



2009 Number 5

# ISIAQ NEWSLETTER

November



## President's Column by Richard J. Shaughnessy

I am honored to accept the position of President of ISIAQ on behalf of the Society. Building upon experiences I have encountered having been on the Board for the past 6 years, I look forward to the upcoming service to the Society. Excitement is one way to describe my feelings in stepping into the position... another would be a hint of apprehension as to the task at hand. I have asked myself for some time now, are we as a Society headed in a direction that the Founding Fathers envisioned. Are we fulfilling the role that ISIAQ is premised upon? As an "international, independent, multidisciplinary, scientific organization" one must surmise that the membership is indeed broad based and comprised of many disciplines which play a role in indoor air studies. Whereas the membership embodies a collective group of professionals from many walks of life, there is a need to involve more health practitioners in the mix. This creates a demand for the Society to make itself more relevant to health professionals in terms of them recognizing the need to focus on IAQ.... What seems obvious to most indoor air practitioners may be more obscure for those on the medical side that are preoccupied with outdoor exposures and emerging diseases in the world.

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## Healthy Buildings 2009 wrap up, looking ahead...

The Healthy Buildings 2009 conference, hosted by the Syracuse Center of Excellence, from September 13-17 in Syracuse, New York, was well attended and well-received. The Healthy Buildings 2009 conference at the Oncenter with four days of scientific presentations, plenary lectures, and a three-day trade show.

About 300 ISIAQ members as well as many others assembled for the 9<sup>th</sup> in the Healthy Buildings series. Many of the leading researchers and practitioners in the indoor air community shared in the opportunity to learn from each other. An important part of the conference from the ISIAQ perspective was the very strong attendance by students from all over the world.

The numbers tell part of the story:

747 attendees at the scientific conference.

531 technical papers and presentations.

512 people at the Healthy Buildings Opportunity Exchange

A flash drive of the complete conference proceedings is available from ISIAQ'S Secretariat - \$25 for members, \$99 for non-members. Check the ISIAQ web site for more details and an order form –

<http://www.isiaq.org/news/healthy-buildings-2009-proceedings-now-available-on-flash-drive>

At the close of the conference, ISIAQ announced that its next Healthy Buildings conference will be held in 2012 in Brisbane, Australia from July 8-12. Lidia Morawska, former president of ISIAQ and a professor at Queensland University of Technology, will serve as conference president.

A new Board of Directors was inaugurated at the Syracuse meeting, and both the old and the new Board of Directors members met for an all-day session on the day before the Healthy Buildings conference began. ISIAQ's Academy of Fellows welcomed new members, and the total number of Fellows now exceeds 100.

The previous three Healthy Buildings conferences were held in Helsinki, Finland; Singapore; and Lisbon, Portugal. Indoor Air 2008 was held in Copenhagen. With the scheduled Indoor Air 2011 conference in Austin, Texas, and the Healthy Buildings 2012 conference in Australia, ISIAQ continues to hold its flagship conferences around the world.

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**“If you don’t like  
the news, go out  
and make some  
of your own.”**

**– Scoop Nitzger,  
The Last News  
Show**

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NEWSLETTER  
2009 – Number  
5**

Assembled by the  
ISIAQ Secretariat  
with contributions  
from Richard J.  
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Richard Corsi,  
Glenn Morrison,  
Ray Wells, .

## **President’s Report** *continued from Page 1*

In addition, a primary role that ISIAQ is based upon is to facilitate international and interdisciplinary exchange of information among scientists. This is primarily addressed through the ongoing series of Indoor and Healthy Building Conferences, however, we must explore whether we can improve on our current formula for conferences, and/or develop critical alliances with other organizations in our efforts to more effectively address indoor quality and climate issues in the future. The premise of ISIAQ providing a platform for exchange of information between scientists and practitioners is also one that must be addressed if we are to better fulfill our mission of translating the research into practical terms that can be applied now in today’s world.

ISIAQ has grown considerably in the last 5 years in terms of our ability to expand in new directions, and in terms of financial stability which allows for options previously nonexistent for past Boards. With a membership of over 775 members, the Society is well situated to consider new directions and initiatives to meet our goals. With decisive action and direction this new Board hopes to achieve a number of attainable goals in its tenure.

A few points of where we intend to go from here:

- Focus on growth (students included)
- Establishing alliances with key organizations
- Focus on Regional conferences
- Bridging of the HB and IA conferences possibly in future
- Possibility of ISIAQ magazine focus on practice
- Serious scrutiny of going back to our Mission -- how we can better bridge the gap of science and practitioners (translating and delivering the research in practical terms for the field) .

Future initiatives being considered by the new Board:

- ISIAQ, The Magazine
- Chapter development
- Aligning with key organizations to stage Regional ISIAQ-Sponsored conferences on a regular basis
- Web site elaboration
- Future of conferences: organization, content, and span inbetween
- Increase membership by making the Society more viable and attractive to the needs of its members; a more active role for members

As President, my goal will be to make the Society more pertinent to the members, invoke participation and interest that has been dormant in the past, and work diligently with an outstanding new Board to delve into new directions that may best serve and sustain ISIAQ’s future.

Sincerely,  
Richard J Shaughnessy



### **HB2009 Highlight**

Yuguo Li of Hong Kong University delivered a plenary lecture titled “Ventilation and Airborne Infections” at the HB2009 conference. Professor Li is a new member of the ISIAQ Board of Directors and an internationally recognized authority on ventilation and airborne infectious disease transmission. He was the leader of the external team that contributed to the recently published WHO Guideline “Natural Ventilation for Infection Control in Health-Care Settings”

**NEWS FROM FINLAND**, by Jorma Sateri**SB10 Conference integrates indoor environment in sustainable building themes**

Finland organises in September 22-24, 2010 a regional Sustainable Buildings conference, SB10 Finland Sustainable Community – building SMART. The event is organised by VTT Technical Research Centre of Finland and Finnish Association of Civil Engineers RIL and co-sponsored by FiSIAQ, CIB, iiSBE and UNEP SBCI.

Sustainable development is continuous and controlled social change that is sought after worldwide. Where and how communities are built, affects consumption, environmental loading and social impacts. Sustainable Community is an opportunity to improve quality of life and mitigate climate change. In addition, it's fast growing business! Providing a healthy and productive indoor environment in an environmentally sustainable manner is the key target of buildings. This topic has been integrated in all the conference themes reflecting the necessity to consider indoor environment issues at all levels of the building process.

Abstract submission through the website [www.sb10.fi](http://www.sb10.fi) is now open, and the deadline for abstracts is **February 15, 2010**. Please see the website for further information.

**Fighting moisture and mildew in buildings**

The Finnish Government has decided to provide funding for the nation-wide project to combat moisture and mildew in buildings. The aim of the project is to prevent moisture damages caused by poor design and construction and to disseminate best practises and up-to-date information, improve co-operation within the real estate and construction sector and launch a communication and education campaign. The programme also stimulates economy as workers dismissed or laid off from the construction sector will be offered opportunities to retraining and upgrading of qualifications to become specialists in renovation and repair of buildings.

Bill Fisk (left) of Lawrence Berkeley National Lab and John Girman (right), a former ISIAQ Board member and recently retired from the U.S. EPA, pose as cowboys for the promotion of Indoor Air 2011 in Austin, TX. [www.indoorair2011.org](http://www.indoorair2011.org) for information.

**NEWS FROM SWESIAQ, The Swedish Chapter of ISIAQ** by Erica Bloom

The Swedish chapter SWESIAQ has currently 83 members. For next year we have reduced our member's fee considerably (250 Swedish Kronor, just below 40 dollars) in hope of recruiting more members.

We recently (12th of Nov) organized a workshop on the topic Renovation of buildings. This meeting attracted 40-50 scientists and practitioners from all over Sweden. At the workshop we initiated three work groups which will meet on the web (through the GoToMeeting-application, the fee being sponsored by SWESIAQ) regularly until presenting their conclusions at a spring seminar, organized in connection to our annual meeting, set for the 15th of April. The three groups will focus on 1) sanitation/remediation using chemicals 2) crawl spaces 3) hygiene and protection during the renovation process. Any Swedish or "Nordic"-speaking members interested in joining the work groups may do so by contacting the SWESIAQ board through our webpage [www.swesiaq.se](http://www.swesiaq.se)

Since last fall the board of SWESIAQ has also initiated a local Swedish newsletter reaching nearly 300 subscribers and are in the process of updating the SWESIAQ webpage for easier management, a more appealing design and for facilitating discussions and debates on building- and indoor environmental issues for SWESIAQ members.



## RESEARCH BRIEFS

**Hong study focuses on natural ventilation performance as an infection control measure** The Hong Kong Government Research Fund for the Control of Infectious Diseases (RFCID) is supporting a research study – “NatVent: Use of Natural Ventilation as an Infection Control Measure” between 2008 and 2010. This study follows the recent WHO recommendation that natural ventilation may be considered for infection control, but there is still a lack of epidemiological data and detailed engineering data. A particular difficulty in evaluating natural ventilation performance of naturally ventilated wards for infection control is the lack of a reliable and practical measurement method for very high ventilation rates say higher than 12 ACH or 80 l/s per patient. This project allows a systematic field measurement study of natural ventilation performance in a naturally ventilated TB hospital in Hong Kong for a year, and also in a mechanically ventilated TB hospital as control. Epidemiological data will be collected for comparison. We will measure the ventilation performance and different indoor air quality parameters in 2 wards of each hospital with TB patients once every week for an entire year, accompanied by outdoor measurements, including hourly weather data. The ventilation performance is investigated through comparison with the health care workers infection rates. Computational fluid dynamics (CFD) and multi-zone airflow studies will also be carried out to evaluate the full year hourly ventilation performance in both hospitals so that ventilation guidelines can be developed. The principal investigator is Yuguo Li from the University of Hong Kong.

**Indoor Sampling Methods** Accurate indoor air quality assessments are compromised by sampling methods that do not effectively capture oxidized volatile organic compounds formed as a result of indoor chemistry. Characterization of these reaction products is important for accurate exposure assessment as they could be partially responsible for indoor occupant health effects. The National Institute for Occupational Safety and Health (NIOSH) has utilized chemical derivatization to demonstrate that carbonyl and dicarbonyl species could be formed in indoor environments from fragrance compound emissions. Work is currently underway to utilize other derivatization techniques and sampling methods to collect carboxylic and dicarboxylic acid reaction products. The blending of these techniques into rugged practical sampling methods will benefit industrial hygienists conducting exposure assessments and future indoor air quality definitions. Project PI: Ray Wells (NIOSH)

**Indoor Reaction Product Yields** In order to improve indoor occupant exposure assessment, a more complete understanding of indoor chemistry’s contribution to the indoor environment is warranted. The National Institute for Occupational Health (NIOSH) is addressing this knowledge gap by investigating the transformation pathways of volatile organic compounds found in the indoor environment. By determining the reaction product yields, NIOSH has been able to assess the formation rate of oxygenated organic compounds such as aldehydes, ketones and dicarbonyls in simulated indoor environment conditions. Exposure to oxygenated organic compounds can be partially responsible for observed health effects. NIOSH is currently determining the hydroxyl radical (OH) yields from simulated cleaning formulations in an effort to understand possible secondary chemistry pathways. The research results from these efforts are anticipated to be used to improve indoor air quality by reducing occupant exposure to oxygenated organic compounds. Project PI: Ray Wells (NIOSH)

### “Fate and Transport of Pollutants in the Built Environment: Atmospheric Chemistry Moves

**Indoors”** Hugo Destailats, Charles Weschler and Glenn Morrison have organized an indoor chemistry symposium at the 239th American Chemical Society meeting in San Francisco (March 21-25, 2010). The symposium is intended to engage outdoor atmospheric chemists in the fascinating and unusual chemical environments found in buildings. Indoor air quality is a function of dynamic processes in which chemical reactions play a key role by consuming primary emissions and generating secondary contaminants, including secondary organic aerosols (SOA). While outdoor pollution contributes background levels, the composition of indoor air is strongly determined by indoor sources, including occupant activities such as cooking, smoking or cleaning. In indoor environments, low molecular weight organic compounds and reactive species are found principally in the gas phase, while persistent semivolatile compounds tend to accumulate both in the gas phase and on exposed surfaces, including those of airborne particles and settled dust. To meaningfully alter the composition of indoor air, gas phase reactions must occur at rates that are competitive with air exchange rates. Such constraints do not apply to surface reactions, which are favored by the large surface-to-volume ratios found indoors. Indeed, indoor surfaces may present substrates that favor certain chemical reactions such as base catalyzed hydrolysis. As practices consistent with environmental sustainability and zero-energy buildings are incorporated into building construction and operation, new materials with novel emissions and surfaces will be introduced. Characterizing indoor chemistry, with an eye towards mitigation strategies, becomes even more important in such a setting, since its impact on human exposures will be amplified as a consequence of tighter building envelopes and reduced air exchange rates.

## About ISIAQ

ISIAQ is an international, independent, multidisciplinary, scientific, non-profit organization whose purpose is to support the creation of healthy, comfortable and productive indoor environments. We strongly believe this is achievable by advancing the science and technology of indoor air quality and climate as it relates to indoor environmental design, construction, operation and maintenance, air quality measurement and health sciences.

As a Society, our major role is to facilitate international and interdisciplinary communication and information exchange by publishing and fostering publication on indoor air quality and climate. We organize, sponsor and support initiatives such as meetings, conferences, and seminars on indoor air quality and climate; and we develop, adapt and maintain guidelines for the improvement of indoor air quality and climate.

ISIAQ's journal, *Indoor Air*, published six times per year, is the most respected and widely-cited source of scientific information relevant to building scientists and professionals. Our two major international conferences -- the Indoor Air 'xx and the Healthy Buildings 'xx conference series -- set the standard for high quality scientific information and its application to making healthy buildings. We also cooperate with government and other agencies and societies with interests in the indoor environment and climate.

To find out more about us, visit our website: <http://isiaq.org>

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## Corporate Memberships are available

If your organization is involved in indoor air science, policy, or practice, a corporate membership in ISIAQ will place you in the limelight with the international indoor air community.

- ISIAQ reaches more than 40 countries around the world.
- ISIAQ's conferences, considered the most important in the field, have been attended by more than 4,000 individuals.
- The official Society journal, *Indoor Air*, is respected by scientists and policy-makers as the most reliable way to keep up with the latest scientific findings in the field.

To learn more about the benefits of corporate membership in ISIAQ, visit the membership page on our web site and click on the [corporate membership link](#).

## OUR CORPORATE MEMBERS

