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## Air quality challenges in Wesselton township, South Africa

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Wesselton Township is located within the Highveld air quality priority area in Mpumalanga Province of South Africa. The government has identified this region together with others as priority areas due to poor air quality experienced. In this study, inhalable particulate matter of aerodynamic sizes 5 and 10  $\mu\text{m}$  (PM 2.5 and PM 10), sulphur dioxide ( $\text{SO}_2$ ), nitrogen oxides ( $\text{NO}_x$ ) and some volatile organic compounds (VOC's) were analysed after measurement from an ambient air quality monitoring station. The samples were measured continuously during the dry and wet seasons in 2011, 2012 and 2013. Ambient particulate matter and the pollutant gases were measured by a light scatter method and specific gas monitors respectively.

The results were compared with both national and international standards to evaluate their levels and to monitor if the mitigating strategies adopted have any impact on the air quality. Generally, daily particulate matter standards were exceeded in some days, particularly during the dry seasons. Hourly distribution of most pollutants showed two distinct concentration patterns, large concentration peaks between 05:00 and 11:00 and relatively smaller concentration peaks between 16:00 to 22:00.

This paper will discuss some of the key results and their implication to air quality management in South Africa.

### Biography

Shadung Moja is currently teaching and supervising M&D research projects within the Department of Environmental Sciences (DES) at the University of South Africa (UNISA). His master's and doctoral degrees are in Analytical Chemistry and Environmental Management respectively. He has served the academia for more than 16 years at 6 different universities. He also has 4 years of industrial chemistry experience and more than 3 years of consulting in air quality and waste management. He has published more than 15 peer reviewed articles.

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