The most recent annual conference of the Southern African Institute for Occupational Hygiene (SAIOH) was hosted and organised by its North-West branch at the Potchefstroom Campus of the North-West University (NWU), in October 2014. The conference was co-organised by the Faculty of Health Sciences of the NWU, where a curriculum for the first South African undergraduate degree in the discipline of Occupational Hygiene has been developed and approved by the South African Qualifications Authority (SAQA).

In light of the conference being held at a university where new knowledge is generated, it was decided that the theme and, consequently, the programme with its presentations, should include topics beyond the usual run-of-the-mill occupational hygiene issues... Hence, “Beyond Dust and Noise...” – the final programme consisted of two professional development courses (PDCs), four keynote addresses, 15 oral presentations and seven poster presentations. A total of 161 delegates, including sponsors and exhibitors, attended days two and three of the conference.

DAY 1: 29 OCTOBER

The first day of the conference was dedicated to two parallel PDCs, presented by experts in their respective fields, and attended by a total of 44 delegates:

• “Total aerosol sampling – established but outdated technology for respiratory exposure assessment”, presented by Dr Aleksandr Stefaniak (National Institute for Occupational Safety and Health [NIOSH], USA).

A combination of lectures and group debates achieved the main objectives of critically discussing advantages and disadvantages of total aerosol sampling; introducing the concept of aerosol size-selective sampling and its relationship to human health; discussing instrumentation for inhalable, thoracic and respirable sampling; and reviewing analytical considerations for particle size-selective sampling.

• “Considerations for risk assessment, exposure monitoring and control of dermal exposure in the workplace”, presented by Prof. Johan du Plessis (NWU, SA).

A series of talks, practical examples, demonstrations and problem-solving sessions provided an overview of skin anatomy, physiology and occupational skin diseases; introduced a conceptual model for dermal exposure in the workplace, coupled with strategies for control; addressed risk assessments; and demonstrated various methods for monitoring dermal exposure.

DAY 2: 30 OCTOBER

The second day saw the official opening of the conference, with welcome addresses from the SAIOH President of 2014, Mr Peter-John (Jakes) Jacobs and the Research Vice-Chancellor of the Potchefstroom Campus of NWU, Prof. Amanda Lourens. The themes for the day were: occupational hygiene practice; airborne particulates; noise; statistics.

Two keynote addresses were delivered:

• “A business case for occupational hygiene beyond the prevention of occupational disease”, presented by Prof. Cas Badenhorst (Anglo American and NWU, SA), focused on the concept of an occupational health life cycle which makes use of a back-to-basics methodology, with the ultimate aim of demonstrating that proactive health management in the workplace, coupled with a cross-functional approach, delivers value for the individuals and the business, and ensures the sustainability of both.

• “Nanotechnology: the big problem of making small measurements”, presented by Dr Aleksandr Stefaniak (NIOSH, USA), gave a comprehensive overview of the health effects of exposure to a range of nanomaterials, and showcased and critically evaluated a number of techniques that are available to occupational hygienists for exposure assessment. Furthermore, an international perspective was provided on the development of legislation and standards to address the inherent challenges of nanotechnology measurements.

The following oral presentations were delivered:

1) A breakthrough approach for personal noise exposures, using dosimetry, SEGs and statistics – Garth Hunter (Engen Petroleum)
2) Mine ventilation engineering and occupational hygiene: partners for modern mining – Marco Bif (Anglo American)
3) Characterisation of airborne dust in a South African opencast iron ore mine – Petrus Laubscher, et al. (NWU)
4) Performance of aerosol samplers for the assessment of soluble platinum exposure – Cynthia Ramotsehoa, et al. (NWU)
5) Characterisation of respirable crystalline silica dust in the abandoned mines around Roodepoort, Central Rand Johannesburg, South Africa – Thingahangwi Madzivhandila, et al. (National Institute for Occupational Health [NIOH], SA)

The SAIOH 2014 Conference proved once again to be the ideal learning, sharing, networking, collaborating and socialising platform. Photo courtesy of Leandi Lammertyn
6) Occupational exposure assessment to iron oxide nanoparticles in a research laboratory in South Africa – Nthabiseng Mogane, et al. (NIOH and University of Pretoria [UP], SA)

7) The combined exposure to chemicals and noise and their effect on hearing – Ivan Niranjan (Durban University of Technology, SA)

8) Noise-induced hearing loss and hearing conservation in the iron and steel industry in South Africa – Gabriel Mizan, et al. (NIOH and University of the Witwatersrand, SA)

9) Occupational hygiene measurements: do we need them? – Kevin Renton (NIOH, SA)

The programme for the second day closed with the SAIOH Annual General Meeting, followed by the SAIOH Awards Dinner. The following awards were presented, in recognition of valuable contributions to the advancement of the occupational hygiene discipline related to the year 2013:

- Top Achiever – Technologist level: Cecil-Roux Steyn (LexisNexis)
- Top Achiever – Occupational Hygienist level: Anine le Roux (Safetech)
- Student of the Year: Christia Steynberg (NWU)
- Article of the Year: Prof. Johan du Plessis (NWU)
- Personality of the Year: Petrus Laubscher (NWU)
- Occupational Hygienist of the Year: Jeanneth Manganyi (NIOH).

DAY 3: 31 OCTOBER

The themes for the day were: solar radiation exposure; occupational skin diseases; whole body vibration; South African legislation.

Two keynote addresses were delivered:

- “Sun exposure and outdoor work: a South African perspective”, presented by Dr Caradee Wright (Council for Scientific and Industrial Research [CSIR], SA) covered the beneficial and harmful effects of solar ultraviolet radiation on human health, and highlighted the need for South African studies on occupational sun exposure patterns; compliance in terms of wearing sun protection; and the workers’ solar radiation knowledge, attitude and behaviours.

- "Occupational skin disease: an overview", presented by Dr Hilary Carman (dermatologist in private practice and the NIOH, SA), introduced this very common but under-reported topic, which is also under-diagnosed and under-compensated, globally. Three case studies were presented to illustrate the differences between irritant and allergic contact dermatitis, as well as contact urticaria, given that more than 90% of patients presenting to an occupational health clinic have contact dermatitis.

The following oral presentations were delivered:

10) Exposures to volatile organic compounds from the use of cleaning and disinfecting products in healthcare settings – Ryan LeBouf, et al. (NIOSH, USA)

11) Farm workers’ exposure to high percentage of ambient ultraviolet radiation in the Limpopo province: a pilot study – Karlien Linde, et al. (University of Limpopo and CSIR, SA)

12) The selection of different averaging approaches on whole body vibration exposure levels of a driver utilising the ISO 2631-1 Standard – Duane Bester et al. (UP, SA)

13) The influence of pH on the in vitro skin permeation of rhodium – Sané Jansen van Rensburg, et al. (NWU, SA)

14) Review of the Regulations for Hazardous Chemical Substances and Asbestos in South Africa – Elize Lourens (Department of Labour, SA)

15) The development of ergonomic regulations for South Africa – Bulelwu Huna (Department of Labour, SA).

The last session of the last day comprised a presentation on the SAIOH salary survey that was conducted earlier in the year by Consulta Research, followed by an update on the status and activities of the SAIOH Professional Certification Board (PCB) for 2014, which was presented by the PCB leadership, Deon Jansen van Vuuren.

The following posters, spanning a wide range of topics, were presented over days two and three of the SAIOH Conference:

1) The role of body mass index on fit testing and respirator selection – Danisile Vuma (NIOH, SA)

2) In vitro permeation of platinum and rhodium through intact Caucasian skin – Anja Franken, et al. (NWU, SA)

3) Utilising exhaled air as a proxy for screening carbon monoxide exposure and other associated gases – Johannes van Staden, et al. (Anglo American Platinum)

4) Occupational noise-induced hearing loss and selected noise abatement techniques in a steel making plant – Vusumuzi Nikosi, et al. (UP, SA)

5) A retrospective analysis of 1-Hydroxypyrene biological monitoring results of casing welders and tappers at a chrome smelter – Tshepo Moto, et al. (UP, SA)

6) A cross-sectional study: Assessment of levels of burnout amongst healthcare workers in Tshwane public clinics – Dithole Molebogoe, et al. (UP, SA)

7) A descriptive study to determine the prevalence of obstructive airways disease amongst load haul drivers in trackless mines – Amukelani Manyike, et al. (UP, SA).

A special word of thanks goes to the SAIOH Conference sponsors and exhibitors:

North-West University
AMS Haden
Ashreq Environmental and Occupational Hygiene Consultants
ASOH Consulting
Aspirata
Chemtech Laboratory Services
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HASS Group
HSE Solutions
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Noise Clipper
Runrite Electronics
SHE Group

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