

NEWSLETTER

Message from the Secretary

Dear Colleagues: It is with great pleasure that I am writing to you in my new position as Medichem Secretary. I would like to take personal privilege in my first Newsletter to thank the Board for their support, and in particular, I would like to extend my appreciation and gratitude to Dr. Michael Nasterlack for his guidance and support in passing the Secretarial duties on to me.

In the coming months, we will be updating the Medichem website, and our members email lists. Please let me know if you need to update your email address or if you have suggestions to improve our website. My address is in the right column of this page, or I can be emailed at: dmundt@environcorp.com.

I also welcome any articles you, the members, may have for future Newsletters. I look forward to meeting you, and working together.

Dr. Diane J. Mundt
(Amherst, MA USA)



Introduction of the New Treasurer

We welcome Dr. Steffen Hitzeroth to the Board in the position of Treasurer.

Dr. Hitzeroth received his medical training at the Johannes Gutenberg University in Mainz, Germany, graduating in 1980. Between 1983 and 1988, he received post-graduate training in Internal Medicine, Anesthesiology, Gynecology and Obstetrics, Surgery, Neurology/Psychiatry, joining the Occupational Health Department of Hoechst AG in 1988. In 1992, Dr. Hitzeroth joined Proctor and Gamble and Medical Director of Occupational Health, responsible for two Global Business Units and two Regional Business Units.

Please join me in welcoming Steffen as Treasurer, and thanking Andreas Flückiger for his years of service in this position.

Dr. Diane J. Mundt
(Amherst, U.S.A.)



Announcement -- Medichem 2010 Board Elections – Call for Candidates

This year, Prof. Jasminka Godnic-Cvar will end her term on the Medichem Board. Therefore, one seat will be available for 2010. According to Medichem Constitution Article 5, Medichem members in good standing can nominate candidates for the Board elections 2006.

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March 2009



MEDICHEM - Occupational and Environmental Health in the Production and Use of Chemicals

Founded 1972 in Ludwigshafen, Germany

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Prof. Dr. med. Dr. h. c.
Alfred M. Thiess

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DR. A BIN ONN (Malaysia)
DR. P BOOGAARD (Netherlands)
PROF. S BORRON (USA)
DR. A COMBRINCK (South Africa)
PROF. DR. E EMMANOUIL-
NIKOLOUSSI (Greece)
DR. A FLÜCKIGER (Switzerland)
DR. J GER (Taiwan)
PROF. J GODNIC-CVAR (Austria)
PROF. DR. K KONO (Japan)
DR. J MORALES CAMINO (Mexico)
DR. M NASTERLACK (Germany)
PROF. DR. T POPOV (Bulgaria)
DR. S SHANBHAG (India)
DR. E WHITESIDE (New Zealand)
DR. A WIENER (Israel)

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All Medichem members in good standing (dues paid), are invited to nominate candidates for the Board. Self nominations are welcome.

A nomination form is included with this Newsletter. According to Article 5 Sect. 4.1 of the Medichem Constitution, each Board member must be from a different country, except in the case of officers on the Board.

Therefore Members from **Bulgaria, Germany, Greece, India, Israel, Japan, Malaysia, Mexico, Netherlands, New Zealand, South Africa, Switzerland, Taiwan or USA** cannot be candidates in this year's Board election.

Candidates must be ICOH members in good standing, or at least agree to join ICOH if elected. The nomination will only be valid with the written acceptance of the nomination by the candidate himself or herself.

Send nominations to the Medichem Secretary, Dr. Diane J. Mundt, by mail, fax or e-mail:

dmundt@environcorp.com.

Nominations must be received by **June 30, 2009**. Ballots will be sent with the July Newsletter.

Dr. Diane J. Mundt
(Amherst, U.S.A.)



Minutes of the Medichem General Assembly March 24, 2009 Cape Town, SA

Item 1: Welcome to participants

Chairman Thirumalai Rajgopal opened the meeting at 5:15 p.m., with a special note to welcome the new Secretary, Diane Mundt. Nineteen Medichem members were in attendance.

Item 2: Approval of Minutes, Amsterdam 8 Sept. 08

The Minutes from the last Medichem General Assembly meeting, held 8 September 2008 in Amsterdam, Netherlands, were approved as published in the November 2008 Medichem newsletter.

Item 3: Approval /additions /changes to agenda

As there were no changes or additions to the proposed agenda, the version distributed was approved.

Item 4: Update on Board Executive members

Andreas Flückiger has stepped down from his position as Treasurer, and will remain on the Board to fulfill his term. Steffen Hitzeroth has agreed to fill this position immediately, which was approved at the Board meeting held two days

previously. He provided a brief bio sketch to the Assembly, which is included separately in the Newsletter.

Rajgopal stated his thanks to Georg Wultsch for his service as Secretary on the Board, and wished him all the best.

Item 5: Officers' reports

Chairman: Rajgopal presented the Chairman's report, briefly summarizing the report sent to ICOH as the MEDICHEM Scientific Committee report. This report summarizes the mini-seminar and meeting held in Mumbai, India in April 2008, as well as the Business meeting held in September in Amsterdam. There was also a Health and Safety workshop held in Mumbai, in connection with that meeting.

No Medichem publications or proceedings were published in 2008. Rajgopal mentioned that earlier in the day, the Medichem Workshop was presented in Cape Town, and was well-attended.

Secretary: Diane Mundt provided the Secretary's report. Current membership is 234 members – 95 with expirations 2006 or earlier; 33 expiring 2007, and 4 new members in 2008.

Since January 2008, three Newsletters have been issued. The March 2009 issue will be delayed, to accommodate the minutes of the General Assembly meeting to be held Tuesday, March 24th. Costs

for printing and distribution were covered, as in the past, by BASF SE Ludwigshafen.

The call for candidates will be issued in the March Newsletter – only one term is expiring this year, Jasminka Godnic-Cvar. Diane would like to put on the record her thanks and appreciation to the Board for their support in transitioning into the Secretary position, with special thanks to Michael Nasterlack for his time and guidance.

Treasurer: Andreas Flückiger provided the Treasurer's report. He reported that Dr. Walter Urbatus reviewed the books on 5 February 2009, and that they are in good order.

Expenditures were low in 2008, CHF 10,631.05. Income for 2008 was CHF 35,295.49, resulting in assets of CHF 24,664.44 for 2008. The balance as of December 31st, 2008 was CHF 320,626.54 (USD 299,650.97). The financial report was presented in detail.

Andreas indicated that Medichem is losing individual memberships, but we are currently in reasonable financial shape because of sustaining memberships – and he thanked the sustaining members for last year. However, the concern is that as the sponsors of these sustaining members retire, so might these memberships. Because sustaining memberships include 5 free memberships for the sustaining member company, Medichem

then loses the income of those 5 individuals.

In 2008, there were no applications for the Medichem Prize, Scholarship, or Young Professional's Award.

Rajgopal thanked Andreas for his service to the Board, and Medichem is grateful for his contributions. He also thanked Michael for his generous support of Medichem in "silent" ways, particularly in his support to the new Secretary.

Item 6: Upcoming Congresses

Taipei 2010: Jiin Ger and his colleagues from Taipei, Jungder Wang and How-Ran Guo were present to discuss the 2010 joint meeting of EPICOH, Medichem, and the International Conference on Industrial Hygiene to be held from 21 to 25 April 2010 in Taipei, Taiwan. How-Ran Guo presented a beautiful video overview of Taiwan for the Assembly.

The meeting is being organized by the Institute of Occupational Medicine and Industrial Hygiene, the National Taiwan University College of Public Health and Taiwan Environmental and Occupational Medicine Association in collaboration with the International Commission of Occupational Health (ICOH) and its Scientific Committee on Epidemiology in Occupational Health and the Scientific Committee on Reproductive

Hazards in the Workplace. The conference theme will be "Occupational Health under Globalization and New Technology".

The conference website is www.epicohmedichem2010.tw and the conference email is epicohmedichem2010@gmail.com. The call for abstracts will be issued in July, with an October deadline for submission.

Item 7: Request for Proposals and Future Congresses

Proposals for the 2011 Medichem Congress were discussed, as planning will need to begin soon. Edwin Whiteside proposed New Zealand as a possible venue, indicating the Royal Australasia meeting would take place in the fall of 2011 in New Zealand, and the Medichem meeting might be held in conjunction. He will discuss the options with local colleagues prior to the October Medichem Board meeting.

Rajgopal indicated that other sites were discussed in the Board meeting held two days previously, including Mumbai and Poland. The Board welcomes other proposals, and will discuss all suggestions at their mid-term meeting in Thessaloniki, Greece.

Item 8: Review of Medichem Programs and Initiatives

Andreas Flückiger presented the current programs by which Medichem provides support to assist members' participation. The Medichem Prize is the oldest, designed to assist young professionals from countries that are hosting the Congress. Six candidates present to the Congress, and one applicant wins. All candidates receive some funds, but the winner receives more.

Medichem Scholarships are offered to individuals to present scientific papers at Medichem's Congresses, based on merit. Scholarships are available to Medichem members and non-members, regardless of their residence.

The Medichem International Young Professionals Award is only available to applicants younger than 35 who would like to present their work at a congress. It is intended to attract to young Medichem non-members in training as an occupational health professional. Experienced Medichem members act as mentors for these young professionals and help with preparing their presentations.

The Board voted two days earlier to modify and clarify the Scholarship and Young Professionals award, which will be effective as of the 2011 Congress:

In the Rules for the Scholarship award, "Registration" will be removed

from the description. The new description will be: An award of **up to** US\$ 2,500 will be made to a maximum of 3 successful applicants to assist with travel and associated meeting costs, such as airfare, registration or accommodations.

For the Young Professionals, an award of **up to** US\$ 1,500 will be made to a maximum of 6 successful applicants to assist with travel and associated meeting costs, such as airfare, registration or accommodations.

As future Congresses are held, the organizers were encouraged to advertise and describe these awards in the materials they distribute.

Murray Coombs suggested that the Board contact past winners and feature the research that they are currently doing in an upcoming Newsletter, or ask prior winners to present this current work at an upcoming Congress. The Assembly considered these to be good suggestions.

Item 9: Honorary Membership

Martin Malcolm Harrington has been awarded honorary membership, and assembly offered their congratulations.

Item 10: Other Business

No other business was presented. Rajgopal adjourned the meeting at 6:15 p.m.

Respectfully submitted,

Dr. Diane J. Mundt
(Amherst, MA, USA)



ICOH Membership

The Medichem Board acts as the "Scientific Committee on Occupational Health in the Chemical Industry" of the International Commission on Occupational Health, or ICOH.

While Medichem Board members must have ICOH membership in good standing, it is not mandatory for other Medichem members. The Medichem Board, however, strongly encourages Medichem members to also join ICOH and participate in the scientific progress, knowledge and development of occupational health and safety.

Learn more about ICOH and ICOH membership:
http://www.ichweb.org/site_new/ico_homepage.asp

As an ICOH member, you can participate in the activities of three ICOH scientific committees. A new committee this year is Scientific Committee on Women Health and Work. This new Committee met for the first time in South Africa in March. More information can be obtained from the ICOH website.



Medichem Mini-Symposium, ICOH Cape Town, SA

During the ICOH Congress held this past March in Cape Town, South Africa, the Medichem Scientific Committee planned and presented a 90 minute mini-symposium.

The symposium was titled "Chemicals – New Occupational and Environmental Health Challenges and Solutions." The session was well-attended, and the speakers included: Andreas Flückiger, "Guidance for the interpretation of biomonitoring data;" Frank Hoffmeyer, "Role of exhaled breath analysis in environmental and occupational research;" Michael Nasterlack, "Evaluation of urine based tumor markers for the early detection of bladder cancer in workers formerly exposed to aromatic amines;" and Tee Guidotti, "Ecological and Population Monitoring Following Emissions of Persistent Organochlorine Compounds From a Special Waste Treatment Facility."

Presented in this Newsletter are the abstracts for each of the talks given in the mini-symposium. Please feel free to contact the individual authors for more information on specific talks.

Guidance for the Interpretation of Biomonitoring Data

Presented by: **Dr. A. Flückiger** – Head of Occupational Health, F. Hoffmann-La Roche Ltd., Basel Switzerland and Scientific Committee Ecetoc (European Centre for Ecotoxicology and Toxicology of Chemicals), Brussels, Belgium and Dr. P. Boogaard - Senior Consultant Toxicology, Shell International, Den Haag, The Netherlands and Scientific Committee Ecetoc, Brussels, Belgium.

Biological monitoring has been used for decades in assessing actual or potential health effects in workers exposed to a variety of substances. However, progress in the application of this science in occupational health has been slow and less than a 100 biological workplace exposure indices have been published in the key reference lists. An average of less than one has been added each year in the last decade.

On the other hand, biological monitoring is being increasingly proposed and used in the monitoring of the general population. Political interests have an impact on how the data are interpreted (and often misinterpreted) and presented to the public.

Ecetoc, the European Centre for Ecotoxicology and Toxicology set up a taskforce to develop guidance on the interpretation of biological

monitoring data to distinguish between data that:

- * indicate merely the presence of a substance in the environment (or not even that – in case of poor analytics)
 - * indicate merely that an individual has been exposed to the substance
 - * indicate that biological parameters in a individual have been modified
 - * indicate that biological effects have occurred in an individual
 - * indicate that clinical effects have occurred in an individual
- The guidance also shows how, from an epidemiological perspective, studies must be assessed as to whether they do or do not show
- * a snapshot picture of population exposure (and possibly the sources of this exposure)
 - * trends in such exposures over time
 - * the presence of a substance in a group and its correlation with a health effect (based on the quality of the mechanistic knowledge)
 - * an actual risk in a quantitative fashion

This guidance is meant to enable the reader to verify whether claims made by study authors or by those who quote these studies are sound or false.

Role of exhaled breath analysis in environmental and occupational research

Presented by: **Dr F. Hoffmeyer** - BGFA, Research Institute of Occupational Medicine German Social Accident Insurance, Ruhr-University Bochum, Germany; PD Dr M. Raulf-Heimsoth, Dr V. Harth, PD Dr J. Bünger, Prof T. Brüning.

The respiratory system represents the route of entry for many environmental and occupational pollutants. Inflammation is a fundamental process in the pathophysiologic cascade leading to respiratory diseases such as asthma, chronic obstructive pulmonary disease or pneumoconiosis.

Currently, induced sputum, bronchoalveolar lavage or bronchial biopsy during bronchoscopy is used for direct assessment of airway inflammation but these methods are invasive. In contrast, analysis of exhaled breath are non-invasive and do not influence the underlying disease process.

The gaseous phase contains volatile substances, such as nitric oxide, carbon monoxide and hydrocarbons. Exhaled nitric oxide (FeNO) is the best

validated gaseous constituent and is used for assessing airway inflammation in clinical practice particularly in patients with asthma.

The liquid phase of the exhaled air is sampled by cooling and is referred to as exhaled breath condensate (EBC). A wide variety of substances have already been detected in EBC, most of them already evaluated in induced sputum or BAL. EBC biomarkers reflect acid stress, oxidative stress, or inflammation.

Concerning adverse effects of air pollution, there is a special focus on markers reflecting oxidative stress since air pollutants have the ability to drive free radical reactions.

Other compounds determined in EBC include proteins, trace elements and toxic metals and might be useful in terms of environmental and occupational exposure assessment.

There are still many methodological limitations and the interpretation of findings is hampered by the fact that the most widely used devices differ significantly in collection efficiency of markers of interest and the analytical technology employed is often near the limit of detection.

EBC might be of particular interest in preventive medicine since adverse inflammatory processes often precede changes in lung function. This overview focuses on data

obtained from articles concerning applications of exhaled breath analysis in environmental and occupational research.

Evaluation of urine-based tumor markers for the early detection of bladder cancer in workers formerly exposed to aromatic amines

Presented by: **Dr M Nasterlack** -- Occupational Medicine and Health Protection, BASF SE, Ludwigshafen Germany, Prof G. Leng, Dr D. Taeger, Dr G. Feil, Dr B. Pesch, Dr B. Scheuermann, H. Bontrup, Dr H. Wellhäußer, F. Eberle, Dr G. Johnen, Dr M. Pelster, Dr M. Horstmann, Prof T. Brüning, Prof A. Stenzl

Objectives:

The prospective study UroScreen is aimed to evaluate tumor markers for bladder cancer screening in a high-risk population of employees formerly exposed to aromatic amines. Results on factors potentially influencing sensitivity and specificity of the markers will be presented.

Methods:

Since 2003, 1,543 persons (average age 58 years) had undergone at least one screening examination. A total of 4,634 urine samples were collected for cytology, quantitative determination of NMP22, chromosomal aberrations by the UroVysion™ test, and survivin

using a RT/PCR assay. If at least one test (except for survivin) was positive, cystoscopy was recommended.

Results:

NMP22 could be measured in all urine samples. With a cut-off of 10 U/ml 157 samples were classified as positive. Elevated levels were confirmed in particular for urinary tract infection. UroVysion™ could not be determined in 8 % of the samples, especially in samples with low cell yield or creatinine < 0.5 g/L.

On the other hand, a sizable fraction (n=17) of the positive results (n=41) was found in subjects who provided urines with creatinine < 0.5 g/L. More chromosomal aberrations were found in subjects with former bladder cancer.

Regarding survivin, 63 samples were above the cut-off of 40,000 PCR copies. Inflammation and creatinine < 0.5 g/L were associated with a higher fraction of positive survivin findings. Ten of up to now fourteen bladder tumors were detected by tumor markers, where NMP22 and UroVysion™ turned out to contribute as panel due to their weak correlation.

Conclusion:

The interim results support that a panel of tumor markers may improve screening high-risk populations for bladder cancer. Accompanying urinary tract

infections can interfere with apoptosis-related markers.

Urine density can interfere with cell-based bladder cancer tests. Urine sampling and cut-offs should be optimized for the screening of asymptomatic subjects with respect to potentially false-positive results.

Ecological and Population Monitoring Following Emissions of Persistent Organochlorine Compounds From a Special Waste Treatment Facility

Presented by: **Dr TL Guidotti** –University of Alberta, Edmonton, Alberta Canada; Amy O'Connor, George Washington University, Washington, DC,

On 16 October 1996, an incident at the Swan Hills Special Waste Treatment Centre in Alberta, Canada, released to the atmosphere an undetermined quantity of persistent organic pollutants, including PCBs, PCDDs, PCDFs.

Levels of PCBs and PCDD/Fs were elevated in various environmental samples including spruce needles, snow pack, surface water sediment, brook trout, deer and moose collected from the area around and downwind of the Special Waste Treatment Centre.

An initial public health advisory was released that prohibited the consumption of wild game, fish, and other

“country foods”. An ecologically-based, staged health risk assessment was then conducted, by determining contaminant levels in the vicinity of the plant, levels in the atmosphere and local precipitation, deposition on vegetation, and levels in wild game and fish.

Elevated levels did appearing in some wild game and fish in the area. Biomonitoring of local residents determined that none had elevated blood levels compared to a reference population, although workers at the plant demonstrated a different profile of PCB congeners compared to other residents.

Aboriginal residents had higher rates of consumption of country foods, as expected. Aboriginal residents did not have elevations in organochlorine compounds or metals, except cadmium, or evidence of increase between monitoring rounds in 1997 and 2000.

The hypothesis was that persistent organic pollutants had entered the ecosystem and pathways that would eventually result in human exposure. However, no effect on human internal dose was demonstrable in the time elapsed since the incident.

The information from each level of study was taken into account in the development of public health advisories for the consumption of country foods harvested from the area. The approach took into account the

apparent velocity and magnitude of the migration of contaminants to anticipate possible risks to health.

The assessment also took into account patterns of food consumption of aboriginal peoples resident in the area in order to protect this vulnerable population.

This case study illustrates a combined ecological and biomonitoring approach to risk assessment and a culturally-sensitive approach to risk management.



Welcome to New Members

Dr. **Thomas Bruening**,
BGFA, Bochum (Germany)

Dr. **Jan Sije Huismans**, Akzo
Nobel, Arnhem (Netherlands)

Dr. **Catharina van Eck**,
Johnson & Johnson, Beerse
(Belgium)

Congratulations

The Medichem membership offers congratulations to Prof. John Malcolm Harrington as a newly elected Honorary Member of Medichem.



Retirement

Medichem wishes **Dr. Noel Humphrey** all the best in his recent retirement from Dow Chemical, Australia.



Upcoming Events

4th International Conference on Nanotechnology – Occupational and Environmental Health

26 – 29 August 2009
Helsinki, Finland

**Early registration ends
2 June 2009**

For more information visit:
www.ttl.fi.nanoeh2009 or
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2010 EPICOH-MEDICHEM Congress “Occupational Health under Globalization and New Technology Taipei, Taiwan

A joint meeting of EPICOH and MEDICHEM will be held in Taipei, Taiwan **21-25 April, 2010**. Prof. Jung-Der Wang is the Chairperson for the EPICOH portion of the program, and Prof. How-Ran Guo will chair the MEDICHEM.

Broad topic areas for the Congress include: Globalization, New Technology, Methodology, Exposure Assessment, Health Outcomes, and Interventions.

Please note – the call for symposium and submission of abstracts will be July 1st, 2009.

For more information, visit the meeting website at: <http://www.epicohmedichem2010.tw>, or send an email to: epicohmedichem2010@gmail.com.

