

POSTER 13

**VALIDATION OF BIOMARKERS FOR SILICA EXPOSURE**

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Silicosis is a preventable fibrotic lung disease caused by silica exposure. Current methods to diagnose silicosis use x rays, although a 10-15 year lag period generally occurs between exposure and radiological changes. Silicosis is used as an end point for assessing silica exposure. Biomarkers are specific physiological or biochemical traits that indicate the onset and progress of a disease or condition. They can provide information on the very early effects of exposure, and thus make an important contribution to risk assessment, which could provide an early indication of the risk of developing silicosis.

A cross sectional study will be performed on three groups: gold miners with silicosis (radiologically diagnosed); gold miners exposed to silica but without silicosis; and a control group of persons never exposed to silica. Biomarkers previously identified in an international workshop will be assayed in the peripheral blood of the study participants. Receiver Operating Curves (ROC) will be used to identify the tests that provide sufficient discrimination between exposed and unexposed and few false positives and negatives.

Baseline levels will be determined for the chosen biomarkers in the three groups, allowing validation of biomarkers of crystalline silica exposure and silicosis. Promising biomarkers will be developed into risk assessment tools that can provide risk information soon after exposure in a future study.

**Keywords:** silicosis, biomarkers, baseline levels, gold miners, risk assessment.

# IOHA 2005

Pilanesberg National Park, North West Province, South Africa  
19 - 23 September 2005

Promoting Occupational Hygiene in Africa and Globally



## Conference Programme at a Glance

Sunday 18 September 2005	
Kwa Maritane Bush Lodge	
10.00 - 17.00	Registration
Reception and Welcome to International and Local Delegates	
19.00 - 21.00	Welcome by IOHA Immediate Past President - <i>Ton Spee</i>
	Welcome by SAIOH President - <i>Deon van Vuuren</i>
	Welcome by MVS President - <i>Harry Smit</i>
	Precautions to be taken in the Pilanesberg National Park - Game Ranger
Buffet meal and drinks at the Kwa Maritane Bush Lodge or "Place of the Rock". You are now in the Pilanesberg National Park; an area rich in wildlife and hosting around 365 species of birds. Virtually all the animal species of Southern Africa can be found in the park, including: lions, elephants, white and black rhinos, buffaloes, leopards, zebras, hyenas, giraffes, hippos and crocodiles - Welcome.	

# IOHA

6<sup>th</sup> International Scientific Conference

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# ABSTRACTS

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