

# News

## Obituary: Clive Turner

<http://dx.doi.org/10.17159/2410-972X/2016/v26n1a4>



It is with great sadness that the National Association for Clean Air and the editorial board of the Clean Air Journal would like to acknowledge the recent death of Clive Turner. We would like to commemorate the immeasurable contribution that he made to the cause of clean air in South Africa.

Clive was one of the founders of the discipline of Air Quality in South Africa, and was instrumental in many of the initial studies relating to air quality management and atmospheric chemistry and transport. The findings from that work still influence how we perceive the core issues and concerns of air quality in the country.

Clive Turner graduated in England as a Physicist in 1973 and started work in the power industry, initially with a leading turbine manufacturer. In 1976 he joined ESKOM in Johannesburg, initially working in the area of mathematical modelling of machine vibration and structural dynamics, he later moved on to become an acknowledged air quality specialist and, in the late 1970s, was to found what became Eskom's multi-disciplinary environmental research facility. Before retiring from Eskom in 2011, he was to become Eskom's Corporate Environmental Consultant (air and rain) in the Sustainability and Innovation Department. He was an acknowledged expert in the environmental impacts of power plants, global climate change, air quality monitoring, acid deposition, dispersion modelling, atmospheric chemistry, environmental research management, and environmental law and the consequent negotiation and enforcement processes.

During the late 1970s – mid 2000s Clive was involved in the installation of the operation of a network of fifteen air quality monitoring stations over the Highveld. He maintained high levels of data quality from this network and for many years this was the benchmark air quality monitoring network in South Africa and set the basis for our knowledge of air quality over the industrialised Highveld regions of South Africa.

Due to the international interest, during the 1980s in the impacts of acid deposition resulting from fossil fuel combustion; Clive, through his team at Eskom, collaborated in studies on sulphur dioxide deposition and acid rain formation. This strongly impacted our understanding of the impacts of wet and dry deposition from the industrial plumes over the South African Highveld. Clive is credited with driving advances in describing

unique dispersion phenomena from tall stacks, associated with convective cells over the Mpumalanga Highveld that resulted in high SO<sub>2</sub> concentrations being observed within a few kilometres of the base of the stacks. This research helped improve how dispersion models accounted for vertical transport of pollutants in highly convective environments. With colleague Gerhard Held, he made important contributions in describing and quantifying the regional scale dispersion and recirculation of SO<sub>2</sub> plumes over southern Africa and adjacent oceans.

Clive supported and sustained a vigorous programme of research collaboration with academic scientists. He mediated with Eskom to continue supporting long term research goals, as well as research into the immediate issues facing Eskom. This led to ongoing Eskom support for the SAFARI'92, the SAFARI 2000 and the DEBITS passive monitoring campaigns. Clive actively supported several initiatives for airborne sampling on a variety of aircraft, leading eventually to South Africa having world-class indigenous capacity in the field of airborne sampling.

In 2001, Clive was seconded to the Department Of Environmental Affairs to assist with the national climate change programme and environmental law reform, where he was employed for three years. Whilst in government, he was the lead author for the South African National Climate Change Response Strategy, published in 2004.

Between 2004 and 2007, Clive served as a lead author for the energy chapter of the Mitigation Volume of the Intergovernmental Panel on Climate Change Fourth Assessment Report. This report was to culminate in the IPCC being awarded the Nobel Peace Prize in 2007.

Clive was an excellent leader and project coordinator; always ready to share his vast knowledge and experience with colleagues and especially young, upcoming scientists and technicians, which resulted in the establishment of several "Centres of Excellence" at different Universities in SA, subsequently producing some of today's leading researchers in the field of air quality. His ultimate guiding principles were always towards good science and cooperative science. The ethos that he nurtured, specifically within Eskom, endures to this day, of treating corporate, academic, regulatory and civil society scientists as partners in a joint endeavour towards clean air.

**Dr Gregor Feig**

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