**Letter from the Editor**

Dear Colleagues,

I would like to start this letter with a message to our colleagues in Japan, as we are all sad by the tragic events there, resulting from the Tohoku Pacific Earthquake. I am sure I speak for all of us when I say that we have admired calm and dignity of the Japanese people in face of such terrible loss and suffering. Moreover, we should pay tribute to the brave workers, who worked under extremely difficult and hazardous conditions, risking their lives, to repair the seismic damage to the Fukushima Nuclear Power Stations, in order to avoid a greater disaster, not only for Japan but for the world.

As we know, the massive earthquake triggered the devastating Tsunami and this resulted in the halting of the emergency diesel power generators and the pumps supplying seawater to the cooling system. But some of these heroes, workers of Tokyo Electric Power Company (TEPCO), were only 21 and 24 years old.

As you remember, in the last issue you were asked for ideas on how to promote our field to a higher level in international and national development and environmental agendas. Well, on this issue I am presenting to you some ideas (under Contributions from Readers) and invite you to discuss them. An exchange in this respect would be most valuable to all of us, therefore, please, do send your comments even if short ones.

If we speak about greater visibility for occupational hygiene, we are speaking about the importance of primary prevention. One noteworthy point in the contribution from Japan is the mention of how the focus went from a passive approach – treatment of occupational diseases, to a proactive approach, emphasizing primary prevention, practiced under multidisciplinary teams. It was also very rewarding to see that the WHO Conference on Occupational and Environmental Cancer gave due emphasis to the fundamental importance of primary prevention, as you may see in this issue.

On many occasions we have had articles about the PIMEX method and in this issue we have, as promised, articles on excellent and practical uses of this technique in the Netherlands; these are examples to be followed.

As always, I would like to thank all who contributed to this issue and reinforce my request to colleagues from all over the world to send news on their work or to express any professional concerns. Should you have any comments and suggestions for the Newsletter, I would be glad to receive them.

Best greetings to all

Berenice Goelzer  
berenice@goelzer.net

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**NEWS from IOHA**

The meeting was held to coincide with the Annual Conference of the British Occupational Hygiene Society (BOHS) in the historical town of Stratford upon Avon, most famous for being the birthplace of William Shakespeare. IOHA Board Members from the Australian, Canadian, Dutch, Finnish, French, Italian, Norwegian, Southern African, Swedish, Swiss and Taiwanese organisations were in attendance and a warm welcome was extended to the new British representative Dr Karen Niven. Sandi Atkinson from the Secretariat was in attendance and apologies for absence had been received from

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**Report from the IOHA Board Meeting, - 3 April 2011, Stratford upon Avon, UK**

Sent by Sandi Atkinson, IOHA Executive Secretary E-mail: sandi.atkinson@ioha.net
both American associations, the Brazilian, German, Irish, Japanese, Korean, Malaysian and Polish associations.

At the request of the President, Luc Hamelin, the Board observed a one minute’s silence out of respect for our Japanese colleagues.

IOHA 8th International Scientific Conference
Dr Cottica presented a debrief of the conference organised by the Italian Industrial Hygiene Association (AIDII) held in Rome in September 2010. The conference was a great success attracting around 1,000 delegates over the four days with a significant number taking advantage of the reduced registration rates offered to those from developing countries. Really positive feedback was received on the structure of the programme and the combination of scientific sessions and workshops.

The President and the Board congratulated Dr Cottica and the Italian Association on an excellent conference and an outstanding achievement of attracting such a high number of abstracts and delegates from over 50 countries.

IOHA 9th International Scientific Conference
The Malaysian representative was unable to attend the meeting but did send an update on the organisation of this conference for presentation to the Board. The website is now live www.miha2u.org and the call for abstracts will be open in July.

IOHA 10th International Scientific Conference
After much discussion at the meeting around the potential clash with other international conferences in 2014, the Board have now invited bids from member associations to host the 10th International Scientific Conference in 2015. If your association is interested please contact Sandi Atkinson at the IOHA Secretariat in the first instance at sandi.atkinson@ioha.net for more information.

IOHA Representation at External Conferences
IOHA will be sending a representative to the XIX World Congress on Safety & Health at Work due to be held in Istanbul, Turkey on 11-15 September 2011.

IOHA’s President Elect, Mr Noel Tresider has been invited to give a plenary session at the 30th Congress of the International Commission on Occupational Health (ICOH) in Cancun, Mexico.

Membership
There has been some progress in Eastern Europe, specifically Turkey, and IOHA are hopeful that they will successfully form an association and be in a position to join IOHA in 2012 closely followed by Macedonia. Further information on Macedonia will be forthcoming following a scheduled meeting with their representatives in Pavia, Italy in the coming weeks.

An application form for membership of IOHA has been received from the Occupational and Environmental Health Society (OEHS), Singapore. This is currently under review by the Membership Committee and will be put before the Board at their next meeting in October.

Important information now available
You will now find on the IOHA website, guidance on how an association can join IOHA along with ‘Model Rules for a National Occupational Hygiene Association’ giving important help and advice for those wishing to form an association. You will find this information at www.ioha.net/joinioha.html

New appointment to the Executive Committee
Mr Dalrymple stepped down as the IOHA Secretary Treasurer at the end of 2010 leaving a need to appoint a replacement in the interim period until the next AGM when one can be nominated for the full two year term.

Mr Tresider proposed the new Secretary Treasurer be Andrea Hiddinga of the Dutch Occupational Hygiene Society. This motion was seconded by Mr Nærehm and the Board voted and agreed unanimously. The President welcomed Andrea into her new role.

The next meeting will be hosted by Statoil in Singapore on Monday 10 October 2011. The Annual General Meeting will also be held to coincide with this meeting and nominations for the next President Elect and Secretary Treasurer will be sought.

9th IOHA International Scientific Conference

Sent by Norhazlina Bt Mydin  E-mail: norhazlina_m@petronas.com.my

The Malaysian Industrial Hygiene Association (MIHA) is proud to host the 9th IOHA International Scientific Conference, to be held in Kuala Lumpur from 17-19 September 2012. As one of the leading Industrial Hygiene associations in the region, with the strong support and co-operation from the government, NGOs, various industries and international partners, we believe this Conference will be an unforgettable experience for all our distinguished delegates.

The theme “Growing the Seeds of Occupational Hygiene” is chosen to reflect occupational hygiene as a new field that begins to be recognized and in demand within the region.

Professional Development Courses (PDCs) will take place on 15-16 September 2012 and the Scientific and Technical Presentations, during the Conference. During this time, a wealth of occupational (industrial) hygiene and other health and safety topics can be discussed and shared among participants. Colleagues who have conducted studies established invaluable occupational (industrial) hygiene programs and above all those who would like to share their knowledge and experiences are welcome to submit their Abstracts to the organizers. Experts may also further contribute with their experience by conducting PDCs.

The Conference will be held at the prestigious Kuala Lumpur Convention Centre, in the vicinity of world’s tallest twin towers, the PETRONAS Twin Towers, and delegates will be able to enjoy...
One of our outstanding colleagues, Dr Trevor Ogden, from the UK, has been honoured with the 2011 William P Yant Award. This is so well deserved as Trevor has been a great leader in our field and a fine colleague, always ready to share his knowledge and wisdom whenever one of us needs him. He has been a remarkable Chief Editor of the Annals of Occupational Hygiene, since 1997.

Last year, Trevor shared the IOHA Lifetime Achievement Award with Brian Davies.

The theme of his Yant Lecture is “Can we show that exposure is really below the limit? Some developments in sampling strategy.” I am particularly grateful to Trevor for his valuable collaboration, when I was in charge of occupational hygiene activities in the World Health Organization (and thereafter), not only with his knowledge but also his insight and writing skills, both in the discussions and the finalization of key documents as hereby exemplified. As BOHS president he actively participated in the meeting that led to the 1992 WHO publication “Occupational Hygiene in Europe – Development of the Profession”, which reflected the consensus reached, among key occupational hygienists, on the profile of the occupational hygienist, the required areas of knowledge for occupational hygiene training at a high level, and, the importance of professional certification. Trevor was Chairman, co-editor and wrote the Executive Summary for the 1999 WHO publication “Prevention And Control Exchange: PACE - Hazard Prevention and Control in the Work Environment: Airborne Dust”.

Congratulations Trevor!

The VI Brazilian Congress on Occupational Hygiene (CBHO) and the XVIII Brazilian Meeting of Occupational Hygienists will take place in São Paulo, on 22-24 August 2011. This year, the VI CBHO will gather ideas and foster discussions on “Education and Training in Occupational Hygiene, as a contribution to sustainable management”. This will provide a unique opportunity to bring together, in Brazil, occupational hygienists and other professionals interested in education, in order to discuss and propose solutions for emerging problems related to training in the fields of occupational health and safety.

As in many other countries, one concern in occupational hygiene training, in Brazil, is the lack of harmonization and differences in quality among existing courses. Frequent drawbacks in training activities include narrow scope, lack of sound content in hazard prevention and control, reliance on sometimes dated legislation, too much emphasis on measurements alongside a lack of training equipments and practice in laboratories followed by field training. The result is a shortage of competent professionals to effectively act in workplaces.

One consequence of the lack of adequacy and quality in occupational hygiene training is that very often officially required workplace interventions are too focused on evaluations giving secondary emphasis, if any, to primary prevention integrated into efficient programmes. The ultimate aim of occupational hygiene, that is, the prevention and control of occupational risk factors for the protection of workers’ health, is sometimes overlooked in many activities and ABHO feels that it is urgent to correct this situation.

Another problem is that, due to the increased importance of management systems, many professionals are trained in their
application to occupational health programmes without the required background in occupational hygiene. The disastrous result is that some professionals are “managing” occupational health and safety programmes without the necessary knowledge on the very fundamental tasks of recognizing occupational hazards and determining what should be done to prevent them, which is essential to establish relevant and comprehensive programme goals. While for manufacturing or services, the goals to be achieved by good management may be obvious, in the case of occupational hazards, much knowledge and experience are necessary to establish what should be managed and which goals must be achieved for the protection of workers’ health and the environment. One of the reasons for this state of affairs is the lack of adequately trained professionals; therefore, the ABHO Congress will also draw attention to this problem, thus reinforcing the critical need for more and improved occupational hygiene training. So that the importance of this task is fully understood, it should be considered that occupational hygiene can and should make a crucial contribution to the process of sustainable management, as its practice aims at protecting human, natural and financial resources.

VI ABHO Congress in 2010 addressed OELs regulatory update

Sent by Mario Fantazzini, ABHO E-mail: mfantz@uol.com.br

The V ABHO Congress on Occupational Hygiene, held in São Paulo, Brazil, in September 2010, addressed an exhortative statement to the government regarding the update of the officially accepted occupational exposure limits (OELs). The original law on this subject was issued in 1978 and has not been really updated since. Some of the values under the Brazilian law exceed by 100 times some current ACGIH TLVs. The statement was based on observed relevant impacts on workers’ health and the financial overload in workers’ compensation due to illnesses not adequately prevented, as well as on data from a comprehensive comparison study prepared by Irene F. Souza Duarte Saad (ABHO CIH #001). The basic rationale and wording was prepared by Mario Fantazzini (ABHO CIH #005). The statement received contributions from ABHO Board members and was fully supported by the Congress plenary. Thereafter, the statement gained further support from outstanding Brazilian occupational safety and health professionals, and other stakeholders, such as the National Occupational Medicine Association (ANAMT), the National Confederation of Industry Workers (CNTI) and several Workers’ Unions of the State of São Paulo, including Chemical and Safety Technicians bodies.

As an association of professionals dedicated to the protection of workers’ health, it was important for ABHO to assert the urgent need for this legislation update.

From Japan

Japan Association for Working Environment Measurement (JAWE) - Joint Conference and Exhibition on Occupational Hygiene and Working Environment Measurement 2010, Tokyo

Sent by: Shigeru Asuka, Executive Director JAWE, E-mail: s_asuka@jawe.or.jp
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The Japan Association for Working Environment Measurement (JAWE), whose Chairperson is Mr. Shigeru Oshita, Managing Director, Nippon Steel Corporation, and the Japan Occupational Hygiene Association (JOHA), whose chairperson is Dr. Isamu Tanaka, former Professor of University of Occupational and Environmental Health, held their 13th “Joint Conference and Exhibition on Occupational Hygiene and Working Environment Measurement 2010” in Tokyo, from 17 to 19 November 2010, in metropolitan Tokyo, after an interval of 6 years.

This event provided over 350 participants of researchers, technical experts in working environment control, manufacturers/dealers of measuring equipment and other interested people with a good opportunity to discuss and exchange views on their daily technical issues.

As the Joint Conference and Exhibition marks 50th anniversary of JOHA, the commemorative ceremony was performed besides the annual programme of scientific presentations, special lecture sessions and exhibits.
IOHA is related to ICOH (International Commission on Occupational Health) by the fact that these two associations are NGOs of the ILO and WHO and participate to their occupational health and safety programs as sister societies together with the IEA (International Ergonomics Association). Therefore it is important to maintain and promote the contacts and exchange information about the running activities. This is the reason of this short report.

After Dr. Honma’s lecture, Dr. Norihiko Kohyama, Professor of Toyo University, Tokyo, and the incoming President of the association, lectured on its future course. In his lecture, Dr. Kohyama emphasized the need to revitalize the activity of JOHA, as there are many challenges in occupational health in Japan where many workers are waiting with eagerness for the contributions by researchers/experts.

There were altogether 69 scientific presentations and case studies by researchers and experts (10 more than last year), including 32 presentations on chemical analysis and 19 on working environment improvement. Other outstanding themes were analytical technology on mineral dusts (13 presentations), organic solvents (8), specified hazardous chemicals (6), measuring methods of formaldehyde (7), asbestos (8) and nanoparticles (4).

There were 13 manufacturers’ presentations on their commercially available models.

This year’s joint conference and exhibition was highlighted by the special lecture by Dr. Haruhiko Sakurai, Professor emeritus of Keio University on “Ideas and procedures for risk management of chemicals”. His lecture was very comprehensive, covering both technical aspects of chemical risk management and legislative matters, as well as internal and international issues. In Japan, fostering voluntary safety and health management among employers is a top priority of the safety and health administration, and one of the key issues is chemical risk management. In this context the topic was very timely and Dr. Sakurai’s lecture attracted as many as 150 participants. Around 50 participants were standing, and intently listening, during the 90-minutes lecture in a room with capacity for a hundred persons.

The next Joint Conference and Exhibition will be held in November 2011 in Utsunomiya city, located about 100 km northeast from Tokyo.

NEWS from ICOH

Mid-Term Meeting of the ICOH Board in Milano, Italy, 2-4 February 2011
Sent by Michel Guillemin, ICOH Board E-mail: michel.guillemin@gmail.com

IOHA Newsletter, Vol 19 No 1, June 011
At the beginning of February this year, the ICOH Board had its three days “mid-term meeting”, in Milano at the Clinica del Lavoro of the Milan University. This is in the middle of the three years period during which the Board members and officers are appointed.

The first day was devoted to the reports of the President, the Scientific Committees, the National Secretaries, the Finance Committee, 3 Task Groups and 5 Working Groups. Moreover the location of the next Conference (ICOH 2012) was discussed in depth (see below). The second day was a joint meeting with the ICOH Officers, Board members and Scientific Committees during which 3 breakout sessions were organized on the following topics:

1. Membership campaign including young member recruitment;
2. Interaction and integration among Scientific Committees (SCs);
3. SCs outputs and dissemination strategy.

Discussion about the results of the breakout sessions as well as on future SCs gave rise to interesting proposals. The last day was again for the Board and beside the usual items, the International Communication and Information Technology Network for OSH and the review of the Code of Ethics and Transparency was presented and discussed.

The most important decision taken at this meeting was to change the previously planned location for the next ICOH Conference in 2012 in Mexico. For security reasons it has been decided to take this decision because the commitment and the work of the people from Monterrey were very important to ICOH. The Monterrey organizers made a presentation to the Board expressing their disappointment and their concern that the decision was subjective (negative travel advice from governments and travel agencies) rather than objective (statistics about security in different cities).

Among the relevant issues which can be of interest for IOHA, five are summarized here:

1. ICOH is growing older ! The average age of the members is increasing with time. This means that ICOH has to attract more young scientists so that the future can be built by the new generation of OHS professionals committed to defend our values on multidisciplinarity, quality, ethics and transparency. IOHA is defending the same values and should help ICOH in recruiting young scientists.
2. The benefits to become ICOH members are not clear enough for the OHS professionals, possibly explaining why the number of members is not increasing significantly. This point is related to the first one and implies that promotion campaigns have to be organized and that every opportunity (conferences, seminars, workshops, etc.) should be used to encourage OHS professionals to become ICOH member. To strengthen this community is beneficial for all the professions concerned.
3. The topic of nanomaterials being more and more important, it has been decided to create a Working Group (WG), led by Paul Schulte from NIOSH. The task and the challenge ahead of this Working Group are to show the added value offered by ICOH on this topic. At the next Board meeting, the results of this WG will be evaluated and it may become a Scientific Committee.
4. The Communication network, led by Max Lum from NIOSH is promoting “Twitter” as a promising additional medium to enhance the communication and diffusion of information among ICOH members.
5. The Working Committee on Ethics and Transparency, leaded by Peter Westerholm from Upsala University (Sweden) is in charge to update the ICOH International Code of Ethics for Occupational Health Professionals whose last version has been issued in 2002. This work is progressing well and it is aimed to have the new edition ready for the ICOH Conference in 2012. Among the most important updates of the future Code are the aspects related to research, independency and conflict of interest, and the consideration of the different cultural approaches on Ethics and Transparency among the different parts of the world (Africa, South America and Asia). It should be stressed here that this is an update, and the structure of the Code will remain recognizable, because the Code of Ethics of ICOH is really a worldwide reference for all OHS professionals and has been endorsed by many countries, societies and different bodies. The most recent group to adopt is the UN Medical Directors Group which issued a statement in October last year to align itself with this Code.

Finally a success of a joint proposal of ICOH/IEA/IOHA, presented at the WHO Executive Board Meeting in May 2010 regarding child injury prevention has to be emphasized by the fact that The Executive Board passed in January 2011, the EB 128/19 Child Injury Prevention resolution, including all of the insertions regarding young workers and child labor suggested in our common statement. This will go to the World Health Assembly in May 2011 for passage. It will provide a good foundation for continued WHO/ILO activities on young workers, particularly via the Joint WHO/ILO Technical Committee on Protecting Young Workers, and of course for all countries and our WHO Collaborating Center Network.

ICOH 2012 Congress March 18-23: Venue moved to Cancun, Mexico

The International Commission on Occupational Health hosts an international Congress every three years on protecting workers, providing an opportunity for international partners to meet in person to advance research of mutual concern, special topics for working sessions, etc. The 30th ICOH Congress was scheduled to be held in Monterrey, Mexico. However, concerns about
security issues in the Monterrey area in Mexico expressed by ICOH members and travel cautions issued by some government institutions led to the decision of the ICOH Board during its February 2011 meeting to move the ICOH 2012 Congress venue to the city of Cancun, Mexico. The dates and the scientific program will remain the same at

http://www.icohcongress2012cancun.org/. Details regarding the hotels and other information about Cancun are online at the Congress website.

NEWS from WHO

International Conference on Environmental and Occupational Determinants of Cancer: Interventions for Primary Prevention

Sent by: Ivan Ivanov, WHO E-mail: Ivanovi@who.int

Worldwide, cancer is the second leading cause of death. In 2008, there were 7.6 million deaths from cancer, alongside 12.7 million new cases. Roughly 19 per cent of all cancers are estimated to be attributable to the environment, including work settings. Environmental and occupational interventions are therefore vital to reduce cancer incidence; and decreasing exposure to carcinogens can be cost-effective and contribute to the overall well-being of communities.

The first WHO international conference on the primary prevention of cancer through environmental and occupational interventions took place in Asturias, Spain, on 17–18 March, 2011 (?) hosted by the Government of Spain and Government of the Principality of Asturias.

The Conference was opened by HRH Crown Princess Letizia of Spain who called for more health protection at the workplace. The conference attracted substantial political, media and expert attention to environmental and occupational risks factors for cancer and to the opportunities to prevent cancer though environmental and workplace interventions.

The WHO Director for Public Health and Environment Dr Maria Neira highlighted the fact that though there is compelling evidence about occupational and environmental causes of cancer and other chronic diseases, the investment in prevention of such causes remains far too low compared to the potential for saving lives and ill-health and that disease control remains remains disconnected from environmental and occupational health.

The resulting Asturias Declaration is an important milestone in the prevention of occupational and environmental cancer and is transcribed at the end of this article.

All conference materials and the Asturias Declaration can be found at the WHO website: http://www.who.int/phe/news/events/international_conference/en/index.html

This event was an important milestone in the lead to the Ministerial conference on healthy lifestyles and non-communicable diseases that will take place in Moscow at the end of April http://www.who.int/nmh/events/moscow_ncds_2011/en/ and the Special Session of the UN General Assembly on non communicable diseases in September

The dates and the scientific program will remain the same http://www.who.int/nmh/events/moscow_ncds_2011/en/index.html

The First Global Ministerial Conference on Healthy Lifestyles and Noncommunicable Disease Control (NCD) held in Moscow from 28 to 29 April 2011 emphasized the need to rapidly implement policies to address behavioural, social, economic and environmental factors associated with NCD. The conference called for paradigm shift in dealing with NCD challenges "as NCDs are caused not only by biomedical factors, but also caused or strongly influenced by behavioural, environmental, social and economic factors."

The full text of the Ministerial declaration is available at: http://www.who.int/nmh/events/moscow_ncds_2011/conference_documents/moscow_declaration_en.pdf

The contribution of occupational health experts to the efforts
News from WHO Collaborating Centers for Occupational Health

Protecting Workers from Potential Risks of Manufactured Nanomaterials

Sent by Vladimir Murashov, NIOSH  Email: vem8@cdc.gov

WHO is developing Guidelines on “Protecting Workers from Potential Risks of Manufactured Nanomaterials” (WHO NANOH). These Guidelines aim to facilitate improvements in occupational health and safety of workers potentially exposed to nanomaterials in a broad range of manufacturing and social environments.

Asturias Declaration: A Call to Action

Twelve million cancers are diagnosed each year worldwide, and each year over 7 million people die of cancer. The majority of all cancers occurs in low- and middle-income countries, and this proportion is increasing. A substantial percentage of all cancers is caused by environmental and occupational exposures. Pregnant women, fetuses, infants, children and workers are especially vulnerable.

Many cancers caused by environmental and occupational exposures can be prevented.

Primary prevention - prevention of the exposures that cause cancer - is the single most effective means of prevention. Primary prevention keeps cancer from ever occurring. Primary prevention saves lives and saves billions of dollars. Primary prevention depends absolutely on independent, publicly-funded research on environmental and occupational causes of cancer.

The Asturias Declaration calls for the primary prevention of environmental and occupational cancer in countries around the world.

The following are key recommendations:

1. Prevention of the environmental and occupational exposures that cause cancer must be an integral component of cancer control worldwide. Such prevention will require strong collaboration across sectors - the health, environment, labour, trade and financial sectors and among countries, and also with civil society and the media.

2. WHO to develop a global framework for control of environmental and occupational causes of cancer that concentrates on occupational and environmental causes of cancer identified by IARC as proven or probable carcinogens.

3. WHO to lead development of measurable indicators of exposure and disease to guide cancer surveillance in countries around the world.

4. All countries to adopt and enforce legislation for protection of populations, especially the most vulnerable populations, against environmental and occupational cancers.

5. All countries to develop communication campaigns that educate populations about environmental and occupational causes of cancer and about preventive strategies.

6. Corporations to comply with all rules and regulations for prevention of environmental and occupational cancers and to use the same protective measures in all countries, developed and developing, in which they operate.

7. Research to discover still unrecognized environmental and occupational causes of cancers so as to guide future prevention.
Workers in all countries face new risks from manufacturing applications of rapidly advancing new technologies based on nanometer-scale atomic structures known as nanomaterials. The growing list of nanomaterial applications includes cosmetics, food packaging, clothing, disinfectants, surface coatings, and paints. Most of these nanomaterials are produced with simple processes and often in low and medium-income countries. Toxicological laboratory studies in animals have shown adverse effects such as inflammation and fibrosis in the lungs of animals resulting from exposures to some nanomaterials. Although strong human studies of exposure and response to engineered nanomaterials are not currently available and more research is needed to predict the effects of exposures in humans, sufficient information is available to provide interim recommendations and guidance about prudent approaches to nanomaterial handling in the workplace.

Many low and medium-income countries lag behind in introducing occupational safety and health guidance for nanotechnology.

The World Health Assembly identified the assessment of health impacts of new technologies, work processes and products as one of the activities under the Global Plan of Action on Workers Health, adopted in 2007, and WHO and the WHO Global Network of Collaborating Centers in Occupational Health have selected manufactured nanomaterials as a key focus of their activity.

The WHO NANOH Guidelines will provide the basis for the development of an Implementation Guide of user-specific guidance and recommendations for four target groups: country ministries of health and labor; Occupational Safety and Health agencies and professional associations; Occupational Health and Hygiene professionals; workers and management.

As part of the WHO NANOH Guidelines development, WHO is in the process of identifying scientific knowledge and expertise on nanomaterials and health to contribute to this initiative. Applications from experts wishing to participate in the development of these guidelines were submitted through the month of February, 2011. Declarations of interest in supporting this project through other contributions are welcome and can be sent to nanohealth@who.int. Further information about this project is available online at: http://www.who.int/occupational_health/topics/nanotechnologies/en/.

For more information, contact Dr. Vladimir Murashov, Special Assistant to NIOSH Director (vem8@cdc.gov)

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**Inclusion of Young Workers in WHO Executive Board Resolution 128/19 Child Injury Prevention**

**Sent by Marilyn Fingerhut, Co-Coordinator WHO Global Network of Collaborating Centers in Occupational Health  E-mail: maf2@cdc.gov**

The World Health Organization (WHO) Executive Board passed the EB 128/19 Child Injury Prevention Resolution on January 24, 2011 which includes wording to remind countries of their obligations to prevent child labor and to address risks at work encountered by youth under the age of 18. This wording is due to recommendations of the non-governmental organizations in the WHO Network of Collaborating Centers in Occupational Health and to insertions of the Executive Board delegates from the United States and Brazil that were endorsed by the Board.

The global population in 2008 included about 1.5 billion children ages 5-17 years, of whom almost 20% were engaged in some form of work (305,669,000). About 115 million of these children were involved in types of work or working conditions likely to affect their physical, mental, psychological or moral well-being, defined in ILO Convention 182 as one of the ‘worst forms of child labor.’ This convention, carrying the obligation to remove children from hazardous work as a matter of urgency, has been ratified by 173 countries.

A World Health Organization Resolution on Child Injury Prevention was discussed in May 2010 by the World Health Organization Executive Board, the leadership group of WHO countries responsible for preparing the draft content of Resolutions to be brought to the May 2011 World Health Assembly for discussion and endorsement by the Health Ministers of the 193 WHO Member States. Non-governmental organizations in official relationship to WHO are permitted to address the Executive Board.

Initially, the draft Resolution on Child Injury Prevention did not address child labor or adolescent workers. Therefore, a Joint Statement of the International Commission on Occupational Health (ICOH), the International Ergonomics Association (IEA) and the International Occupational Hygiene Association (IOHA) was presented during the WHO Executive Board Meeting held on 22 May 2010 in Geneva, on behalf of the three organizations. The statement described the magnitude of the problem and noted that policies, enforcement of policies, and services geared to working children less than 18 years of age are limited. ICOH, IEA, and IOHA offered to assist WHO and ILO to develop guidance, and to share, implement and evaluate practices for recognizing work-related injuries of children and for preventing and reducing injuries especially in the age group 14 up to 18 years where there has been a sharp increase in hazardous work in the last few years. A number of tools are available from the ILO, ICOH, IEA, IOHA, EU-OSHA, the WHO Collaborating Centers, and other partners. These tools are geared towards workplaces, schools, educating parents, and engaging the public health sector in addressing risks to working children.

Discussion continued at the WHO Executive Board meeting on January 24, 2011. In this meeting, the delegate from the United States and the delegate from Brazil recommended critical wording insertions in the Resolution to address the issues of young workers and child labor, and the Executive Board passed the EB 128/15 Child Injury Prevention resolution, including all of the insertions.
The wording in the EB 128/15 Child Injury Prevention Resolution now includes reference to ILO Conventions C182 (Worst Forms of Child Labor) and C138 (Minimum Age Requirement) in the listing of conventions to remind the Member States of their existing commitments. In the paragraph calling for plans of action, the wording now adds a reminder to take actions to prevent child labor and to set requirements for legal adolescent employment. In the paragraph calling for awareness-raising, there is a reminder to include employers and to address workplace hazards.

This resolution will go before the World Health Assembly in May 2011 for passage and it will provide a strong foundation for continued activities of WHO, ILO, and partners to assist all countries to reduce hazards to young workers. The WHO EB Resolution is available online at: http://apps.who.int/gb/ebwha/pdf_files/EB128/B128_R15-en.pdf

From NIOSH site, under: Collaborating Centre Connection - March 2011 – link: http://www.cdc.gov/niosh/ccc/CCCnewsV2N2.html

**NEWS from ILO**

**World Day for Safety and Health at Work – 28 April 2011**

Valentina Forastieri, ILO E-mail: forastieri@ilo.org

The ILO celebrates the World Day for Safety and Health at Work on 28 April, with the objective of promoting the prevention of occupational accidents and diseases globally. It is an awareness-raising campaign intended to focus international attention on emerging trends in the field of occupational safety and health and on the magnitude of worker-related injuries, diseases and fatalities worldwide.

The 28th of April is also a day in which the world’s trade union movement holds its International Commemoration Day for Dead and Injured Workers to honour the memory of victims of occupational accidents and diseases and to organize worldwide mobilizations and campaigns.

The celebration of the World Day for Safety and Health at Work is an integral part of the Global Strategy on Occupational Safety and Health of the ILO and promotes the creation of a global preventative safety and health culture involving all stakeholders. In many parts of the world, national authorities, trade unions, employers’ organizations and safety and health practitioners organize activities to celebrate this date.

The 2011 World Day for Safety and Health at Work focuses on the implementation of an Occupational Safety and Health Management System (OSHMS) as a tool for continual improvement in the prevention of workplace incidents and accidents. The ILO has prepared a report to serve as a background to this theme, a poster and other promotional materials for the occasion and invites you to join us in promoting this important day.

An OSHMS is a preventive method to implement safety and health measures which consists of four steps and incorporates the principle of continual improvement. Its principles are based on the PDCA Cycle: PLAN, DO, CHECK, ACT. Its purpose is to establish a comprehensive and structured mechanism for joint action of management and workers in the implementation of safety and health measures. OSHMS can be an effective tool for the management of hazards specific to a given industry, process or organization.

The ILO prepared a report, a poster and other promotional materials for the occasion that can be found online at: http://www.ilo.org/safework/events/safeday/lang–en/index.htm

**ILO-IPEC World Day Announcement for IOHA Newsletter**

Sent by: Halshka Graczyk, ILO E-mail: g8ipec@ilo.org

It’s official: the theme for the International Labour Organization’s (ILO) World Day Against Child Labour for 2011 will be “Warning! Children in Hazardous Work.”

Since 2002, the ILO has marked June 12th the World Day Against Child Labour, a day that calls attention to the global extent of child labour and the efforts needed to eliminate it. Every year, the World Day brings together national governments, civil society, employers and workers unions, and millions of children and adults throughout the world to highlight the plight of young workers and advocate for change. This year, the event will shed light on the occupational dangers faced by millions of young workers trapped in hazardous work.

By ILO definitions, hazardous work refers to occupational tasks that may harm or compromise the health, safety, or morals of
children. While certain industries (like mining or construction) carry particular risks, any form of child labour may contain hazards or become hazardous due to working conditions. For example, young workers may be directly exposed to specific work hazards such as sharp tools, poisonous chemicals, extreme temperatures, and open flames. But they may also participate in hazardous tasks, such as working underground while mining, carrying heavy loads on farms, or working at tall heights on construction sites. Other hazards for young workers may be less apparent, such as the risk of abuse or problems resulting from excessive hours of work.

Around the world, the ILO estimates that more than 115 million children and young people are engaged in hazardous work – this constitutes more than half of all child labourers worldwide! Of particular concern has been an alarming 20 percent increase in hazardous work among the 15 to 17 year age group. This translates to 10.5 million more adolescents working in the dangerous jobs or conditions, a rise from 52 million to 62 million young workers over a period of only 4 years (1).

Not only do we know that the number of young workers engaged in hazardous work is increasing, national surveillance data suggests that this cohort faces a disproportionate risk of suffering from work-related health events. Data from the US shows us that the rate of work-related injury for 15-17 year olds is nearly twice that of workers 25 years and older (2). European data also confirms this trend, demonstrating that young workers (15 to 24 years) face higher non-fatal and fatal work related accident rates than older workers. The European Agency for Safety and Health at Work (EU-OSHA) in fact concluded that young workers are at least 50% more likely to be hurt at work than older people and more likely to suffer from an occupational illness (3).

While we have some evidence of the impact of hazardous work on young workers, we face severe knowledge gaps on this issue given the gravity of the situation. In particular, we lack a concrete understanding on the long term health and developmental effects of exposures to occupational hazards at young ages. Moreover, the limited knowledge of the psychosocial impacts of hazardous work on young people remains a serious concern. While it is known that exposure to various forms of abuse, isolation, and excessive work hours (just to name a few) contribute to undermining the dignity and self-esteem of young workers, the true impact of hazardous work on social, psychological, and cognitive development has yet to be fully investigated.

That is why this year, on World Day, in addition to raising awareness and promoting advocacy to eliminate child labour, we make a special plea to governments, universities, research institutions, and donors to give priority attention to filling the knowledge gaps of hazardous child work through new research initiatives. Together, we can create the necessary mechanism needed to influence public policy and ensure a healthier and more productive future for young workers worldwide.

Join with us and add your voice to the worldwide movement against child labour. For more information about World Day and how you can contribute, visit the website at http://www.ilo.org/ChildLabourWorldDay.


carrying or moving heavy loads. The rates of backache and muscular pain in this sector are twice higher than the average.

The good practice case studies collected under this project provide practical information on how to prevent MSDs in agriculture, thus also contributing to implementation of the ‘European agreement on the reduction of workers’ exposure to the risk of work-related MSDs in agriculture’.


Future health and safety risks in green jobs - your views needed
The first phase of the foresight of emerging risks from new technologies in green jobs has been completed. The report, which contains a list of 16 drivers of change likely to shape green jobs in 2020 and create new risks to workers, is available. EU-OSHA is now seeking inputs to the second phase of the project, which is the identification of new technologies that could be found in green jobs in 2020 and their potential impact on workers’ safety and health. If you would like to give your views on which will be the key emerging technologies in green jobs, please respond to the web survey; link:


Safe maintenance in practice - read our latest report collecting successful solutions
The new EU-OSHA report “Safe maintenance in practice” provides information on successful initiatives in the workplace, illustrating how safety and health risks associated with maintenance can be managed. Many companies, insurers and authorities have successfully developed solutions to improve safety and health during maintenance.

The new approaches presented in this report demonstrate clearly that good occupational safety and health (OSH) management practices are at the heart of reliable and safe maintenance. All initiatives are also individually displayed in our case-studies database to offer you a more convenient illustration.

Further information at the EU-OSHA site; one direct link:

International Actions

Opportunities in global training and accreditation of occupational hygiene
Sent by: Roger Alesbury E-mail: roger@alesbury.net
David O’Malley E-mail: domalley@globalnet.co.uk

In the December 2010 newsletter, the editor initiated a discussion on development of occupational hygiene education & training. This review of the global training and accreditation scheme for occupational hygiene is written as a contribution to that discussion. On May 1st 2010, OHlearning.com was launched and, one year on, it is timely to review progress and re-visit the origins and the basic strengths of the scheme.

The global scheme for training and accreditation was developed over the last 5-6 years through a process of consultation and development with and by the global occupational hygiene community. Its function is to provide a platform to build occupational hygiene capabilities across the world and, as such, to further the aims of IOHA and its member organisations. The challenges it was designed to address are broadly those identified by the editor and others in discussions at the IOHA conference in Rome. These include the need to provide consistent quality training accepted by the occupational hygiene community that would be attractive to employers and other stakeholders using the scheme.

With only 20,000 members of IOHA national associations, the occupational hygiene field is small compared to many others. One of our biggest challenges is to maximise our limited resources and to avoid others entering the vacuum that would otherwise exist. OHlearning.com is a focal point that provides a means for the global occupational hygiene community to build a comprehensive scheme for occupational hygiene education, training and qualifications. Importantly, it does this by building on established strengths and systems. For example, student assessment is overseen by a group of 9 IOHA NAR examining boards and designed to complement the existing professional
level qualifications - by providing lower level technician qualifications. This opens up occupational hygiene to a much wider audience without compromising long established professional standards.

The scheme is rapidly gaining acceptance and progress is impressive. As it gains support, opportunities arise for further work to improve and enhance the scheme.

We should not underestimate the potential for promoting occupational hygiene globally. Other professions look on with amazement that our profession has worked together internationally to deliver a scheme that can be deployed globally and offers internationally transferable qualifications. It may not be perfect but let’s build on the opportunity.

The global training and qualification scheme

Courses and qualifications are currently available at three levels, providing stepping stones to qualifications in occupational hygiene and also as courses that can be taken in isolation (Figure 1). The awards are recognised by IOHA and overseen by a qualifications group that currently includes representatives from IOHA NAR examining bodies in Australia, Canada, France, Holland, Italy, Norway, South Africa, UK and USA.

The training materials are commissioned from specialists in Universities or other experienced training organisations and are peer reviewed by independent specialists from multiple countries.

Before publication on OHlearning.com, all courses are evaluated, often in collaboration with major multi-national companies and in multiple countries. The lessons learned are incorporated in the final versions of the published course materials.

The modular nature means that courses can be taken to suit an individual’s timing and need. Completion of these courses could also contribute to a student’s preparation to sit for NAR exam boards’ professional exams, e.g. the ABIH Certified Industrial Hygienist (CIH) exam.

All course materials for foundation and intermediate modules, including a comprehensive student manual, can be downloaded free of charge through www.OHlearning.com. To maintain quality of teaching and practical instruction, only courses run by Approved Training Providers (ATPs) can offer exams leading to internationally recognised qualifications. ATPs are those organisations that have an IOHA NAR accredited hygienist as course director and meet other criteria for course delivery and teaching quality.

Student assessment focuses on assisting students to learn and make practical use of course material, rather than testing memory recall. During the courses, there are group sessions and/or practical exercises where students are evaluated and, at the end, there is an open book examination with short answers. The results provide feedback not just on the students but also on the success of the course in achieving learning outcomes.

The 8 course modules currently available as free-standing courses are listed below. All are designed to be delivered in one-week by face-to-face tuition, though providers can choose to vary the format.

<table>
<thead>
<tr>
<th>Modules available</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>W201 – Basic Principles in Occupational Hygiene</td>
<td>Foundation</td>
</tr>
<tr>
<td>W501 – Measurement of Hazardous Substances</td>
<td>Intermediate</td>
</tr>
<tr>
<td>W502 – Thermal Environment</td>
<td>Intermediate</td>
</tr>
<tr>
<td>W503 – Noise</td>
<td>Intermediate</td>
</tr>
<tr>
<td>W504 – Asbestos</td>
<td>Intermediate</td>
</tr>
<tr>
<td>W505 – Control</td>
<td>Intermediate</td>
</tr>
<tr>
<td>W506 – Ergonomics</td>
<td>Intermediate</td>
</tr>
<tr>
<td>W507 – Health Effects of Hazardous Substances</td>
<td>Intermediate</td>
</tr>
</tbody>
</table>

For those new to the subject or wishing to get a feel for the style and content of these courses, there is an introductory ‘principles’ course at the foundation level. This provides an introduction to the wide range of occupational hygiene issues covering, chemical, physical, biological and ergonomic hazards, their assessment and control.

At the next level up are the intermediate courses that go into much more depth in specific areas. They provide practical ‘hands on’ training in specific topics, including equipment sessions and case studies. The courses all include a practical assessment and open book examination to test understanding.

Advanced modules build on the application of these principles to specific industry sectors, such as Oil and Gas; and Mining. These advanced courses are only available at present as part of modular Masters programmes at certain universities. A new course on pharmaceuticals is planned for 2011 and will be run as a free-standing module for people wishing to learn more about the occupational hygiene issues in that industry.

The scheme is ideal for multinational companies who are experiencing difficulty finding competent practitioners and/or suitable training to develop staff. They need consistent, high quality, relevant training and a way to recognise competent practitioners. The flexible training structure and internationally transferable system of qualifications was specifically designed for this purpose.
The modular structure allows employers to select courses to suit their own timescales and risk profile. Employers can feel confident about the quality of the training because only training providers that have demonstrated they have the technical capability, equipment, and resources to conduct the training to an appropriate standard are approved to run courses that offer the student assessment and qualifications scheme. Employers using the scheme can access courses across the world and even work in partnership with other companies to organise in-house training to suit their own needs. An international panel oversees the standard of assessment and qualifications.

**Advantages to training providers and consultants**

One of the challenges for training providers and consultants offering training is the enormous cost and time required to develop training courses and to maintain them. This scheme has benefitted from investment of well over half a million dollars in the development, testing and validation of course materials, student assessment and the website. This funding, in both time and money, has come largely from major multinational companies and occupational hygiene societies, such as AIHA, AIOH, BOHS and IOHA. The resulting products are free to use by training providers, enabling them to concentrate their efforts on delivery.

Approved Training Providers are also authorised to badge these courses as supported by IOHA. This level of support makes the courses more attractive to employers and students, as does the widespread international acceptance of the qualifications.

**Recent and planned developments**

Courses have already been run or are planned in Australia, Azerbaijan, Brazil, Canada, Chile, China, El Salvador, India, Indonesia, Kazakhstan, Nepal, Norway, Singapore, South Africa, Spain, Thailand, Trinidad, UK, USA and Vietnam. The scheme is receiving increasing global recognition with around 40 training events already scheduled to be run in every continent - except Antarctica.

Providing training and assessment in languages other than English will be critical and a great deal of work is in progress on translations. Four courses have already been translated into Spanish, one in Norwegian, one in Russian and work is in progress on French, Portuguese and Chinese versions. Examinations have been conducted in Chinese, Russian and Norwegian, as well as English.

**OHlearning.com**

New for 2011, is a redesigned front page with regularly updated recent activity and sponsors’ panels. You’ll find a brand new news section, including live updates from activity on the site and our Twitter account. Why not bookmark OHlearning.com as one of your favourites for news, views and information on occupational hygiene globally? In addition you can now follow us on Twitter or sign up to our new news group OHlearning@yahoogroups.com

Much more information is now available at www.OHlearning.com. Over 11,000 of you have already visited the website, which also includes a collaboration centre where you can upload projects, training materials or offer comments on the scheme. Why not register and leave your feedback? We would love to hear from you.

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**Contributions from Readers**

**From Brazil**

**Some considerations on the importance of workers’ health and occupational hygiene in the development agenda**

Berenice I F Goelzer E-mail: berenice@goelzer.net

First of all it should be mentioned that this article refers only to occupational risk factors, more particularly to their potential to cause disease, while there are many other health determinants not hereby covered but of great importance.

Two key issues must be considered: workers’ health should be viewed at a much higher level in national and international development agendas, and occupational hygiene should be viewed at a much higher level when dealing with workers’ health and environmental issues, including climate change. The attention given to the protection of workers’ health seldom reflects its true importance; the real disastrous impact of occupational diseases on individuals and society, as well as on the economy, is seldom duly accounted for. Moreover, the essential role of primary prevention, hence of occupational hygiene, not only for the protection of workers but of the environment, is often ignored in the framework of development strategies.

Occupational diseases, which constitute one of the “silent epidemics”, incapacitate and kill workers every day around the world. According to the ILO, occupational injuries (accidents and diseases) kill more than 2.3 million every year; nevertheless, the attention it receives from international and national agencies, governments and the media is much less than that dedicated to other very serious but not worse health problems, for example, malaria that kills nearly one million, and AIDS, about 2 million a year. Let’s not forget that, particularly occupational diseases, are significantly under reported. Something is wrong somewhere. And I believe that it is our responsibility to find out why and try to contribute to correcting it.
If occupational hygiene is to attain higher visibility and support in the framework of development and environment agendas, there is a need for much more understanding of its potential role with regard to economic, social and sustainable development.

There are excellent means to protect workers’ health but their actual use depends on some form of “green light” from a number of decision makers – at the governmental, enterprise and worker level - and this does not always happen! Let’s, for a moment, not worry so much about perfecting our occupational hygiene knowledge and skills, our instrumentation and methodologies, but rather concentrate on strategies for ensuring better and more universal use of what we already have.

Most readers of our Newsletter are already committed to the protection of workers’ health, hence fully aware of the importance of primary prevention. However, this is not so clear to all decision makers. Political will to implement prevention requires awareness about occupational risks and the full extent of their consequences, including human pain and economic losses, and understanding of the possibilities to avoid or control them.

There must be a consolidated global effort to give due recognition to occupational hygiene, and this should be initiated by “educating” actual and potential decision-makers. Action has to start at levels near to us, expanding upwards, thus reaching national and international development strategies and projects. In line with the ideas expressed in the IPWL initiative (International Panel for Working Life; see December 2010 IOHA Newsletter), let’s try to follow the old WHO slogan “Think globally, act locally” and envision what we can do around us in terms of raising awareness on the importance of our field, for example: lecturing in local medium level and vocational training schools; lecturing/talking to other professionals (e.g., managers, public administrators, lawyers); writing to local newspapers to inform/motivate the general public; contacting entrepreneurs, journalists and politicians, whenever possible, and so on.

Some examples of arguments that are familiar to us, but may come as an eye-opener to other groups, are hereby presented as suggestions when “preaching” outside our professional circle.

**Impact of occupational diseases on workers, their families and society**

Besides the individual suffering due to disease, incapacity and death, the resulting damage to families may have a “domino effect”, impacting on many lives and therefore on society. The consequences for children may be tragic and change the course of their lives, from a hopefully productive to a shattered future. Many children are exploited because parents cannot care for them, and the cause may be preventable. It is important that those concerned with social issues realize the far reaching consequences of work injuries and appreciate the importance of dealing also with their causes.

**Economic impact of occupational diseases**

In 2003, the International Labour Organization (ILO) estimated the economic losses due to occupational accidents and work-related diseases to be about 4% of the global GDP; this has bases on studies in industrialized countries. In developing countries this cost might represent an even higher percentage.

In 1859 Florence Nightingale not only spoke of the injustice of workers getting sick due to their job but already envisioned the cost to employers, when she wrote: “...And for this wage the workman or workwoman has to give work, health and life. ... And yet the master is no gainer. His goods are spoiled, his own health and that of his family suffers, and his work is not so well done as it would be were his people in health. ... And the time will come when it will be found cheaper to supply shops, warehouses and workrooms with pure air than with foul air.” We need some of that wisdom today.

Occupational diseases and accidents do bring about immense costs to national social security and health systems, due to benefits (e.g., sick leave and pay, compensation, family allowances) and medical care (e.g., medical and laboratory exams, drugs, treatment, hospitalization, rehabilitation). In many countries national health systems are nearing collapse due to a much larger number of patients than they can possibly deal with. What if those with occupational diseases, that could have been prevented, were not there? What if a fraction of the money spent to alleviate pain would be put into avoiding it altogether?

The costs, to industry and other occupational branches, associated with occupational injuries is greater than usually perceived, in terms of productivity, quality, absenteeism (of sick workers and family members), company image, compensation and law suits, not to speak about environmental issues. Cost-benefit studies, linking direct and indirect expenditures with diseases and accidents to the cost of prevention, are key to demonstrate that, besides the priceless human and social value of preventing occupational hazards, there are definite economic gains. Unfortunately these are needed by decision makers who have to prove that they are not only human but financially efficient.

Consequently there has been concern about the need for methodologies to estimate the “cost of not preventing”, as well as the cost of effective prevention, with the objective of demonstrating a positive cost-benefit for preventive interventions. This is dealt with, for example, in the 2004 WHO publication “Understanding and Performing Economic Assessments at the Company Level” (see link below). As mentioned in this document: “Economic appraisal can help to find better information to improve decision making, for instance, by showing how many (company) resources are lost due to work-related illnesses and which way is most cost-effective to obtain a good working environment...By means of economic appraisal, the costs and the benefits of health, environment and safety management can be made clear at the national level, at the company level and also for the individual worker. As such it can be a useful tool in advocating good practices.”

A related issue is that of prevention incentives. This is discussed, for example, in the 2010 EU-OSHA publication: “Economic incentives to improve occupational safety and health: a review from the European perspective” (see link below), which gives an overview, analysis and evaluation of existing systems providing economic incentives for OSH in Europe. As Jukka Takala pointed out in the Preface, “The European Union strategy 2007-12 on occupational safety and health (OSH) recognises that there is a need to use economic incentives to motivate enterprises to apply good practice in their prevention work. The European Agency for Safety and Health at Work (EU-OSHA) contributes to meeting
this need by providing information on the types of economic incentives that are most likely to succeed. Research has shown that external economic incentives can motivate further investments in prevention in all organisations and thus lead to lower accident rates. The report of the project consists of a literature review, a policy overview and a case study report.”

Case studies and “real life” examples on these topics should be promoted and supported by institutions, universities (including as subjects for research and theses) and funding agencies, as a means to enlighten and motivate decision-makers, thus paving the way to a wider use of primary prevention.

**Impact of occupational hazards on the environment and general public**

The importance of preventing and controlling hazards in the work environment goes beyond its boundaries. Much environmental pollution and many great disasters result from lack of prevention inside workplaces and inadequate waste disposal. Industry may cause pollution, including by “greenhouse gases” thus also contributing to climate change.

Toxic materials may leave workplaces and affect both the environment and the general public in many ways, via effluents, wastes and residues, as well as consumer products. As examples among so many, let us mention the recent case of 24 children hospitalized due to lead poisoning caused by an illegal battery factory in an east China village, or the more than 100 children who died of lead poisoning in Nigeria as a result from pollution due to illegal gold digging.

Another aspect is the impact of toxic materials utilized in the workplace on consumers as is the case of pesticide residues in food and lead in toys. If a toxic chemical is avoided in the workplace, it will not be present in the resulting product. Moreover, there is their disposal. How far products go? The Track Trash programme at MIT has demonstrated how incredibly far discarded products may travel. Our responsibility concerning what happens in the workplace goes definitely beyond the protection of workers’ health. This brings us to another group of decision makers: the consumers and, in fact, also the retail buyers. If consumers are well aware of hazards involved maybe at least some of them will change their choices and become more responsible.


**From Canada**

**Shift work linked to higher risk of work injury by UBC research team**

Sent by: Christie Hurrell, Communications Director, CAREX Canada

E-mail: hurrell@interchange.ubc.ca

A study by Canadian researchers based at the University of British Columbia shows that Canadians who work night and rotating shifts are almost twice as likely to be injured on the job as those working regular day shifts.

The study, which is published in the peer-reviewed *Scandinavian Journal of Work and Health*, shows that work-related injuries associated with shift work represent more than $50.5 million in injury claim costs to the workers’ compensation system (1).

There are many primary prevention measures for hazard elimination or control in the workplace that protect workers, communities and the environment; examples, when dealing with chemicals, include substitution of materials and changes in processes, and local exhaust ventilation with efficient air cleaning devices. For any risk factor, important and often overlooked measures are risk communication and training in adequate work practices. Anticipation and avoidance of hazards is also part of occupational hygiene. Cleaner production alternatives may be at the same time less hazardous and less energy intensive, for example, the membrane cell process versus the mercury-cell, in the chlor-alkali industry.

Preventive programmes concerning the work environment and the general environment should be well coordinated; not only there are overlapping areas, but it often happens that the success of one is interlinked with the success of the other. Unfortunately the required close partnership between those in charge of workers’ health and those in charge of the general environment is not yet a reality everywhere.

The above are just a few points presented as examples. Readers are invited to discuss this matter, bring suggestions for action and share their experiences, in order to ensure that workers’ health and occupational hygiene receive right and proper consideration in national and international development, environment and climate change agendas.

Shift work has been associated with a range of negative health outcomes, including cardiovascular disease and cancer. However, the disruption of normal sleep patterns due to shift work can cause drowsiness or fatigue, which can lead to workplace injuries. The new study showed that people working rotating and night shifts are more likely to experience an injury than those who work regular day hours (References for these studies may be obtained from the author).

The study used data from Statistics Canada’s Survey of Labour...
Using Statistics to Improve Exposure Judgements

The Occupational Health and Safety Research Institute Robert-Sauvé (IRSST) has released an interview with Perry Logan, Manager, Corporate Industrial Hygiene at 3M, where he explains how he is using Bayesian statistical framework for improving the accuracy, efficiency and transparency of exposure judgments. Accurate exposure assessments are critical for ensuring that potentially hazardous exposures are identified and controlled. In this six-minute interview Mr. Logan focuses on Bayesian techniques and how these can be used to formally combine the professional judgment regarding a particular exposure and its uncertainty with the statistical analysis of current exposure data. A video with the Perry Logan interview is available at: http://www.youtube.com/watch?v=r03Z3VLoQ-o

From Germany

Business value of occupational hygiene

In a free market economy no organization can afford cost without return on investment. All aspects of company operations must be cost effective. An occupational hygiene programme in the company means genuine benefit, that is, occupational hygiene pays.

The goal of occupational hygiene is to protect and promote the health and wellbeing of workers through preventing actions in the work environment. According to WHO documentation, the professional practice of occupational hygiene work includes: anticipation, recognition, evaluation and prevention/control.

All these actions can and should be conducted under cost benefit aspects. Legislation, rules and standards are taken into consideration.

- Anticipation refers to the knowledge that permits the occupational hygienist to foresee the potential for disease and injury, particularly in the planning stages of technology development and workplace design. Adaption of work to the worker.
- Recognition means that the occupational hygienist will use his/her skills, as well as understanding of the situation, derived from, for example, plans and materials, combined with an understanding of toxicology, chemistry, physics, biology and statistics to determine if health hazards exist.

The authors of the study are Imelda Wong, PhD Candidate in the UBC School of Environmental Health, Chris McLeod, Associate of the UBC Centre for Health Services and Policy Research, and Paul Demers, Director of the Occupational Cancer Research Centre. The lead author can be contacted via email at imeldaw@interchange.ubc.ca and the website for the School of Environmental Health at UBC is www.soeh.ubc.ca. The study was funded by WorkSafeBC, British Columbia’s workers’ compensation board. The study is available at http://www.sjweh.fi/show_abstract.php?abstract_id=3124

Reference:


News from the IRSST, Canada

Sent by: Maura Tomi, IRSST   E-mail: Maura.Tomi@irsst.qc.ca
• Evaluation is the process of assessing potentially harmful agents or environments and reaching conclusions about the level of risks to human health.

• Prevention/Control involve the development of preventive strategies, such as:
  ⇒ Selection of safe technologies, processes, equipment and materials;
  ⇒ Source control, for example:
    ◦ Substitution (materials, processes, equipment).
    ◦ Modification of equipment or processes).
  ⇒ Control in the work environment, for example:
    ◦ Enclosures, closed systems
    ◦ Ventilation (local exhaust, displacement, dilution).
  ⇒ Personal measures, such as
    ◦ Work practices.
    ◦ Education and training, risk communication.
    ◦ Personal protective equipment
    ◦ Limitation of exposure time
    ◦ Personal hygiene
  ⇒ Other measures, for example:
    ◦ Good housekeeping
    ◦ Storage and labeling.
    ◦ Warning signs, restricted areas.
    ◦ Reducing losses, recycling, waste disposal.
    ◦ Emergency procedures.
    ◦ Record keeping.

Some examples, prepared by Noel Tresider and hereby presented, illustrate the financial benefit of occupational hygiene interventions.

Example 1. Noise reduction in a bitumen plant.
Occupational hygiene approach <$100 versus Management proposed solution >$5,000

The following example illustrates how the skills as described above can be applied to arrive at a cost effective solution.

Problem:
A 30,000 litre bitumen tank is located at near ground level within 20m of the office block of a small company. The tank is relatively open with only a side brick wall which reflects some noise towards the office. The tank is heated by a LPG burner to maintain the bitumen in a fluid state for loading. The office workers complain that the noise level is annoying and management needs to address the noise problem in their work environment.

Management’s Proposed Solution. – build a brick wall around the end of the bitumen tank to shield the office from the noise. Estimated Cost >$5,000

Hygienist’s Assessment; The noise problem would still exist; there may be a slight reduction in the noise level depending on the noise spectrum, but no guarantee it would solve the problem.

Hygienist’s Approach:
Applying the principles of Anticipation, Recognition, Evaluation, and Prevention/Control, the problem was already in existence but he could anticipate that the proposed management solution would not solve the noise problem for the office workers.

He recognised on inspection that the LPG burner which was heating the bitumen tank had been made on the site and that the design was poor. (1) The plate which held the burner to the heater tube of the tank had two problems, (a) the burner was off-centre and (b) the orifice through which the flame travelled was poorly manufactured (simply, the orifice -hole had been made by drilling many holes around a circle until the centre removed). This resulted in a piercing high frequency whistling sound as the LP gas passed over the jagged edge of the orifice (A similar effect can be obtained but blowing over a soft drink bottle neck). The other problem (2) was that the LPG cylinder which supplied the burner had a faulty pressure reduction valve, this resulted in unburnt LP gas (liquid) intermittently entering the burner tube, vapourising, then igniting resulting in mini-gas explosions. This caused low frequency ‘booms’ and this is what the office workers could hear.

To confirm his assessment noise measurements were made. The noise levels were around 87 dBA (Slow); however there were was an intermittent low frequency tonal noise (a result of the mini-explosions), and a higher frequency noise (from the LPG burner).

Hygienist’s Solution
With the aid of a tradesman, the burner was modified and the orifice plate re-aligned and the orifice edges tapered. The faulty pressure reduction valve was replaced. The results were the low frequency ‘booms’ and the high frequency whistling sound no longer occurred. The noise levels were reduced to around 82 dBA. Cost <$100

Management and workers were happy with the outcome.

Example 2 Avoidance of multi-million retrofit costs in the mining industry in Australia

The following is an example of the value of how our skills can have a positive impact on industry costs. This example occurred in Western Australia where the mining industry operates in the remote regions located in arid areas hundreds kilometres from water ways.

Key products transported to Asia for smelting are zinc, nickel, lead and copper concentrates. Transport for shipment to the port facility is by truck or rail which has been conducted successfully for over 50 years with minimal accidents and not considered an environmental risk. However this was set to change with the new transport regulations which included aquatic toxicity. The introduction of the Class 9 Environmentally Hazardous classification in Australian Dangerous Good Code 7th Edition, and its alignment with the UN Globally Harmonized System (GHS) has resulted in a review of the classification many chemicals and manufactured materials.

The 7th version of Australian Dangerous Goods Code (ADG7) published the reference to the OECD test methodology for Class 9, UN 3077 Environmentally Hazardous Solid. Previously mineral concentrates were not classified by the ADG, however this new testing for UN3077 would now be applicable. Consequently, the implementation of ADG7 for Environmentally Hazardous mineral products has raised a number of questions of classification for the mining industry.
The key issue in this case was the fact that the GHS classification was based on bioavailability and the aquatic environment. But, the mineral concentrates were being transport across dry, barren, isolated land with no waterways.

So what was the outcome?

From the Western Australian Department of Mines and Petroleum (DMP) “Resources Safety”


Individual mining companies, transport companies and the Chamber of Minerals and Energy of Western Australia have made submissions to Resources Safety to obtain exemptions from some of the dangerous goods requirements. The Minerals Council of Australia has sought similar exemptions from the national Competent Authorities Panel (CAP) for the transport of dangerous goods.

Resources Safety has examined this issue and it is clear that the additional costs and complexities introduced by the requirements in ADG 7 to do with UN 3077 cannot be justified on health, safety or environmental grounds and, indeed, may pose additional safety risks.

As a result of some significant implementation problems faced by the transporters of mineral concentrates of UN 3077, and consistent with overseas dangerous goods transport regulations (see The European Agreement Concerning the International Carriage of Dangerous Goods by Road), the Chief Dangerous Goods Officer has granted the following determinations and exemptions to the dangerous goods transport industry in Western Australia:

A determination to allow sheeted bulk containers (BK1) such as kibbles or side-tippers and not just closed bulk containers (BK2);

[A BK1 is an open top bulk container with rigid bottom (including hopper-type bottom) and side and end walls, and a non-rigid covering, such as a tarpaulin. These containers include “sheeted kibbles”.]

An exemption from the licensing of dangerous goods vehicles and drivers; and an exemption from the requirement to display emergency information panels (EIPs). Instead of EIPs, it will be necessary to placard the prime mover and any trailers on all sides with a “Class 9 – Miscellaneous Dangerous Goods” diamond. This is deemed sufficient since the mineral concentrates have no toxic, corrosive, flammable or other chemical hazards.

Further information is available in Chapter 2.9 of ADG 7 and the legislation and policy section of the Resources Safety website.

Notwithstanding the above exemptions, transporters must still ensure that their sheeted bulk containers are well maintained and functional in compliance with the BK1 requirements of ADG 7. Transporters also need to have a contract with or be an “approved emergency responder” to demonstrate their ability to perform a quick and efficient clean-up in the unlikely event of a vehicle roll-over.

Conclusion: While there was no specific figure calculated, the industry estimated that it avoided a multi-million dollar retrofitting cost to its transport infrastructure when there was virtually zero risk of damage to the aquatic environment with the mines located in the desert, and minimal incidence of trucking accidents carrying concentrate.

From the Netherlands

PIMEX in the Netherlands

Sent by Petra Beurskens E-mail: petra.beurskens@arbounie.nl

As already mentioned in the last IOHA Newsletter, Video Exposure Monitoring using PIMEX has been very much developed in the Netherlands. Arbo Unie has produced more than 100 short educational PIMEX videos. The Expert Centre of Chemical Risk Management of Arbo Unie was inspired by the PDC of PIMEX experts Gunnar Rosen en Ing-Marie Andersson (Sweden) at IOHA congress in 2002.

First videos for chemical exposure

Petra Beurskens and Jolanda Willems shared their enthusiasm about the possibilities of PIMEX with the government, resulting in a grant for a tryout and availability study of PIMEX and the needed material in the Netherlands in 2004. After realizing that the required measuring instruments and equipment were available in the Netherlands everything went very fast. At that time a government subsidized program on the promotion of chemical safety for employers (so called VAST program) was already running. In that program new instruments like Stoffenmanager were developed and other instruments like PIMEX were used to train employers and employees and make short educational videos about chemical safety.

Most of the time the videos showed the effect of some control measures on the exposure to chemicals. The subjects were chosen by occupational branches and filmsetting was specific to that trade. Differently from the Swedish technique, the input of a camera crew was such that TV quality pictures were embedded into the PIMEX videos, and videos could be seen with Dutch speaking voice over. At that time several PIMEX videos were made.

Examples of subjects include:

- the effect of vacuum cleaning instead of weeping with a broom or cleaning with air pressure;
- the effect of distance of the exhaust ventilation hood on the exposure of welding fumes;
• the effect of PPE on the inhalation of dust (or the effect of a beard on the effectiveness of the mask).

About 15 occupational branches were involved in this project, which included construction, painters, artists, metal industry, carpet layers, health care, agriculture, etc. Each video was made in a setting of the specific trade so that employees recognize their own working conditions.

**Extension to other subjects**
The government put the PIMEX videos of chemical exposure on their website: www.arbo.nl and, in a short time, PIMEX was one of the most viewed parts of this site. The Ministry of Social Affairs and Working Conditions realized that this was also a perfect way to visualize rules and laws about working conditions for other exposures. Therefore, after this experience, more videos were made, for example:

- the effect of covering machines to reduce noise exposure;
- the effect of a smooth road, or having the wheels in the good direction, in the reduction of the physical strength required when pulling a rolling container;
- the effect of lead protection from radiation in a hospital;
- the effect of wild driving behavior on the resulting vibrations for a forklift truck driver;
- specific PIMEX videos about pregnancy and chemical exposure.


Some PIMEX videos in English are available at: see www.ecs.nl

**Newest developments**
The PIMEX age is not yet gone; some new developments are still going on as hereby exemplified.

**NEPSI Good Practice Guide Illustrated with PIMEX Videos**
A European Network for Silica, formed by the Employee and Employer European sectoral associations called NEPSI, would like to illustrate the effectiveness of the NEPSI good practices in the reduction of occupational exposure to dust. PIMEX was perfect for that. The Good Practice Guide of NEPSI provides tools to progressively improve workers protection, to enhance compliance with EU and EU Member States’ existing workers health and safety legislation and increase knowledge of the potential effects of respirable crystalline silica. Detailed Task Sheets constitute the main part of the Good Practice Guide; each task sheet is available in 22 languages.

At present, nine of these task sheets are available with PIMEX video illustration, all of them with text in 22 languages (198 videos).

For examples or download see: http://www.nepsi.eu/projects/pimex-videos/introduction.aspx

**Video Exposure Monitoring of Nanoparticles**
A second development was the launch of measuring instruments for nanomaterials together with PIMEX. Various strategies have been developed to monitor exposure of nanoparticles. Observations and time/activity registrations are part of the exposure assessment strategy in many studies. Moreover, the knowledge of the background concentration of nanoparticles is important in order to know how much the emission from the process will contribute to the total exposure. With the newest PIMEX software, two measuring instruments can register simultaneously, so that a video picture of the work can be combined with both the measured data from the personal monitor and data from the background or far field measurements, as desired.

**More wishes?**
Yes of course, one of the wishes is to share all the videos internationally.

Until now a lot of PIMEX material has been produced in Sweden, Finland and the Netherlands among others. However, most of the time the videos are available in one language. Maybe now it is time to share and use each other’s videos by making voice-overs in English or native languages of users. Or even better: making more, new PIMEX videos together for European use. NEPSI has made a good start for this.
Context
The 8th Seminar of Work Life Development was held in February 2011 in Dalarna, Sweden. During these days, a small group of scientists and consultants from Sweden (Dalarna University), Finland (Finish Institute of Occupational Health) and the Netherlands (Arbo Unie) met for 3 days in order to share and exchange experiences. This way all could benefit from the knowledge and methods developed in these three institutions thus preventing duplication of efforts and “re-inventing the wheel” in different places. The good recipe was: a small group willing to co-operate and having the same goals (improving working conditions), one accommodation for the whole group, different professional backgrounds, trust in each other and an open mind.

Bringing science and practice together
In comparison with the previously held seminars, there was a shift from a lot of presentations to more interactive discussions. After sharing methods and experiences, the group thought and discussed how to develop methods, which can be really used to change working situations in practice. Scientists and consultants in the same field shared their ideas. There was also some looking back into how ideas in the past have been developed. A good example is PIMEX, developed by Prof Gunnar Rosen and Prof Ing-Marie Anderson, from Dalarna University in Sweden, and practically implemented in the Netherlands and Finland. The use of this visualization method has resulted in more than 100 professionally made films in the Netherlands and several workplace improvements in Scandinavia. Now collaborative work was started on “the attractive workplaces” approach. This was scientifically developed in Sweden and the first implementation steps are being taken in Finland and the Netherlands.

Focus
All three organizations are working in different fields in their own countries. Focal points were selected for this working seminar and for further collaboration. The main subjects discussed this year were:

• “Attractive Work - Work Well-being”, including: what is important for workers, results of “attractive workplaces” surveys, FIOH’s new Workplace solutions for work well-being, developments on “attractive workplaces” in the Netherlands, and, “Attractive work - a learning process”; Successful methods and actions, including: solutions for external problems related to flour dust exposure, Induspace (NOTE: PLEASE WHAT IS Induspace?) and Tools to enhance planning of future workplaces;
• Dissemination of Knowledge, including the FIOH Risk Management Database, and, use of mobile phones, iPad, YouTube, Twitter, etc. to better get out our message;
• PIMEX - work environment, including Visualization of vibration using PIMEX. It has also been discussed to use PIMEX for visualization of exposure scenarios as a part of REACH documentation.

Collaboration brings about inspiration
Collaboration triggers a lot of inspiration among participants in these seminars. The different professional and cultural background makes us think about our own way of approaching a problem/situation, sometimes just by sharing our views. This inspires us to approach things in a different manner when we are back to our own country. A number of agreements were made about future activities in smaller groups with representatives from at least two of the countries. One such initiative was to discuss with the organizers of the IOHA 2012 Conference in Kuala Lumpur about the possibilities to arrange PDCs based on the key topics for the collaboration between the three countries. Another example is to start a work to produce a “method book” based on this collaborative work.

Follow up
Collaboration between the three above mentioned organizations will continue in the future as an “international academic workplace”, that is, a virtual workplace where scientists and consultants work together and where 1 + 1 + 1 is more than 3.