. This case study showcased how automation technologies such as SCADA, PLCs, and remote monitoring enhance efficiency, reliability, and sustainability in bulk water supply. The session also highlighted best practices in predictive maintenance and lifecycle management, while examining emerging technologies including AI, IoT, and digital twins.

A joint webinar hosted on 21 May 2025, in partnership with SAIMM and Opti-Num Solutions, addressed Computer Vision for Safety. Led by Doron Joffe and facilitated by Jason Miskin, the session explored the application of deep learning and computer vision in industrial safety systems.

A practical case study on virtual fencing illustrated how AI-driven solutions can proactively improve workplace safety through real-time monitoring and integration with safety interlocks.

On 6 June 2025, Charis Harley (University of Johannesburg) presented "Bridging the Gap: Myths, Misconceptions, and the Untapped Power of Academia-Industry Collaboration". The lecture examined historical and current collaboration models, challenged common assumptions, and highlighted artificial intelligence as a catalyst for deeper, more effective partnerships between industry and academia.

The second half of the year continued with strong emphasis on AI and advanced control. On 1 August 2025, Carl Sandrock (Traction) delivered "Modern AI for Process Control Practitioners", discussing numerical optimisation, modern time-series methods, and large language model agents, and their growing impact on system identification, anomaly detection, and engineering workflows.

On 5 September 2025, Dr David Reinecke (CSIR) addressed the challenges of developing autonomous ground vehicle capability for off-road military applications, with a focus on computational modelling, simulation, and the verification and validation of complex autonomous systems.

The series concluded on 3 October 2025 with Dr Evren Mert Turan (University of Johannesburg), who presented "Machine Learning for Fast, Robust Model Predictive Control". The lecture demonstrated how machine learning techniques can alleviate computational constraints in MPC, enabling robust and efficient control of complex, nonlinear, and uncertain systems.

Overall, the 2025 SACAC Guest Lecture Series delivered a well-balanced programme that combined theoretical insight with practical application, while highlighting the growing influence of AI, automation, and advanced control across multiple sectors.

SACAC SPOTLIGHT

Industry Control Application

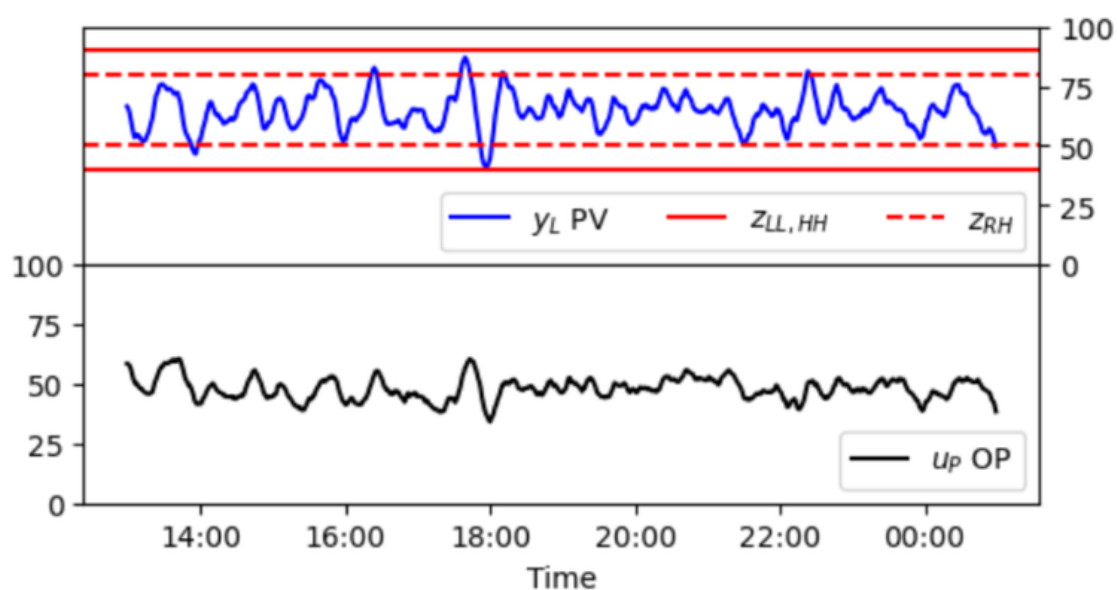
Industrial application of averaging level control strategies

SACAC's goal is "to facilitate the interchange and dissemination of information regarding leading research and innovation in the field of automation and control". A wonderful example of this is the industrial application of averaging level control strategies: through knowledge share via SACAC guest lectures, to industrial applications, as well as academic publications.

Gustaf Gous from Analyte presented a SACAC guest lecture in September 2024, one of the most well-attended of these online SACAC lectures so far. Through very practical and clear illustrations, he explained control algorithm concepts applicable to averaging level control strategies, with industrial examples. The presentation included novel techniques from an academic paper authored by himself and researchers from University of Pretoria in the Industrial & Engineering Chemistry Research journal: ramp horizon integral gap control (RHIGC). In essence, the algorithm predicts whether high or low level limit violations will occur (ramp horizon) and what the required contributions of integral mode should be (integral gap) to ensure that control actuations are limited while level constraints are maintained - this minimises the propagation of flow variability to downstream processes.

This guest lecture inspired further application and extension of ramp horizon integral gap control in the mineral processing industry. Marnus Olivier from Stone Three incorporated such a strategy in mineral processing applications, such as for sump level control at the flotation circuit of Motheo copper concentrator in Botswana. And in a poetic closing of the academia - industry - academia interchange of control concepts, this work was presented at the MEI Flotation '25 conference.

How will the next SACAC guest lecture contribute to solving your industrial challenges?



Example of simulated hopper level control with constraints: y_L PV (process variable); z_{LL} , z_{HH} level limits; z_{RH} ramp horizon limits; u_P pump control output. Used with permission from Olivier et al. (2025) – Advanced Process Control Design and Implementation at Matheto Copper Flotation Circuit.

SACAC SPOTLIGHT

IFAC Technical Committees

The South African Council for Automation and Control: connecting through global networks to advance automation and control
SACAC represents South Africa within the International Federation of Automatic Control (IFAC). Through this role, we connect our members to IFAC's worldwide network of researchers and industry experts in control systems - building a strong community that aligns with top international standards.

One way for members to get involved is by joining an IFAC Technical Committee (TC). These committees are organised under IFAC's nine Coordinating Committees (CCs), each focusing on specific areas within control engineering. Technical Committees take on a range of activities, including:

- Organising and overseeing technical events like symposia, conferences, and workshops.
- Sparking interest in emerging areas of control by working with international bodies, publishing topic reports, and more.
- Encouraging collaboration among specialists in their field.

Being part of a TC offers valuable networking opportunities and the chance to work alongside leading experts. It's also a meaningful way to contribute to IFAC's work and help shape events that are relevant and accessible to the community.

Each TC has its own webpage with member lists, news, and event updates—check them out at <https://www.ifac-control.org/areas>. You'll also find a full list of TCs grouped by Coordinating Committees (CCs) there.

If you want to become a member of a TC, please contact the SACAC Secretariat. We will provide the necessary information and assistance for you to become a TC member.

- CC 1 - Systems and Signals
 - TC 1.1. Modelling, Identification and Signal Processing
 - TC 1.2. Adaptive and Learning Systems
 - TC 1.3. Discrete Event and Hybrid Systems
 - TC 1.4. Stochastic Systems
 - TC 1.5. Networked Systems
- CC 2 - Design Methods
 - TC 2.1. Control Design
 - TC 2.2. Linear Control Systems
 - TC 2.3. Non-Linear Control Systems
 - TC 2.4. Optimal Control
 - TC 2.5. Robust Control
 - TC 2.6. Distributed Parameter Systems
- CC 3 - Computers, Cognition and Communication
 - TC 3.1. Computers for Control
 - TC 3.2. Computational Intelligence in Control
 - TC 3.3. Telematics: Control via Communication Networks

- CC 4 - Mechatronics, Robotics and Components
 - TC 4.1. Human Machine Systems
 - TC 4.2. Mechatronic Systems
 - TC 4.3. Robotics
- CC 5 - Cyber-Physical Manufacturing Enterprises
 - TC 5.1. Manufacturing Plant Control
 - TC 5.2. Management and Control in Manufacturing and Logistics
 - TC 5.3. Integration and Interoperability of Enterprise Systems (I2ES)
 - TC 5.4. Large Scale Complex Systems
- CC 6 - Process and Power Systems
 - TC 6.1. Chemical Process Control
 - TC 6.2. Mining, Mineral and Metal Processing
 - TC 6.3. Power and Energy Systems
 - TC 6.4. Fault Detection, Supervision & Safety of Techn. Processes - SAFEPROCESS
- CC 7 - Transportation and Vehicle Systems
 - TC 7.1. Automotive Control
 - TC 7.2. Marine Systems
 - TC 7.3. Aerospace
 - TC 7.4. Transportation Systems
 - TC 7.5. Intelligent Autonomous Vehicles
- CC 8 - Bio- and Ecological Systems
 - TC 8.1. Control in Agriculture
 - TC 8.2. Biological and Medical Systems
 - TC 8.3. Modelling and Control of Environmental Systems
 - TC 8.4. Biosystems and Bioprocesses
- CC 9 - Social Systems
 - TC 9.1. Economic, Business, and Financial Systems
 - TC 9.2. Systems and Control for Societal Impact
 - TC 9.3. Control for Smart Cities
 - TC 9.4. Control Education
 - TC 9.5. Technology, Culture and International Stability (TECIS)

SACAC



IFAC NEWS



The 23rd IFAC World Congress will be held in the beautiful beach-front city of Busan in the Republic of Korea. Most nationals will not need a visa. Busan is one of best known international meeting cities in the world and is also picked as the best destination in Asia by CNN.

The congress venue, BEXCO has 53 meeting rooms and a large auditorium, which is ideal for IFAC. BEXCO is five minutes from two accessible sand beaches where most hotels will be reserved.

The vision for IFAC WC 2026 is global friendship through control technology, thriving from innovative global diversity. Global friendship in the future will also feature living harmoniously with the modern AI convergence.

31 JANUARY 2026

Workshop/Tutorial
proposal due

28 FEBRUARY 2026

Late-breaking/Discussion
papers, dissemination
papers, tutorial papers,
and award nomination due

15 APRIL 2026

Notification of
acceptance

15 MAY 2026

Final paper submission
due

Become An IFAC Affiliate

IFAC offers services dedicated to individuals who sign-up as IFAC Affiliates. The services include the possibility to share and consult information about other Affiliates. It also gives access to more advanced features such as:

- Receiving the [IFAC Newsletter](#).
- Receiving alerts about the IFAC Conferences in your [field/s of interest](#).
- Benefit from reduced registration fees at IFAC Conferences. Conferences are typically 10€ (or the local equivalent) less expensive for IFAC Affiliates than for non-affiliates.
- Participating in [IFAC Technical Activities](#).
- Organizing [IFAC Conferences](#).
- Participating in [IFAC Journals](#).
- Applying to [IFAC Awards](#).
- Applying to the [IFAC Activity fund](#).
- And more to come in the future.

Moreover, being an IFAC Affiliate is free of charge. Any individual who is interested in Control Engineering should sign up!

► [Sign-up with IFAC](#)



CONFERENCES

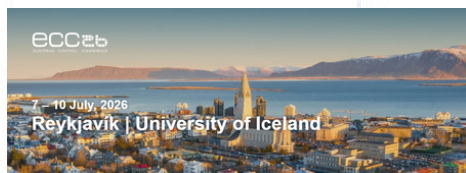
AMERICAN CONTROL CONFERENCE (IN COOPERATION WITH IFAC) - ACC 2026



26-29 May 2026

More Information

ACC is the annual conference of the American Automatic Control Council (AACC), the U.S. national member organization of the International Federation for Automatic Control (IFAC).



European Control Conference (in cooperation with IFAC) - ECC 2026

07-10 July 2026

More Information

The conference aims to bring together academic and industrial professionals in the field of systems and control, and to promote scientific cooperation and exchanges within Europe and between Europe and other parts of the World. ECC26 is the 24th in the EUCA Series of European Control Conferences and will be held in Reykjavik, Iceland from July 7 to 10, 2026.

The first ECC was held in Grenoble in 1991, under the chairmanship of Ioan Landau, and was attended by about 650 people. The ECC was subsequently held every two years until 2011, and annually since 2013.

The ECC26 local host organization is University of Iceland, located in central Reykjavik.



International Symposium on Mathematical Theory of Networks and Systems (in cooperation with IFAC) - 27th MTNS 2026

17 - 21 August 2026

More Information

The University of Waterloo is proud to welcome you to join us for the 27th International Symposium on Mathematical Theory of Networks and Systems (MTNS) on August 17-21, 2026.

MTNS is a biennial, interdisciplinary symposium focused on mathematical systems theory, networks, and control. It brings together mathematicians, engineers, and researchers to explore a wide range of mathematical methods from pure and applied mathematics, and their applications across diverse fields including biology, communications, finance, and multiple engineering disciplines.



APCA/IFAC International Conference on Automatic Control and Soft Computing - 17th CONTROLO 2026

09- 11 September 2026

More Information

The CONTROLO 2026 brings together academia and professionals from the industry to share cutting-edge concepts, recent developments and research results, and practical achievements and work-in-progress from industry in the fields of control, automation, robotics and soft computing.

The fifth workshop will be held in hybrid (in-person/remote) mode in September 2025, with the in-person component held in Hangzhou (China).

*Extract from the IFAC Newsletter - 02 April 2025



IFAC NEWS

Performance of the IFAC Control Orchestra at IFAC 2026

We are excited to announce the comeback of one of the highlights of the IFAC World Congress 2020 & 2023: The IFAC Control Orchestra! Sign up to learn more!

After the virtual performance in 2020, the IFAC World Congress 2023 featured the first live performance ever by the IFAC Control Orchestra. At the closing ceremony, 33 musicians from the automatic control community performed three pieces live on-stage in front of an estimated audience of 2000 attendees: the festive ballad "You Raise Me Up" by Norwegian composer Rolf Lovland ([Watch here](#)), the fast-paced modern pop song "Blinding Lights" by Canadian singer The Weeknd ([Watch here](#)), and the well-known rock classic "Don't stop believin'" by the American band Journey ([Watch here](#)).



IFAC Control Orchestra Performance 2023 in Yokohama

The organizers of the 23rd IFAC World Congress 2026 in Busan, KR are now planning a comeback of the IFAC Control Orchestra. Once again, the plan is to form an orchestra ensemble including only musicians from the automatic control community, to practice on site during the IFAC World Congress, and to put on a live performance during the congress.

For this event, we are looking for interested people from the automatic control community who have some previous musical experience and who are interested in being part of a highly dynamic, distributed, nonlinear, adaptive, fuzzy, MIMO, fault-tolerant, learning-based feedback control system with experimental verification and validation.

If you would like to join the IFAC Control Orchestra, or would just like to be informed about the next steps, then subscribe to our e-mail list at [click here](#).

Further information on the orchestra including links to the IFAC 2020 performance can be found on ifac-control.org/about/ifac-controlorchestra.

Submitted by: Julian Berberich (DE), IFAC Control Orchestra Organizer

THE IFAC STORY E-BOOK IS AVAILABLE!

ISBN 978-3-902823-73-1

ifac-control.org/about/the-ifac-story

*Extract from the IFAC Newsletter - 3 June 2025

IFAC 2026 World Congress Update



Busan Metropolitan City

A diverse and engaging array of technical and social programs is rapidly taking shape for the 2026 IFAC World Congress. We invite you to take this opportunity to visit Busan, Korea, and participate in the largest gathering of our community, held every three years. The paper and proposal submission opens in June and closes on November 26. For the latest updates, please visit ifac2026.org.



Renewed Keywords for Technical Committee (TC), and Cross-cutting/New Areas: The 2026 Congress will feature updated keywords for all 39 TCs. Since 2023, the Technical Board (TB) has undertaken a comprehensive reevaluation of IFAC's technical activities, leading to a renewed focus for each TC. In addition, the TB, in collaboration with a Presidential Task Force (TF), has identified topics that span multiple TCs, such as AI and data-driven methods, as cross-cutting areas.

Furthermore, the TF and the Congress's IPC have highlighted additional emerging technical areas for IFAC to explore. These new and updated topical areas will be available when the submission site launches in June, with the keywords directly accessible from the site.

Back-to-Basics Tutorial: The field of control engineering has seen remarkable progress over the past 60 years, driven by groundbreaking research and innovation. Along the way, pioneering experts have established the foundational principles that shape the field today. Now, it is time for the next generation to stand on the shoulders of these giants. Yet, it is not always easy to decide whose shoulders to stand on – or how quickly one should climb up. This tutorial is designed to address that challenge. It takes the form of an overview, much like Chapter 1 of a monograph of specific topics. We are currently inviting these leading experts to serve as speakers.

Journal options: We are currently working with several IFAC-affiliated journals to offer a journal option, which allows papers reviewed for the Congress to also be considered for publication in a special issue of the journal. This coordinated review process enables authors to benefit both from presenting their work at the Congress and from publishing it in prestigious IFAC journals through an accelerated review timeline. Once the policy is finalized, details will be posted on the Congress website.



Benchmark problems and Competitions: Benchmark problems will be posted on the Congress website. Anyone is welcome to participate by solving the posted problem and submitting a short discussion paper. The winners will be recognized by the organizing committee during the Congress. One confirmed benchmark problem so far is titled "Thermal Management Problem for Connected EVs", organized by Prof. Tielong Shen and collaborators from both academia and industry, including Toyota Motor Corporation, Hyundai Motor Company, and Hitachi Astemo. Competitions will also take place during the Congress, allowing the audience to watch the events live on-site. One confirmed competition program is the Mini Drone Competition, hosted by MathWorks. We still receive the proposals for benchmark problems and competitions.

Gala Dinner: The banquet will feature a live performance by a popular K-pop singer, turning the evening into a memorable dinner show. To make it feel like a mini concert, we are currently coordinating the singer's schedule with her TV commitments.

Calendar of IFAC Conferences 2026



Title	Year	Place	Dates	Further Information
AACC, IFAC, et al. Conference on American Control Conference (in cooperation with IFAC)	2026	New Orleans, LA USA	May 25 – 29	acc2026.a2c2.org/
EUCA/IFAC Conference on European Control Conference (in cooperation with IFAC)	2026	Reykjavik Iceland	July 7 – 10	https://ecc26.euca-ecc.org/ ecc26@euca-ecc.org
International Symposium on Mathematical Theory of Networks and Systems (in cooperation with IFAC) MTNS 2026		Waterloo, ON Canada	August 17 – 21	uwaterloo.ca/international-symposiummathematical-theory-networks-systems
23rd IFAC World Congress	2026	Busan, Republic of Korea	August 23–28	ifac2026.org ifac2026@ifac2026.org
17th APCA International Conference on Automatic Control and Soft Computing CONTROLO 2026	2026	Coimbra Portuga	September 9 – 11	https://controlo2026.apca.pt/ controlo2026@apca.pt
67th SIMS/IFAC International Conference of Scandinavian Simulation Society SIMS 2026	2026	Eskilstuna Sweden	September 16 – 17	scansims.org/events.php?sid=41&src=db1557571001&udpview=show-event
6th AACC/IFAC Conference on Modeling, Estimation and Control MECC 2026	2026	Phoenix (AZ) USA	October 25 – 28	
6th IFAC Workshop on Cyber-Physical Human Systems CPHS 2026	2026	Redondo Beach, CA USA	December 11 – 12	

The IFAC Calendar of Conferences is constantly updated as additional IFAC Conferences (Workshops, Symposia, and Conferences) are approved. Please check back often for the current status. The complete version of the IFAC Calendar of Conferences is available online at: www.ifac-control.org/events/

SCANDINAVIAN SIMULATION SOCIETY, SIMS 2026

The 67th International Conference of Scandinavian Simulation Society, SIMS 2026



CO-SPONSORED by IFAC

Main co-sponsored IFAC Technical Committee

3.2 Computational Intelligence in Control

Other co-sponsored IFAC Technical Committees

- 5.1 Manufacturing Plant Control
- 6.1 Chemical Process Control
- 6.2 Mining, Mineral and Metal Processing
- 6.3 Power and Energy Systems
- 6.4 Fault Detection, Supervision & Safety of Techn. Processes-SAFEPROCESS
- 7.1 Automotive Control
- 7.2 Marine Systems
- 9.4 Control Education

The conference proceedings will be published in open-access form on IFAC-PapersOnLine.

SIMS 2026 covers broad aspects of recent research and industrial development work in modelling, simulation and optimization in engineering applications. The scientific program will include technical sessions with submitted papers and industrial sessions with discussion contributions, keynote presentations, and a poster session. Ph.D. students are particularly encouraged to contribute with papers according to the conference themes.

[SIMS 2026 Website \(Submissions\)](#)

[Call for papers SIMS 2026](#)

EUROSIM
[EUROSIM Events](#)



IFAC AFFILIATES PORTAL

THE PORTAL GIVES ACCESS TO IFAC SERVICES:

- Share with and consult information about other Affiliates
- Receive the IFAC Newsletter
- Receive alerts about the IFAC Conferences in your field/s of interest



- Get reduced registration fees at IFAC Conferences. Conferences are typically 10€ (or the local equivalent) less expensive for IFAC Affiliates, than for non-affiliates.
- Participate in IFAC Technical Activities.
- Organize IFAC Conferences - Participate in IFAC Journals.
- Be nominated to IFAC Awards.
- Apply to the IFAC Activity fund.

HOW DO I CONNECT?

- If you are not yet connected to IFAC and wish to join for free, select 'Sign-Up' and then 'Register for an IFAC Account'. Meanwhile you may also browse the Web public data.
- If you receive this Newsletter in your mailbox, this means you are already connected to IFAC and listed in our database. To create your access to the portal for the first time, please select 'Sign-Up' and then 'Register for an IFAC Account' as above. In order to link your access to your existing data and save some time, please complete the form with the exact email address at which you receive the Newsletter.

Detailed instructions are available at:
ifac-control.org/about/affiliate-registration

FREE AND EXCLUSIVE

Signing in as an IFAC Affiliate is free and you keep of the control of the shared data which shall not be used for commercial or non IFAC purpose.

Signing in as IFAC Affiliate is mandatory to benefit from IFAC services and to participate in IFAC activities. Affiliates who do not connect to the portal within a year will have their data removed from the database. They will still have the possibility to become an affiliate again, but it may temporarily prevent access to services.

For any additional information, or if you require any assistance, please contact secretariat@ifac-control.org