



Occupational
Hygiene Association
of Ontario
FORUM



Anne-Marie Landis-Groom,
BSc, MHS, CIH, ROH

President's Message

Greetings Everyone! It is an honour and privilege to serve as the 2021/2022 OHAO President.

Gratitude

First, I would like to express gratitude to Paul Bozek. When Paul returned to the Board of Directors (Board) the year prior, none of us could have predicted the global pandemic and accompanying unknowns and challenges. Paul was active in guiding the Board through this challenging and unusual year. Second, I would like to thank two key departing Board members, Jeff Mallany and Altaira Hildebrand. Jeff's leadership and goal-setting mindset helped move OHAO's mission forward and his approach will most certainly have a lasting impact. Altaira's dedication and steadfast commitment made her a valuable contributor to the Board's strategic plan and implementation. Paul, Jeff and Altaira, thank you for your significant contribution and years of service.

I would now like to welcome and thank the new 2021/2022 OHAO Board. Our Board is composed of a well-rounded group of professionals from industry, public sector, academia, mining, healthcare and consulting. Together, with the assistance from our Executive Manager, Jason Boyer of Fletcher Wright Associates, we are pre-

pared to lead and serve the interests of the membership over the coming year.

The new Board recently met on June 11, 2021 to participate in a day-long strategic planning session. We reflected on what OHAO has accomplished, opportunities to reposition ourselves as leaders and discussed key areas for growth. I am inspired by not only our current and past Board members, but by the hard working, professional and caring members who are making a difference every day in the workplace and beyond. Thank you for your dedication to the profession and we plan on representing you to the best of our abilities.

Reflection

Over the last year, I have reflected a great deal about our history, why OHAO is important, what values and beliefs we cherish, and the leadership position we hold in the broader community. I have also reflected on the questions posed recently in the ethics presentation presented by Dr. John Murphy at the 2021 OHAO Spring Symposium: What are occupational health and hygiene issues of today that will be the subject of writings on ethical failings in future? What about the profession's actions in response to COVID-19? I am committed, along with the Board, to make

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sure we are proud and confident in our decisions, so we add to our legacy in a positive way.

I believe that OHAO has a set of unwritten beliefs and core principles that guide and direct the organization and its culture. The first few beliefs that come to mind are that workers should not become sick or injured from their workplaces; decision-making should be within a risk-based framework that is informed by science, industry best practice, and best available evidence; continuous improvement and multidisciplinary collaboration to problem-solving is essential; and diversity and inclusion is a strength that produces more creativity and better outcomes. At our core, occupational hygienists care immensely about people and don't want to see workers injured or adversely impacted by their workplaces. We see ourselves as part of the solution: powerful advocates and facilitators in the workplace for positive change. Each and every one of you inspire me!

It is evident to me that our profession and organization will face many challenges in the coming years. Some challenges that come to mind include the retiring of invaluable members, the ever-changing landscape of Ontario workplaces, and the inevitable changes to the traditional practice of occupational hygiene. As we reposition ourselves for the future, we cannot neglect our values, beliefs, and passion for evidence-based occupational health science. I think it is fair to say, however, with any changes we may face, our goal as professional occupational hygienists will remain the same: preventing occupational illness/diseases. As an organization, we will need to stay current, relevant and be recognized for the unique expertise we bring to the various decision-making tables.

Given the past year, we have a real opportunity to highlight our organization, the values we hold, and the expertise we have to offer to industry, the public and other stakeholder organizations.

Let's continue to advance the profession of occupational hygiene together. Let's work together to make 2021/2022 a great year!

*Anne-Marie Landis-Groom,
BSc, MHSc, CIH, ROH*

Editor's Message

Greetings all.

I hope that this edition of the OHAO Forum finds you and your loved ones well. As Spring is wrapping up, we look hopefully towards the summer. A promise of things going back to normal looms like a shiny glittery prize that we are desperately trying to win. COVID fatigue seems to have settled in through the population and I can't help but be reminded of how workers become used to hazards and jaded against using personal protective equipment.

I'm not sure if others have had similar experiences, but in workplaces where the employees feel like the hazards are not very "harmful", they tend to feel emboldened in not wearing their PPE. This is especially true for respiratory protection that can be quite a nuisance to wear for long periods of time. As more people are vaccinated against COVID-19 and government guidelines diverge more and more from medical/scientific recommendations, the public seem to be relaxing in following COVID restrictions.

I am already seeing more outdoor gatherings, less usage of surgical masks, and less social distancing. At this rate, the public may lead the government in what is becoming the "new norm". Time will tell if this trend will continue or if a worsening of COVID (spike in cases, more variants, another wave, etc.) will turn this trend around. For now, I know that as safety professionals, we are remaining vigilant in protecting workers as well as ourselves and our families. I hope that you enjoy this issue of the Forum.

Thank you to all the contributors. If anyone would like to contribute a piece to the Forum, feel free to contact me with your ideas.

Stay safe!

Negin Ghanavatian, MHSc., CRSP

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Mission Statement

To advance the profession of occupational hygiene and to serve the interests of our members by:

- sponsoring professional development and training;
- promoting public and legal recognition;
- developing partnerships with stakeholders;
- providing public education;
- fostering communication and networking.

rev. May 2010

Back to Noise Exposure

Alberto Behar, PEng, CIH
 Research Associate, Ryerson University

INTRODUCTION

This is a quick review on noise exposure with an emphasis on extended workday periods.

It is a well-known fact that workers regularly exposed to noise for extended periods of time are at risk of developing hearing loss of varying severity. Some effects of the loss are poor understanding of speech, poor perception of everyday acoustic signals, and diminished appreciation of music. With the exception of exposure to blast, high-level impulse noise, and extremely high levels of steady noise, permanent impairment of the hearing takes months, years, or maybe decades of exposure to be developed. This is one of the reasons for the loss to be rarely detected at the beginning, until it is well advanced.

The phenomenon has been known since antiquity, but it was Bernardino Ramazzini, who first documented hearing loss as an effect from excessive noise exposure. In his book “De Morbis Artificum Diatriba” (Diseases of Workers) he described the prevalence of this condition among bronze workers in Venice. He stated that because of their work, they did lose their sense of hearing and were mostly deaf at the end of their life.

Occupational hearing loss has been known through the ages under different names such as the disease of blacksmiths, coppersmiths, railway workers, weavers, etc. In more modern days it became known as the disease of boilermakers and even of workers riveting airplane wings, who are also exposed to very high noise levels.

NOISE EXPOSURE LEVEL

The magnitude used to assess the risk of acquiring occupational noise exposure hearing loss is the noise exposure level, expressed in dBA.

There are two expressions that sometimes are misunderstood: $L_{eq}(t)$ and $L_{ex}(T)$. $L_{eq}(t)$ is the noise exposure level

during a period t . $L_{ex}(T)$ is the value of $L_{eq}(t)$, normalized for an entire workday which is typically 8 hours.

Presently, the limit for a daily noise exposure is set almost universally at 85 dBA. As such, it is quoted in regulations and jurisdictions in most countries in Europe, America, as well as in Australia (There are still some exceptions, such as OSHA, the Province of Quebec and the Federal Government in Canada (7)(8)(9)).

The basic assumption regarding this limit is that a population exposed to $L_{ex}(8)=85$ dBA, 8 hours a day, 40 hours a week, during the work life of 40 years will acquire an acceptable value of occupational noise induced hearing loss. The ISO 1999 standard which is the document used as a basis for those regulations, presents in statistical terms, the relationship between noise exposures and the “noise-induced permanent threshold shift” (NIPTS) in people of different ages and sexes. It contains tables of hearing losses and formulas for their calculations.

Another principle in the ISO Standard is the equal energy. It postulates that equal energy penetrating the ear causes equal hearing damage. As an example, the effect of extending the sound exposure duration by two is equivalent to increasing the sound level by 3 dB.

This statement is translated mathematically as

$$L_{ex(T)} = L_{eq(t)} + 10 \log t/T, \text{ dBA} \quad [1]$$

Where:

$L_{ex(T)}$ is the standardized noise exposure level for the nominal duration of the work shift T , in dBA

$L_{eq(t)}$ is the noise exposure level during a duration of t hours, in dBA

T is the duration of the nominal workday or shift, in hours, and

t is the actual duration of the exposure, in hours. Most jurisdictions have adopted 8 hrs as the nominal duration T , so the equation [1] is often seen as:

$$L_{ex(8)} = L_{eq(t)} + 10 \log t/8 \quad [2]$$

The formula [2] is used by jurisdictions when dealing with work shifts durations other than 8 hrs.

As an example, for a person working during 4 hrs an environment where the sound level is 88 dBA, the noise exposure $L_{eq(t)}$ is $L_{eq(4)} = 88$ and the equivalent noise exposure for the workday becomes:

$$L_{ex(8)} = 88 + 10 \log (4/8) = 85 \text{ dBA}$$

NOISE EXPOSURES OTHER THAN 8 HRS

Workplace situations are highly variable in regard to their noise environments as well as in their durations.

This is the case of employments where noise levels are highly variable during the workday. It is typically found among construction workers whose exposure varies largely because of the environment they are in and the tools they are using.

This is also the case of maintenance workers, whose exposures are similarly highly variable during the workshift, changing in exposure duration and sound levels. This can be either because of workers switching on and off noisy machines or because they are moving from one noisy spot to other that is not noisy at all.

For all those cases noise exposure measurement during only one day may not be representative and a detailed work analysis and partial noise exposure measurements are necessary. Only by doing so can one arrive at a meaningful value of the $L_{ex(8)}$.

Situations where daily activities are performed during periods different from 8 hrs/day, can be classified in three different groups.

The first situation is the so called “extended workday” when the daily exposure regularly exceeds 8 hrs. Here the workweek is squeezed (or compressed) into three or four days, the number of days worked in a row is decreased and the

number of consecutive days off is increased. So, in the long run, (e.g. a month), the total of hours worked is the same as if the typical daily number of hours (i.e. 8 hrs).

In this case it is necessary to calculate the partial, weekly, daily or hourly noise exposure and combine all exposure as per the following equation (3):

$$L_{ex(Tot)} = 10 \log [(1/T_{Tot}) \sum_i 10^{L_{eq,i}/10}] \quad (3)$$

Where

$L_{ex(Tot)}$ is the noise exposure of the entire period (generally 40 hrs),

T_{Tot} = the total duration of the exposure in hours,

T_i = the duration of the i th exposure in hours, and

$L_{eq,i}$ = the value $L_{eq,t}$ from the i th period.

The situation of the seasonal worker is a separate case to be examined. Those are persons that are exposed to noise for a part of a calendar year. Examples are migrant workers, some construction workers, and also musicians from orchestras.

In those cases, T should be taken as the nominal work-year = 2000 hrs. Then t becomes the number of hours actually worked during the year.

An example was the case of the musicians from a ballet company. By their contract, they were active (for rehearsals and performances) for 350 hours a year.

In this case the equation [1] becomes:

$$L_{ex(8)} = L_{eq(t)} + 10 \log^*(350/2000) = L_{ex(t)} - 7.7 \text{ dBA.}$$

In other words, the measured $L_{eq(t)}$ has to be reduced by 7.7 dBA to obtain the normalized equivalent noise exposure level for the 2000 hrs/year period.

There is yet another situation, where the exposure is steady during the 24 hrs. This is the case of some operators of tow-boats, offshore fishermen and deep-sea vessel seamen. Even if their workday lasts for 8 hours, in some situations they may have to stay overnight on board, while the boat is in

operation. So, they remain in an environment dominated by the engine noises that penetrate the entire vessel, including the sleeping quarters for 24 hrs/day.

SUMMARY

Noise exposure level measurement and assessment are the main tools to ascertain the risk of hearing loss in a given workplace. Today, there are excellent measurement devices that are becoming more powerful and more user friendly with the advance of technology.

However, the complexity, and the very nature of the workplace noise, makes it difficult to define measurement parameters such as how many workers to test, for how long and how often. This paper attempts to provide some guidance to the H&S professional involved in the task of assessing the risk in the workplace, by defining the strategy to be used outside of the classical 8-hour workday.

Dosimetry and Impact Noise
E.A. Sullivan, PhD, CIH, ROH, CChem

In a recent issue of OH Forum,¹ Rob Stevens described the merits of ‘high-definition’ noise dosimetry i.e. conventional dosimetry coupled with digital audio recording. The technique delivers a synchronized time-history of the noise, capable of identifying ‘pseudo-noise’ and identifying/collating noise exposure levels of diverse individual activities, without consultants and technicians necessarily being present at all times. Ideally, integrity of samples ought to be ensured but, realistically, consultants and technicians cannot be everywhere at once or be expected to register every acoustic nuance personally: digital audio allows noise profiles to be recorded in their entirety. Stevens mentions that irrelevant noise such as inadvertently bumping or scraping the microphone can add significantly to the measured noise, potentially exceeding regulated exposure limits. For compliance considerations it is obviously desirable to recognize such acoustic artefacts from dosimeter readings and it raises the issue of how dosimeters respond to industrial noise, especially impact noise.

Noise in industrial settings is generally non-steady; intermittent and fluctuating in duration and intensity. Dosim-

eters were developed to simplify the computational problem of integrating the exposure to non-steady noise. The integrated dosimeter reading also depends on exchange rate. Given a noise profile, i.e. 3dB exchange rate, individual discrete sound levels (Li) and their fractional exposure durations (fi), dosimetry provides an equivalent sound level, L_{EQ} , according to the expression: $L_{EQ} = 10 \log [\sum (f_i 10^{L_i/10})]$. Taking a simplified model, assuming a noise excursion at a level (ΔL) above a given background level for a time fraction (f), the derived noise-level increase above the L_{EQ} background is $\Delta L_{EQ} = 10 \log [f (10^{\Delta L/10} - 1) + 1]$. Dosimeter behaviour is not obvious from this expression but calculations (see following Table) show that it only takes very brief, high-level excursions to raise the average noise level by 10 dBA. Note: A time fraction of 0.01% corresponds to 2.9 seconds over an 8-hr workday.

TABLE: Simplified Model for ΔL_{EQ} Increase from Excursions above Background

Time Fraction of Excursion, %	ΔL_{EQ} (dBA), Increase for Excursions, ΔL (dB), above Background						ΔL_{OSHA} (dBA)
	$\Delta L = 10$	$\Delta L = 20$	$\Delta L = 30$	$\Delta L = 40$	$\Delta L = 50$	$\Delta L = 60$	
10	2.8	10.4	20.0	30.0	40.0	50.0	43.4
1.0	0.4	3.0	10.4	20.0	30.0	40.0	27.0
0.1	0.04	0.4	3.0	10.4	20.0	30.0	11.7
0.01	0.004	0.04	0.4	3.0	10.4	20.0	2.5

Practitioners are aware that dosimeters read higher with a 3dB exchange rate than with 5dB. A sample calculation (see Table) from the model incorporating a 5dB exchange rate, $\Delta L_{OSHA} = 16.61 \log [f (10^{\Delta L/16.61} - 1) + 1]$, illustrates that dosimeters in 5dB mode are much less responsive to high-energy bursts of short duration. Simultaneous 3/5dB measurements can reflect the contribution from impact noise. The model was adequate to account for actual dosimetry results – 3/5dB differentials of 7.4-9.4 dBA – for pneumatic air release of mouldings, where high-level (110-115 dBA), short-duration (0.5-1.0 seconds) noise above a relatively quiet background (74-76 dBA) comprised about 1-2% of the work shift.

An early study in steel manufacture² indicated means of up to several decibels for 3/5dB differentials in a number of operations with considerable impact noise. Measurements from light industry³ – with impact noise – also showed a

mean differential of several decibels, with some individual 3/5dB differences up to 12.6 dBA. Consistent with expectations, the lowest mean differentials were associated with painters and sanders exposed to relatively continuous noise; similarly for long-haul truck drivers⁴ exposed to fairly continuous road and engine noise. Racecar⁵ and fire department⁶ mechanics exposed to metal-on-metal impacts and use of an impacter gun on wheel lugnuts had individual 3/5dB differentials up to 18.8 dBA; such levels would exceed the daily allowable dose in less than one minute. In construction trades,⁷ carpenters, ironworkers and labourers are likely to be exposed to a high impact noise component from a variety of tools; mean 3/5dB differentials were 7-8 dBA.

In some personal investigations, construction operations such as sandblasting and jack hammering, with essentially continuous noise, occasioned small mean differentials (0.6, 2.1 dBA respectively), as did drilling and driving (2.5-3.1 dBA) at open-pit aggregate mining operations. High-impact operations such as loading, crushing and production of aggregate resulted in high differentials: 10.5-14.7 dBA. Foundry operations typically produce considerable impact noise; dosimetry measurements for plasma-arc welders and air-arc gougers indicated 3/5dB differentials of 10.4, 8.8 dBA respectively.

It can be appreciated that inadvertent contact noise mentioned by Stevens needs to be identified and its effect discounted, to obtain realistic measures of personal noise exposures. Industrial impact noise needs to be evaluated owing to its significant effect on dosimeters and its implications for compliance and noise control.

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Health Physics



—Column Editor—
Michael Grey, CHP, ROH

A fatality occurred at the Kinectrics facility in Tiverton, Ontario, on June 14th, 2021 when a vendor employee was killed while disassembling a Primary Heat Transport pump that was being prepared for decontamination. The details on this event are still being investigated so I won't speculate on what occurred, but I can't help but notice that my career in radiation safety, which is approaching its end, has been bounded by two serious accidents. The first occurred in 1988 while I was in the Health Physics department at the Pt. Lepreau Nuclear Generating Station in New Brunswick. The plant was in an annual outage, which consists of nearly 4 weeks on 12-hour (7-to-7) shifts. I was assigned to provide Health Physics coverage on the night shift. I was there in case something unexpected happened, but my most difficult task was usually staying awake. I started each shift by attending the shift turnover meeting so I would know what was happening. One night, I arrived to discover that there had been an accident on the day shift, while a Primary Heat Transport pump was being removed so it could be sent for refurbishment. An electrician had been electrocuted when he started to work on a 600-volt circuit that wasn't fully isolated. He was in cardiac arrest when the Emergency Response Team arrived, but he was successfully resuscitated and survived. I can't help but notice that neither of these accidents involved radiation which has been at the center of my career.

Earlier this year, I was nominated for a position on the International Commission on Radiological Protection's Committee 4 on Applications of the System of Radiological Protection. I wasn't selected, probably because ICRP committees generally consist of a mix of people of different nationalities and backgrounds and there is already one Canadian from a private sector company on the Committee, but the fact that I have often been critical of the ICRP may not have helped. The ICRP has developed a very elegant and sophisticated system for radiological protection, but I feel that the system is also overly academic and divorced from the realities of the shop floor, where I am more likely to work. I suspect that the ICRP, and its sister organization, the International

Commission on Radiation Units and Measurements, would defend their work by pointing out that their role is to provide guidance to other organizations, like the International Atomic Energy Agency and national regulators, and with the exception of Committee 3, which deals with Radiation in Medicine, they do not usually provide guidance directly to front line practitioners.

Health physics is currently facing the same issues that are impacting occupation hygiene and other similar fields. Educational programs are facing cuts, accreditation is usually not required and professional organizations are struggling to survive. Health physics and occupational hygiene require similar knowledge and skills, but practitioners often come from different backgrounds. Health physicists usually have physics or engineering backgrounds and they are comfortable with the use of calculational models while occupational hygienists often come from a chemistry background and they tend to place greater reliance on measurement. I straddle both fields and I'm often aware of the differences, particularly when I'm assessing exposure to aerosols. Health physicists use very rudimentary aerosol sampling techniques but rely on an elaborate respiratory tract model to assess the risks of exposure, while occupational hygienists use much more sophisticated size selective sampling techniques but they assess risk directly from airborne concentrations with only very limited use of modelling. I believe that these fields could both learn something from each other.

In industry, occupational hygiene is often part of an environment, health and safety (EHS) program, while health physics is a usually a standalone specialist organization that deals exclusively with radiological hazards. Health physics tends to be more generously funded than occupational hygiene and I think most occupational hygienists would be shocked to see the amount of monitoring data that is available to health physicists, even if it isn't always collected using the techniques that I might prefer. I have been a proponent of integrating health physics with the rest of EHS for many years with limited success. I think this is particularly important on decommissioning projects which have been my primary focus for nearly 20 years. Decommissioning is one of the most hazardous parts of the nuclear industry. Fatalities do occur and while these accidents may occur on a nuclear site, they rarely involve radiation. Instead, the

greatest hazards are work at heights, falling objects and structures, moving equipment, electricity and hot work, that are all a routine part of construction or demolition projects and I think that a unified approach to EHS would have benefits. Maybe I can make promoting integrated EHS programs for nuclear decommissioning projects my retirement project but I'm not optimistic that I will have much success.

COVID - Reflections From Within the Healthcare Sector

Jeff Mallany, ROH

My wife, who is an infection control practitioner, could not have been more right.

In January of 2020, as she was monitoring the numbers out of China, she said this one would be serious. I am not sure at that point I grasped the gravity of the situation. After all, we had seen emerging viruses before. I arrived in the healthcare sector after SARs, but I was there for MERs-CoV (the cousin to COVID-19) and the novel influenza strain H1N1. Both were disruptive to the health care system in a way that now feels insignificant.

Through the beginning of 2020, we watched as the cases in China rose and cases began to pop up in North America and then again in Italy, France, England, and New York state. The initial optimism that the outbreak could be contained evaporated and we were left with the task of preparing for the worst.

In the early stages of the pandemic, the hospital was faced with critical supply shortages, in all manner of PPE, cleaning solutions and alcohol based hand rub were in short supply due to the failure of global supply chains. These are essential controls in the spread of infection within healthcare. Finding suitable replacement products was essential to our response efforts; after all, how do you run a hospital without soap or hand sanitizer?

There was a tremendous effort made in the first few months of the pandemic to obtain supplies and to rebuild supply chains, seemingly from the ground up. The change of course in the organization was unprecedented. On a

weekly—if not daily—basis the understanding of COVID was changing and we were adapting. The province was mandating changes, and we were adapting. The supplies on hand were changing, and we were adapting. Every change compounded an already stressful time for our staff and community.

In my role, wave 1 was a busy time. Products had to be assessed. SDS sheets, product information and testing reports had to be very quickly reviewed so that purchases could be made while supplies were still available. In some cases, new processes were required on very tight timelines to support a product or PPE change. For a while, it seemed like a new product personally landed in my inbox or sometimes on my doorstep on a daily basis for an assessment or opinion of one kind or another.

Of course, there were challenges even in our successes. Although we secured enough medical procedure masks, some workers had difficulty tolerating the universal masking policy of the hospital. Others had skin sensitivities to new foams or soap or alcohol-based hand rubs. While we were able to obtain a supply of N95s, some workers found themselves fit tested to a model which we could no longer supply or were unable to pass a fit test on our available models. We dealt with each of those cases on an individual basis to find a way to keep that worker safe at work. In some cases, we had to re-evaluate the PPE provided to whole departments, because it was not meeting their needs.

I am fortunate to have contributed to the pandemic effort, largely removed from the front line. I did visit the COVID wards from time to time, but I did not live it day to day, every day. In my view, waves 2 and 3 were the most difficult for those providing patient care. Although the world had a better understanding of COVID at this time, the cases were high compared to wave 1 for both patient and staff. Many frontline staff worked tirelessly, many of them volunteering for high risk assignments to make a difference. Some staff stepped out of their normal roles and contributed as patient or staff screeners, in employee health, as fit testers, in logistics or department auditing roles—whatever they could do to contribute. At many times in this collective effort, I saw the best in people as they stood up to make a difference day after day.

The last 16 months have taken a toll on many of them in terms of stress, health and mental health on front line workers. The workload, combined with the uncertainty and change in their work life and their private lives, has pushed many to their limits. They will need our ongoing support as we move forward from the pandemic.

As an Occupational Hygienist, I hope that my contribution to the collective effort made a difference; in particular, to the safety of the staff. I recognize that there are likely to be additional challenges ahead as we move into a new normal. I am happy to have been part of a much larger team and a corporate command structure working together to ensure the safe delivery of services to our patients, staff and community.

I sincerely hope that the worst of this response is now behind us.

Stay Safe,

Jeff Mallany ROH

Your Board At Work

Anne-Marie Landis-Groom,
BSc, MHSc, CIH, ROH

Advancing OHAO

The global pandemic forced OHAO to quickly pivot and adjust their priorities and logistics to serve the membership. OHAO was active, through the Executive Team and Education Committee, in sharing information and providing opportunities to support the membership around the ever-evolving pandemic. We are most proud of our virtual events, which included town halls, symposia and PDCs.

It was important to the Board that we not sit on the sidelines and we play a role in the pandemic response. In April 2020, the Board contacted members in government and healthcare agencies to offer assistance in the prevention of transmission of COVID-19 in the workplace. In January 2021, OHAO participated in an open letter that was sent to leaders in government imploring them to take aerosol transmission seriously.

Later in April 2021, OHAO wrote directly to the Minister of Labour, Training and Skills Development (MLTSD) encouraging the ministry to do more to reduce the risk of exposure of workers in light of the increased risk of transmissibility and virulence of new variants of concern. Specific concerns and recommendations focused on ventilation, enhanced personal protective equipment, onsite testing and stop work orders. On May 28, 2021, the OHAO sent a letter to the Chief Executive Officer of Public Health Ontario (PHO) in support of their updated rapid review of the literature that included aerosol transmission. OHAO also encouraged PHO to engage collaboratively and take a multi-disciplinary approach with key stakeholders in workplace health and safety (such as the MLTSD, other partners in prevention, and occupational hygiene professionals) who have been working tirelessly to prevent workplace transmission.

At the June 11 OHAO strategic planning session, the Board updated the strategic plan. We also revised the 3-year plan centered around the words “Reach, Reputation and Recognition” (Special thanks to Board member Wagish Yajaman for sharing those terms!)

Reach- To grow OHAO Membership to 300 people by the end of 2024

Reputation - To clearly state OHAO’s values and vision that guide OHAO and the Membership

Recognition - To raise the profile of OHAO as the recognized expert in occupational hygiene for industry, the public and other stakeholder organizations

To meet these goals, and guided by our Mission Statement, below are some of the things the Board will be working on in the coming year:

- Clearly articulating OHAO’s organizational values and vision
- Continue offering high quality education and networking opportunities
- Consistently respond to any stakeholder calls for input, including requesting the MLSTD to define in writing who is “a person who is qualified because of knowledge, training and experience in industrial hygiene practice“

- Maintaining connections with stakeholders through stakeholder meetings; maintaining the MOU with AIHA; initiating a pilot “Letter of Intent” with WSPS
- Continuing educational outreach to students considering or entering the OH profession
- Providing public education through the creation of a promotional OHAO video
- Fostering continued communication through updating the OHAO website, maintaining the OHAO LinkedIn page, and conducting a 2021-Member survey

The media took notice of the April 2021 letter and OHAO was featured in the Toronto Star and Global News in the spring of 2021. OHAO was one of twenty experts in a recent Globe and Mail article. Given occupational hygiene, and OHAO, have been mentioned in the media more than ever before, OHAO identified this as an opportunity to educate the public on the field and our profession. This letter below was submitted to the Editor of the Globe and Mail on June 28, 2021.

To: Editor, Globe and Mail

The Occupational Hygiene Association of Ontario (OHAO) wants to thank you for a recent article written by Tavia Grant, “How to keep workers safe from COVID-19: Focus on the air they breathe” (published June 16, 2021). We were interviewed by Ms. Grant as one of the “20 experts ranging from...occupational hygiene... about the growing evidence of airborne transmission, and the implications for workplaces”.

The COVID-19 pandemic has highlighted the important role that workplace exposures play in the disease burden of our population. To effectively protect our health, it is vital that knowledgeable professionals are involved in addressing occupational health hazards in Ontario’s workplaces; particularly professionals accredited to practice within the field of occupational hygiene.

OHAO wanted to take this opportunity to introduce the general public to the field of “occupational hygiene”, as it is not well known. It is a unique applied science discipline that has a crucial role in Canadian workplaces.

Occupational hygienists are scientists dedicated to protecting worker health. The field of occupational hygiene (also referred to as “industrial hygiene” in non-Commonwealth countries) arose from efforts in the early 20th Century to protect the health of workers in mines and industrial plants.

The term occupational hygiene refers to the discipline trained to anticipate, recognize, evaluate and control health hazard in the working environment. We work to manage chemical (e.g. gases and fumes), physical (e.g. noise, radiation) and biological (e.g. virus, mould) hazards, in the workplace that can make workers sick in the short or long term. These same skills are also utilized in non-workplace settings to manage the same health concerns in residences and congregate living settings.

Professional occupational hygienists have met the competencies of an internationally accredited designation, which requires both university education and post-graduate work experience before challenging written examinations. Canada has four universities that offer post-graduate level of related training: University of Toronto, McGill University, University of Montreal and University of British Columbia. Programs to educate in skills required for occupational hygienists were created within the University of Toronto School Of Public Health in 1920.

The Canadian Registration Board of Occupational Hygienists (CRBOH) is our national organization responsible for registering occupational hygienists (ROH) and registered occupational hygiene technologists (ROHT) in Canada. Similarly, the American Board of Industrial Hygiene (ABIH) — now known as the Board for Global EHS Credentialing (BGC) — certifies “industrial hygienists” (CIH) in many countries including Canada. There are only about 8000 accredited occupational/industrial hygienists globally; and about 700 in Canada. And we need more!

Occupational hygienists are employed across all economic sectors (e.g. mining, industrial, services). Occupational hygienists are also employed in government, the public sector, academia and consulting. It is a rewarding career; dynamic as the scientific knowledge of workplace hazards continuously evolves, and impactful as it is directly connected to the health and well being of individuals.

In Ontario, the first government occupational hygiene program was created in 1914 by what is now Toronto Public Health. In the remainder of the province, the Provincial Board of Health (now split between the Health and Labour ministries) was responsible for inspection and enforcement of occupational hygiene within workplaces. In 1920, the Division of Industrial Hygiene was created within the Provincial Board of Health. This division, now within the Ministry of Labour, Training and Skills Development (MLTSD), is the second-oldest existing occupational hygiene inspection and enforcement program in North America. Legislated requirements for occupational hygiene controls within workplaces were created during the 1920’s.

Occupational hygienists work closely with many other professions including allied occupational health professionals such as occupational physicians and occupational nurses, as well as engineers, infection control specialists, human resources and public health experts.

OHAO is pleased to see more media coverage of our profession. There is a great need for expertise in occupational hygiene to serve workplace needs and also within the broader public health community.

Please see www.ohao.org or our LinkedIn page for more information about our association, the profession or to connect with an occupational hygienist.

Yours Sincerely,
Anne-Marie Landis-Groom MHS, CIH, ROH
OHAO President, on behalf of OHAO Board of Directors

**In Memory of DAVID HALTON,
B.Sc, CEd, PhD, CIH, ROH, CRSP,
CAE**



It is with much regret and sadness that we received news of David Halton's passing on June 24, 2021 after a long and difficult battle with Motor Neurone Disease (ALS).

David was born in Coalville, Leicestershire, UK. He fell in love with the city of Bath during his undergrad studies obtaining a BSc in Biochemistry. He immigrated to Canada in 1975 to follow his professor to the University of Windsor, Ontario to complete his PhD in Chemistry. His fellowship moved him to Wayne State University in Detroit where he completed his training in industrial toxicology and met his future wife Jackie.

He began his career in 1982 in Hamilton as a Project Scientist at the Canadian Center for Occupational Health and Safety (CCOHS), hired by Jim Purdham, and eventually became Manager of Toxicology, Hygiene and Safety. At CCOHS he was involved in the development of the hazardous chemical review process, the ChemInfo Database, and the Chemical Fact Sheets. He was seconded to the ILO in Geneva where he taught labour inspectors how to access chemical hazard databases and interpret risk information. In 1987 he developed and authored Canada's first WHMIS training program, used widely until WHMIS 2015 (after GHS). After CCOHS, he established his own consulting company in Ottawa, David M Halton & Associates.

Throughout his career he was a consultant, primarily in the field of Chemical Hazard Communication.

David joined OHAO when he was at Wayne State University, and subsequently was on the Board of Directors and was President in 1992-1993. As President, he played a leadership role in the development of the OHAO Mission Statement and a detailed work plan, which became a valuable asset to the organization. In 1990, he was a member of the OH Recognition Sub-Committee that was formed to respond to raised questions concerning licensing of occupational hygienists in Ontario. In 2003, David was the recipient of the Hugh Nelson Award for Excellence in Occupational Hygiene and thus became an OHAO Honourary Member. David contributed as a member of the OHAO Historical Overview Task Force (along with Neil Murray, Don Brown and Andrea Sass-Kortsak) formed in 2005 to compile and document the history of the first 40 years of OHAO, its pioneers and personalities. With Neil Murray as the Editor and David as the Associate Editor, OHAO published in 2010: *Pathfinder for a Profession – An Account of the Formation and Development of the OHAO (1964-2004)*. David was also active with CRBOH as an Oral Examiner and taught industrial toxicology in the University of Toronto Occupational Hygiene Masters program.

David always enjoyed a pint of beer among friends and was voted the worst golfer by his fishing buddies. Winters were always spent with friends in the lovely sunshine of Antigua. My husband Ray and I visited David and Jackie in January 2019 and had a fun week exploring the island, snorkelling and beers at a few spots. His love of his wife Jackie, and children Tom, Becky and Lisa was obvious, as he always had tales of them when we met up at some pub. He visited many countries in his travels, but his heart never left England.

Our heart is with his family. His parting advice to those left behind: "Love each other, take care of each other and make the most of the years ahead."

R.I.P. our friend, David Halton

Compiled by: Lydia Renton, CIH, ROH, FAIHA

Call for Case Studies

The OHAO Education Committee is actively working at putting together the OHAO Fall Symposium and PDC programs which have been earmarked for October 20 & 21, 2021.

We would like to offer an opportunity for OHAO members to highlight interesting occupational hygiene work they have encountered. The purpose is to share information and feature member hygiene work, while maintaining strict confidentiality of the case study employers/workers involved.

Each case study would include a description of the scenario, occupational hygiene issue encountered, and lessons learned.

Call to Action: If you (or someone you know) are interested in presenting a case study, please contact office@ohao.org with your proposed case study topic by August 15, 2021. The OHAO Education Committee will review the submissions and contact members directly thereafter.

Save the Dates

The OHAO Fall PDC will take place on Wednesday, October 20, 2021.

The OHAO Fall Symposium will take place on Thursday, October 21, 2021.

The current plan is to hold the Fall PDC and Symposium as virtual events. More details and registration information will be available closer to the events.

OHAO Opportunities

Join a Committee

There is no better way to connect with other OHAO members and contribute to your personal and professional growth. There is a committee for every interest: Education, Communications, Regional Meetings and more. Contact office@ohao.org for more details.

Become a Mentor

Become an OHAO mentor and provide guidance and feedback to students and new occupational hygienists. Contact office@ohao.org for more details.

Promote the Profession

Did you know OHAO has a PowerPoint presentation available to members who are interested in promoting the profession at schools, community organizations, etc. Contact office@ohao.org for more details.

Write an Article for Forum

We are always looking for new contributors to the newsletter. If you have an article you would like to have considered for publication email articles to: neginghanavation@gmail.com

Promote Your Business

When people are looking for occupational hygienists they often end up at the OHAO Consultants Directory. List your company in the directory and gain exposure and business. There is an annual fee for a listing in the directory. [Click here for details.](#)

Career Postings

Whether you are looking for a job or looking to hire the OHAO job listings are a great place to post your jobs for a reasonable fee. All job postings are shared on our new LinkedIn page. [Click here for the job posting page.](#)

LinkedIn

OHAO now has our own LinkedIn page. Be sure to follow us for updates and information related to occupational hygiene. [Click here to visit our LinkedIn page.](#)