

55th Annual Conference of the National Association for Clean Air (NACA), 2024 - Air quality evolution: Reflecting on 20 years of progress and charting future paths

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55th Annual Conference of the National Association for Clean Air

***Air Quality Evolution:
Reflecting on 20 Years of Progress and Charting Future Paths***



The 2024 Annual NACA Conference, in collaboration with the Department of Forestry, Fisheries, and the Environment's (DFFE) Air Quality Governance Lekgotla, was a significant event. This year, the conference centred on the theme "Air quality evolution: Reflecting on 20 years of progress and charting future paths."

This theme highlighted South Africa's transformative journey in air quality management since the enactment of the National Environmental Management: Air Quality Act (Act 39 of 2004). The conference served as a unique platform to reflect on the achievements of the past two decades, analyse ongoing challenges, and gather key insights to shape the future.

Held from 4-6 September 2024 at the Mintek Conference Centre in Randburg, the conference brought together leading experts, policymakers, and researchers to discuss critical issues in air quality management and climate change in South Africa. The multi-day event featured a rich and diverse programme, including keynote presentations, technical workshops, oral sessions, and hybrid panels. Topics ranged from emissions inventories and innovative monitoring technologies to the relationship between air quality and climate change policies, ensuring a high level of engagement and interest among the attendees.

The conference showcased a lineup of distinguished keynote speakers who addressed critical topics in air quality management. Peter Lukey from the Department of Forestry, Fisheries and Environment (DFFE) offered an engaging historical perspective on South Africa's shift towards objectives-based air quality governance, highlighting lessons learned from the National Environmental Management: Air Quality Act (NEM:

AQA) and the challenges associated with fossil fuel dependency. Dr Patience Gwaze, also from DFFE, discussed the future direction of air quality management in South Africa. Dr Hanlie Liebenberg-Enslin of Airshed Planning Professionals shared insights from her two decades of consulting on evolving air quality regulations and their practical impacts. Siyabonga Mkhize of Shepstone & Wylie Attorneys explored the relationship between the new Climate Change Act and existing air quality legislation, emphasizing the importance of resilience and mitigation strategies. Prof. Jesse Van Griensven from Lakes Environmental Software highlighted the transformative role of Artificial Intelligence in atmospheric science, focusing on pollutant modelling and forecasting. Finally, Deidre Herbst from Eskom reflected on the complex relationship between air quality and electricity management, stressing the need to integrate environmental considerations into energy planning. These keynote presentations provided a rich blend of historical insights, technical innovations, and forward-looking strategies for addressing air quality challenges.

The scientific review process was both thorough and inclusive, reflecting the collaborative spirit within the air quality community. Out of more than 40 submissions, over 20 full scientific papers, more than 15 posters, and around 10 engaging three-minute research presentations were accepted. A panel comprising over 30 experts from more than 10 organizations – including top academic institutions, industry representatives, and non-governmental organizations – oversaw the review process. This diverse group ensured a comprehensive evaluation of the submissions, upholding high standards while welcoming a variety of perspectives and disciplines.

NACA Awards

The following awards were presented at the 2024 NACA Conference:

NACA Golden Award: Sally Benson

NACA Golden Award: Dr Gerrit Kornelius

Company award: Airshed Planning Professionals Pty Ltd

Best scientific paper (student): S. Bridges, H.W.J.P. Neomagus, J.R. Bunt, F.H. Conradie and H.J. Annegarn (North-West University): *Emission performance of a clean cookstove and oven utilising predominant South African wood species*

Best scientific paper (non-student): G. Kornelius, P. Forbes and R.M. Garland (University of Pretoria): *Tier 2 greenhouse gas emission factors for South African solid fuels*

Best 3-minute research talk: B. Koovarjee and J.R.C. von Holdt (University of Cape Town): *Mapping and managing air pollution risks in mining areas*

Best poster presentation: A. Richter, C. Roos, S.J. Piketh, R.P. Burger and B. Language (North-West University): *Estimating PM_{2.5} emissions in Sharpeville: Emission factors for waste burning in air dispersion models*

Sponsors

The conference proudly received support from various sponsors who contributed significantly to its success. Eskom served as a Platinum sponsor. Silver sponsors included Lakes Software, Shepstone & Wylie Attorneys, and SACNASP. Bronze sponsors featured Air Resource Management (ARM), Mine Dust Network, EnviroServ, EnviroServe, SRK Consulting, and C&M Consulting Engineers. Merchandise sponsors included Airshed Planning Professionals and Skyside. At the same time, student sponsors, such as SI Analytics, North-West University (NWU), and the NOVA Institute, helped reinforce the importance of fostering the next generation of environmental professionals.

Exhibitors highlighted cutting-edge solutions and services in air quality management and environmental sciences. Organizations such as Envirocon Instrumentation, AMS Haden, Gondwana Environmental Solutions, and ERO Africa presented innovative technologies. Meanwhile, Umoya Nilu Consulting and C&M Environmental Consultants emphasized their expertise in environmental consultancy. Professional bodies like EAPASA and SACNASP shared valuable insights into industry standards, while scientific institutions such as NMISA and Mintek demonstrated their contributions to research and development. Companies like Testo South Africa, Ansyco SA, and Argos Scientific offered advanced instrumentation, and Levego Environmental Services and SI Analytics focused on environmental monitoring solutions. This diverse group of exhibitors enriched the conference by fostering collaboration and sharing groundbreaking advancements with attendees.

In summary, the 2024 Annual NACA Conference marked a significant milestone by celebrating 20 years of advancements in air quality management while paving the way for future progress. Under the theme "Air quality evolution," the event served as a vibrant platform for collaboration, innovation, and thoughtful reflection. The outstanding contributions from keynote speakers, sponsors, exhibitors, and researchers highlighted the urgent need to tackle air quality and climate challenges in South Africa. The scientific rigour and diverse perspectives shared, coupled with the recognition of outstanding achievements through the NACA Awards, emphasised the conference's vital role in promoting advancements in air quality science, policy, and practice. This united effort establishes a solid foundation for ongoing strides toward cleaner air and a healthier planet.

