

SAIOH news

As part of our service to members, in this newsletter we provide feedback on the latest developments within the Southern African Institute for Occupational Hygiene (SAIOH). SAIOH exists for its members and is reliant on them to continue to serve this noble profession, ethically. Therefore, we invite your inputs and feedback on any matters communicated below.

SAIOH PRESIDENT'S ADDRESS

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As Occupational Health Southern Africa celebrates its 30th anniversary, it is essential to acknowledge the symbiotic relationship with the Southern African Institute for Occupational Hygiene (SAIOH) in advancing workplace health and safety. It is a true testament to the hard work and dedication of the team, authors, and readers. SAIOH's tireless efforts in research, education, and collaboration have undoubtedly enriched the content and discussions within the Journal's pages over the years.

Naadiya Mundy

Photograph: courtesy of SAIOH

By providing a platform for disseminating groundbreaking research, sharing best practices, and fostering dialogue among professionals, the Journal has been instrumental in amplifying SAIOH's contributions to the field of occupational hygiene. As we applaud the accomplishments of SAIOH, let us also recognise the pivotal role the Journal has played in shaping the discourse and driving progress in occupational health and safety over the past three decades.

The speed with which SAIOH has achieved success is a testament to the hard work and commitment of our volunteers, who have been determined to see our Institute succeed. We thank you for your dedication.

Keeping cool: can use of PPE contribute to the heat burden?

Heat stress is a significant concern in occupational hygiene, especially when workers are required to wear personal protective equipment (PPE) that can contribute to heat build-up. 'Hot' working environments include foundries, construction sites, mines, etc. Personal protective equipment such as protective clothing, gloves, and respirators can impede the body's ability to regulate temperature, leading to increased heat retention. This is particularly problematic in hot and humid environments where sweat evaporation – a key mechanism for cooling the body – is compromised. Workers wearing PPE are more susceptible to heat stress, which can manifest as heat exhaustion, heat stroke, or other heat-related illnesses.

Thermal comfort has emerged as a significant concern in advancing Sustainable Development Goals (SDGs) 3, 7, and 11, which target "good health and well-being", "affordable and clean energy", and "sustainable cities and communities". Thermal comfort is defined as an individual's perception of satisfaction with the thermal environment.¹ Air temperature, radiant temperature, relative humidity, air velocity, metabolic rate, and clothing insulation are all intricately linked to thermal comfort. Consequently, alterations in these factors can affect human thermal comfort.²

The human body's thermal physiology is intricate, operating as a thermodynamic system that manages heat to keep the internal body temperature close to 37 °C.³ Thermal comfort is, thus, linked to the challenge of either dissipating or retaining heat to sustain an optimal body temperature. While essential for numerous work tasks, the use of PPE can disrupt this thermal equilibrium, by impeding the body's ability to dissipate excess heat through convection, radiation, and evaporation. Heat retention occurs whenever the body cannot sufficiently shed heat due to the thermal insulation provided by PPE, leading to a rise in body temperature.⁴ Body temperature is regulated through perspiration, where heat is transferred from the body through convection of heat from the skin and the evaporation of sweat. A reduced rate of evaporation slows down the body's cooling process, leading to an increased sense of heat and discomfort.

High-temperature environments, combined with impaired heat dissipation due to PPE usage, can pose significant thermal physiological risks. Severe heat stress reactions in such conditions can be detrimental to human health and may even be fatal. Psychological stress and anxiety, along with the thermal stress induced by high temperatures when wearing PPE, are important risk factors that impact individuals' health and wellbeing.⁵ The inability to dissipate heat while wearing PPE in high-temperature environments can lead to heat stress, increasing physical strain, stress, and anxiety. Studies have shown that heat stress raises the likelihood of heat-related disorders, such as headaches, palpitations, breathing difficulties, and dermatitis.⁴ Exposure to heat can also impact normal behaviour and cognitive processes. In various occupations, increased heat can reduce productivity and raise the risk of errors, heightening the danger of the job.⁶ High humidity intensifies thermal stress in hot environments, rendering the work environment intolerable. The combination of increased skin moisture and inhalation of hot, humid air can greatly discomfort individuals wearing PPE. The combination of wearing PPE and exposure to high temperatures can be harmful to workers, particularly if they are unacclimatised to hot work environments, immune-compromised, and /or taking prescription medication. Although we make use of indicators to measure and assess heat stress, such as the wet bulb globe temperature (WBGT) index, and associated guidelines, e.g. the American Conference of Governmental Industrial Hygienists' (ACGIH's) threshold limit values (TLVs), and the US National Institute for Occupational Safety and Health's (NIOSH's) recommended exposure limits (RELs) to protect workers, adjustment factors should be applied to clothing in high-risk environments.

To address heat burden, it is important for occupational hygienists to consider heat stress within their risk assessments, as well as to encourage employers to implement strategies to mitigate heat

stress, such as providing adequate ventilation, rest breaks in cool areas, hydration, and using PPE designed to minimise heat build-up. Using technology, such as wearable sensors, to monitor workers' physiological responses to heat stress, and adjust workloads accordingly, could potentially reduce risks for thermal discomfort and heat stress. Training workers to recognise the signs of heat stress and encouraging them to monitor their own conditions can further help to prevent serious health issues.

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NATIONAL COUNCIL FEEDBACK

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SAIOH held its first Council meeting on 18 March 2024 and welcomed the newly elected Council members. SAIOH Council members have had a busy four months with numerous meetings taking place with the Department of Employment and Labour, Occupational Hygiene Approved Training Providers, and the Occupational Hygiene Training Association (OHTA).

Strategic plan

The SAIOH Council continues to review the 2023–2027 strategy and ensure that targets are being met, and to explore further strategic developments for the Institute and its members.

Ethics

SAIOH's ethics policy and procedure(s) remain with NGO Law, our legal advisors, who are in the process of reviewing and reworking the document for comment and approval by Council. SAIOH and North-West University (NWU) are in talks to develop SAIOH's own Ethics course, focusing on ethics in occupational hygiene, and hope to have the NWU team present the course at the 2024 SAIOH Annual Conference in Botswana in October.

SAIOH branch activities

The Western Cape branch had its first meeting of the year on 8 March 2024. Presentations included SAIOH's Asbestos Bulk Analysis

course, using polarised light microscopy, and U-Masks' presentation on protective face masks. This was the first meeting chaired by the newly elected Western Cape branch Chair, Vuyiseka Zikolo.

The Gauteng branch hosted its first meeting on Friday 1 December 2023, with presentations on radiation and ultra-violet and infrared safety lenses. The new Gauteng branch Chair is Cecil-Roux Steyn.

The Zululand branch had a re-launch meeting on 19 February, during which a new committee was elected. Their newly elected Chair is Alott Baloyi. The Zululand branch is organising the Noise Masterclass that will be held in Richards Bay on 24 April 2024.

The Botswana Association for Occupational Hygiene (BAOH) meets regularly and is fully committed to organising the SAIOH 2024 Conference to be held Gaborone on from 21 to 24 October 2024.

International Occupational Hygiene Association and Occupational Hygiene Training Association feedback

The Occupational Hygiene Training Association (OHTA) examination system recently underwent a complete revision and OHTA will now manage the process internally. SAIOH's service, as the administering body of the OHTA201 assessments, has been rescinded, effective 30 April 2024. As from 1 May 2024, OHTA will be the only awarding body for all its modules; all training material and assessments must be done via OHTA.

The 2024 IOHA Lifetime Achiever Award has been conferred on Deon Jansen van Vuuren

This award honours individuals who have made significant contributions to the promotion and development of occupational hygiene practice that improve the health and welfare of working men and women.

The International Occupational Hygiene Association (IOHA) has relaunched its *Global Exposure Manager* (GEM) newsletter, which is available on the IOHA website. The IOHA National Accreditation Recognition (NAR) Committee is revising the accreditation evaluation matrix for all new and reaccredited associations. The IOHA Governance Committee is updating its management system, quality procedures, and document management system. The IOHA 2024 Annual Scientific Conference was held in the AVIVA Stadium in Dublin, Ireland, from 9 to 13 June 2024.

SAIOH Technical Committee feedback

SAIOH, in conjunction with Sedulitas, is organising a series of Noise Masterclasses. Internationally recognised noise specialists will present the Masterclasses.

The Department of Employment and Labour requested comments on the new Lead Regulations by the end of May 2024. Comments by SAIOH and other associations were submitted.

Note: There is no change to the occupational exposure limit (OEL) for lead. Risk assessments must now be conducted every 24 months. Exposure monitoring is more technical; exit medicals must be done, etc.

Annual SAIOH Scientific Conference

The Botswana branch will host the SAIOH-BAOH Annual 2024 Conference in Gaborone with the theme, *Sustainable occupational hygiene in changing work environments and emerging economies*. The dates for the conference have been finalised as 21–24 October 2024; the venue is Phakalane Golf Estate and Convention Centre, just outside Gaborone.

Table 1. SAIOH PCC certification assessment results (March–May 2024)

Certification category	Written assessments				Oral assessments			
	Assessed	Passed	Failed	Pass rate	Assessed	Passed	Failed	Pass rate
	n	n	n	%	n	n	n	%
OH assistant	41	41	0	100	0	0	0	-
OH technologist	31	24	7	77.4	31	17	14	54.8
Occupational hygienist	14	8	6	57.2	8	7	1	87.5
Total	86	73	13	84.9	39	24	15	61.5

Communications

SAIOH publishes its newsletter/Presidents' page in two electronic media formats, namely *Occupational Health Southern Africa* and the *African OS&H* magazine (A-OS&H).

FROM THE PROFESSIONAL CERTIFICATION COMMITTEE (PCC)

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Certification assessments

A summary of results for the written assessments that took place in March to May 2024 is provided in Table 1.

PCC assessment improvements

The PCC technical team have revised the skillset and is in the process of developing scenario questions in line with the requirements for oral assessments.

Occupational Hygiene Skills Forum (OHSF)

One of the functions of the OHSF is to evaluate applications from tertiary institutions for recognition of their occupational hygiene-related qualifications. The OHSF is progressing well with these accreditations and is currently evaluating the Cape Peninsula

University of Technology's (CPUT) occupational health qualification. All tertiary institutions that offer occupational hygiene qualifications are encouraged to contact the PCC Administrator for information regarding application for recognition: lee@saioh.co.za.

Dr Ivan Naranjan attended the annual Universities of Technologies' Curriculum workshop. This workshop falls within the scope of the OHSF, which noted that many tertiary qualifications were mentioned on application forms. With no understanding of the curricula covered by these qualifications, the alignment thereof with the required occupational hygiene-related content could not be accurately evaluated.

By recognising a programme, the SAIOH PCC declares that, to its knowledge, the programme contains at least 50% occupational hygiene-related content as defined by the IOHA National Accreditation Recognition (NAR) Committee, or includes the content covered in the OHTA modules, plus sufficient information regarding the skillsets defined in the SAIOH self-assessment tool. The objective is to ensure that a member applying to upgrade his/her occupational hygiene qualifications has completed an academic qualification that covered all topics that may be addressed in assessments, thereby improving knowledge and competency in the occupational hygiene field.

Asbestos Bulk Analysis training (SAIOH AP102), presented by Julie Hills, took place in Cape Town on 15 April 2024. The module comprises a practical and written examination, which include the introduction to types of asbestos, asbestos-containing materials and health effects, an overview of South African legal requirements, sample preparation, initial evaluation of sample type using stereo microscopy, set up and use of a polarised light microscope, quality control, and reporting and communication. 