SASOM report on the ICOH2024 Congress and the Scientific Committee for Biohazards and Occupational Health

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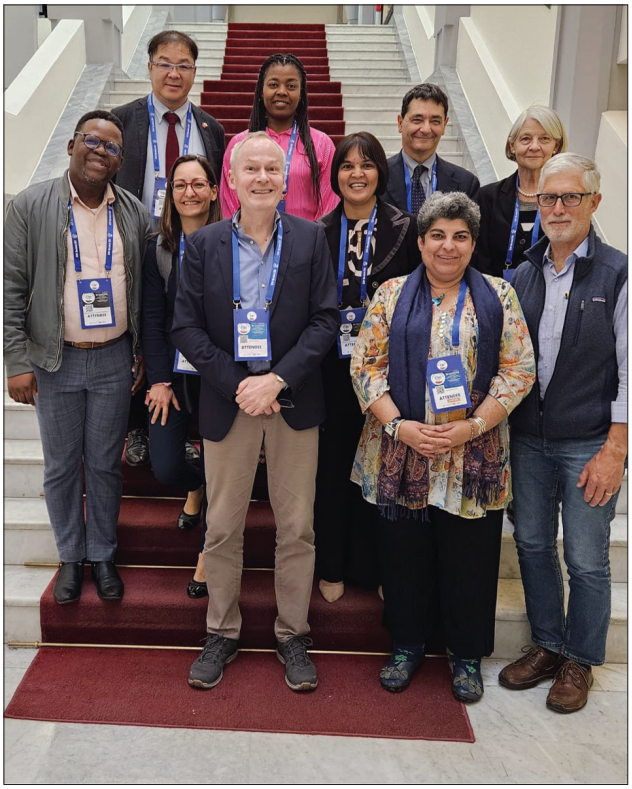
BACKGROUND

This report covers aspects of the 2024 Congress of the International Commission for Occupational Health (ICOH2024) held in Marrakesh, Morocco from 28 April to 3 May 2024. The main focus for the authors was on the newly created ICOH Scientific Committee for Biohazards and Occupational Health (SCBOH), for which they were Chair (Prof. Mary Ross) and Secretary (Prof. Tanusha Singh) from the inception in 2022 until ICOH2024.[1] Nine of the 17 members of the SCBOH attended the congress, providing an opportunity for personal interaction and group discussion at the sessions organised by the authors (Special, Free paper and Poster sessions) and the first SCBOH Business Meeting.

Following the previous congress, ICOH2022, which was affected by the coronavirus disease 2019 (COVID-19) pandemic, ICOH2024 continued to have an emphasis on COVID-19 in a number of different scientific committees and presentations, particularly the long-term effects on physical and mental health. The COVID-19 pandemic is particularly relevant to the SCBOH since its far-reaching health, economic, and social effects in the workplace underly recognition by ICOH of the need to transition from the Working Group on Occupational Infectious Agents (WGOIA) to the SCBOH. The in-person congress afforded the opportunity not only for attendance at the organised sessions, but also for personal interactions on particular areas of interest applicable to occupational health.

SCBOH SPECIAL SESSION, FREE PAPER SESSION AND POSTER SESSION

The congress served as a pivotal platform for the SCBOH to unite experts, researchers, and practitioners from around the world to delve into the latest trends, challenges, and advancements in biohazards and occupational health. The diverse array of topics discussed across the special session, free sessions, and poster presentations highlighted the complex nature of biohazards and the multifaceted strategies needed to tackle them effectively. With 22 presenters hailing from 11 countries, including Argentina, Belgium, Brazil, Denmark, France, Germany, Italy, Japan, Pakistan, South Africa, Taiwan, and Tunisia, the congress truly encapsulated a global perspective. The special session, "Emerging and Continuing Biohazards in the Workplace", chaired by Prof. Mary Ross from South Africa, provided a deep dive into the ever-evolving landscape of occupational biohazards. She stressed the imperative of addressing workplace biohazards and implementing robust risk management strategies. The presentations within the special session offered valuable historical insights and illuminated current challenges, especially amid the COVID-19 pandemic. Prof. Ross highlighted the necessity of global and national commitment to tackle emerging biohazard threats. Prof. Stefano Porru delved into pertinent queries about COVID-19 and its ramifications on occupational health, drawing from the extensive data of the European ORCHESTRA study. The significance of vaccination and risk assessment in safeguarding health workers was underscored. Prof. Albert Nienhaus shed light



Front row, L–R: Prof. Albert Nienhaus, Ms Claudina Nogueira (non-member), Dr Bill Buchta; Middle row L–R: Dr Itumeleng Ntatamala, Dr Marcella Mauro, Prof. Tanusha Singh; Back row L–R: Prof. Toru Yoshikawa, Ms Dikeledi Mutaka (non-member), Prof. Stefano Porru, Prof. Mary Ross
Photograph: courtesy of Tanusha Singh

on the occupational health risks encountered by hairdressers during the Pandemic, emphasising the pivotal role of effective workplace regulations. Prof. Singh presented findings from a compelling case series, exploring mould exposure across diverse occupational settings and highlighting the importance of preventive measures.

The free sessions explored a myriad of research topics, including rubella immunity among the working generation; the role of anti-S IgG against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) during the Omicron variant wave among healthcare workers; influenza vaccination among workers during the COVID-19 pandemic; surface disinfection against ESKAPE organisms; latent tuberculosis infection among healthcare students in a low-incidence country; long COVID-19 syndrome; bioaerosol exposure among recycling workers; and the risk of sexually transmitted infections among hotel workers. Presenters from various corners of the globe shared their insights, enriching our understanding of occupational health challenges and interventions.

The poster presentations showcased an array of research endeavours, spanning chikungunya disease, histoplasmosis to hepatitis B vaccinations, SARS-CoV-2 infection, drug-resistant bacteria, immune responses to vaccination, COVID-19 vaccine acceptance, and the antimicrobial effects of automobile screen washer on *Legionella pneumophila*. These diverse studies encapsulated the breadth of occupational health research on a global scale.

SCIENTIFIC COMMITTEE FOR BIOHAZARDS AND OCCUPATIONAL HEALTH BUSINESS MEETING

The SCBOH Business Meeting agenda and the triennium report to ICOH were circulated to members prior to ICOH2024. The meeting was attended by eight members, the ICOH Vice President for Scientific Committees, and four visitors, two of whom expressed an interest in joining the SCBOH. The scope, covering both infectious and non-infectious biohazards, and the strategy of the SCBOH were discussed as an introduction to the achievements of the SCBOH and its predecessor, the WGOIA, since ICOH2022. Contributions towards the goal of increasing awareness about biohazards in the workplace included input to the International Labour Organization (ILO) Biohazards Guide adopted by the ILO in November 2022.[2]

COVID-19 contributed to the increased attention to biohazards at work, resulting in great interest in a potential focus of the SCBOH on research into post-Pandemic health and safety measures in workplaces. Research on post-COVID-19 was proposed, particularly across various non-healthcare occupational settings as studies have mainly covered health workers.[3] This started a discussion on how the SCBOH should set priorities in view of the scope covering infectious and non-infectious biohazards in diverse workplaces. The well-established One Health approach offers an ideal strategy to identify both types of biohazards and relevant preventive measures to complement research on the diseases. The interaction between public health and occupational health is another dimension for the SCBOH to consider, for issues such as pandemic preparedness and workplace immunisation.

After serving as Chair of the WGOIA for four triennia and the SCBOH for its first triennium, Prof. Ross handed the Chair to Prof. Albert Nienhaus, an occupational physician and epidemiologist from Germany, who works at the University Clinics of Hamburg-Eppendorf (UKE) and the compensation board for healthcare workers. He will be supported by Prof. Singh, who serves as Secretary. He outlined plans for the administration of the SCBOH, emphasising institutional support and strategies for increasing visibility. This includes the SCBOH conducting a post-Pandemic survey of ICOH members on various aspects of surveillance, identification, mitigation, reporting, and compensation of occupational diseases from exposure to biohazards. Such research could be compared with the pre-Pandemic 2017 WGOIA survey and will complement the ILO's current activities. The ILO is exploring the adoption of an instrument or instruments to measure biological hazards in the working environment, following a questionnaire distributed to member states to ascertain what is already in place regarding occupational biohazards, and views on the scope and content of the possible future instrument or instruments.[4]

The SCBOH will follow relevant developments within the World Health Organization (WHO), particularly those related to pandemics and the workplace. During the COVID-19 pandemic, shortcomings in the implementation of the International Health Regulations (2005) (IHR), adopted after the severe acute respiratory syndrome (SARS) outbreak, had repercussions for public health and workers involved in cross-border work. The IHR were deemed inadequate for dealing with the global spread of pandemics and the WHO is reviewing amendments to them. In addition, WHO member countries are engaged in drafting a comprehensive pandemic accord to make sure that signatories are better prepared for future pandemics, and have access to the necessary means to prevent potential outbreaks.

Recently, the WHO released a report from a global technical collaboration between public health agencies, clarifying a consensus on terminology for transmission of pathogens through the air.[5] This followed the initial confusion about SARS-CoV-2 transmission that hampered not only relevant COVID-19 public health preventive measures, but also in challenged employers, workers, and occupational health practitioners in workplaces. The confusing terms used interchangeably included: 'airborne', 'airborne transmission', and 'aerosol transmission', with 'aerosols' implying generally smaller particles and 'droplets' implying generally larger particles. New terminology is based on 'infectious respirable particles' (IRPs), which exist on a spectrum of sizes. The mode of transmission of IRPs through the air is by 'airborne transmission/inhalation' or 'direct deposition' on mucosal surfaces (mouth, nose or eyes), so entering the respiratory tract and potentially causing infection.

OTHER HIGHLIGHTS FROM ICOH2024 OF RELEVANCE FOR THE SCBOH

The Business Meeting of members of the Partnership for European Research in Occupational Safety and Health (PEROSH) welcomed the SCBOH Chair as a visitor. The attendees discussed joint research programmes of the consortium of 14 European research institutes in 13 countries, including a clearing house for systematic reviews and the impact of artificial intelligence (AI) systems. Also discussed were the ethics of sharing information, given the increasing scrutiny of data sharing and the protection of personal information, particularly between countries, and secondments of researchers among its members to stimulate the exchange of researchers between the PEROSH members. It would benefit the SCBOH to emulate the model of the PEROSH collaboration between members and national research teams investigating biohazards. Two of the completed PEROSH projects of interest to the SCBOH and the readers of *Occupational Health Southern Africa* are:

- **The biological working environment of waste collection workers**
  This is a study of occupational exposure to microorganisms related to new waste sorting instructions and the associated reduced frequency rate of waste collection.
  PEROSH fact sheet waste workers exposure

- **OSH evidence – clearinghouse of systematic reviews 2009–2015**
  The aims of the project were to collect systematic reviews on occupational health topics and to exchange experiences on any aspect of systematic reviews. It resulted in training material for researchers on conducting occupational health systematic reviews, and an accessible database of the 27 reviews conducted. OSH Evidence – Clearinghouse of Systematic Reviews 2009-2015 - PEROSH

Another session of interest to the SCBOH was the presentation, by Halim Hamzaoui (Switzerland), on biological hazards, which offered a foundational exploration of the ramifications of biohazards in work settings and underscored the importance of preventive measures. He referred to the ILO's technical guidelines on Biological Hazards in the Working Environment,[2] which emphasised the substantial contribution of the committee as three members contributed to the technical report that informed the development of this guideline.

The final fascinating and insightful plenary presentation at ICOH2024 was given by Prof. Malcolm Sim – 'From Ramazzini to robots: the impact of new technologies on occupational health'. A brief history of the development of occupational health research, evidence, and quality of information led to interviews with robots on whether or not they would replace humans. The tantalising video clips left the audience apprehensive and uncertain of the conclusion! As AI is both an asset and a challenge to occupational health in the future, this was a fitting end to a very successful ICOH congress.

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DECLARATION

The authors declare that they are Past Chair and Secretary (past and current) of the Scientific Committee for Biohazards and Occupational Health; all sources used in this report have been duly acknowledged, and there are no conflicts of interest.

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