

**AIR MAIL 9**

JAN. 1993

**IAI****INDOOR AIR INTERNATIONAL****CONTENTS**

President's Note	1
Outgoing Presidential Address	1
Recent IAI Meetings	2
Canadian Business Environmental Award	3
Letter from Stockholm Part 2	3
Ernest Kennaway - an appreciation	4
IAI Meetings 1993	4

**PRESIDENT'S NOTE**

IAI is having a busy autumn (fall). We are collaborating with indoor air conferences in Cluj in Romania and Taty in Slovakia in late September. We have our major meeting of the year at the Royal College of Physicians in London in October. This international conference will look at the possible health problems of volatile organic compounds in the air, at monitoring the levels of these compounds, at their generation and control and at legislative actions. This is expected to be our biggest meeting to date.

In November, we are collaborating with conferences being organised in Ankara, Turkey and Warsaw, Poland. We are also discussing the possible cooperation with seminars in Spain and Egypt.

We have already made a start with the planning of conferences in 1994 with major conferences in Ulm in Germany and Beijing in China. Details of most of the meetings which have been finalised will be found in the calendar of meetings in this issue.

George Leslie President IAI

**OUTGOING PRESIDENTIAL ADDRESS**

IAI has been in existence for three years and has grown from an infant in swaddling clothes into a lusty youth despite world wide economic gloom. It has held many successful conferences and has established an excellent Journal and newsletter. It is now time for me, as founding president, to hand over to the incoming president George Leslie.

The success of IAI has been due to the hard work of many people, too numerous to mention in the space available, but my and, I trust, your sincere thanks are due to them for the efforts they have made in achieving this success. However a special mention is due to George Leslie who, in his wide business travels, has found time to promote IAI in very many countries. Also to Max Weetman who, as our Publications Secretary, founded 'Indoor Environment' and has made it into a major scientific journal, and Roger Perry, now our President Elect, as one of our chief conference organisers. Especial thanks are due to them for the tremendous amount of work they have put in on behalf of IAI.

IAI in order to grow in numbers and stature must adapt to the changing world scene. I am confident that those now in charge of its destinies will rise to the challenge and make IAI even more successful than it has been already. I know that the officers of IAI will have your full support in this daunting task.

Frank Lunau Past President IAI

The International Association for Indoor Air Quality  
Postfach 2, CH-4467, Rothenfluh, Switzerland

## RECENT IAI MEETINGS

### Indoor Air Quality in Central and Eastern Europe

An International conference on this subject was held in the hotel Patria at Strbsko Pleso in the High Tatras, Slovakia, from 30th September to 2nd October 1992. The conference was jointly sponsored by IAI and the Slovak Society for Environmental Technology. The wonderful scenery of the High Tatras helped to attract over 100 participants from many countries in the region including Romania, Russia, Ukraine, Moravia, Hungary, Poland, Croatia, Bosnia-Herzegovina and Austria as well as several from Western Europe.

The conference was opened by speakers from several of the Slovak Ministries and topics covered included the general framework for IAQ - policy, legislation and standards, as well as technical and scientific papers on various chemical pollutants, building materials and environmental technology.

The proceedings have been published in English and are edited by D Petras, P Sobotka and J Valent. The 398 page book is available from Slovenska Spolocnost pre Techniku, Prostredia (SSTP) at Kocelova 5, 815-94 Bratislava, Slovakia. The price is \$30 plus \$5 towards packing and postage.

### Quality Standards for the Indoor Environment: Scientific and Regulatory Aspects

An international conference on this subject was held on December 1st to 3rd under the auspices of the Czech Ministry of the Environment. The joint sponsors were the Czech Society for Environmental Technology and Indoor Air International. The venue was the beautiful city of Prague.

After an opening by the Czech deputy Minister for the Environment the European Member of Parliament, Mr Steven Hughes discussed the political practicalities at the European Community level. He was followed by Dr Knoeppel from the Commission of European Communities Joint Research Centre Environment Institute. Dr Knoeppel presented a paper on the European Collaborative Action "Indoor Air Quality and its impact on Man".

Dr M F Curtis discussed future and likely trends in European Community Legislation of relevance to indoor air quality at the workplace. Dr Z Jirak from Czechoslovakia assessed proposals for tolerable microclimatic conditions and Dr L S Levy posed the dilemma of regulators making risk extrapolations for chemicals in the atmosphere. The first session closed with a paper by Professor E Mayer from the FHG-IBP Fraunhofer Institute fur Bauphysik who talked about the new draft German standard DIN 1946 - on the technical health requirements for HVAC.

Later sessions addressed scientific as well as regulatory issues. Professor J McCormick presented a most stimulating paper on the Ethics of Regulation and speakers from many parts of the world discussed the situation in their countries. These included Dr S Hansen from the USA who reviewed the limitations of ASHRAE 62-1989, Professor F Haghghat who reviewed the standards and guide-lines in Canada, Dr P Dingle who reviewed the control and regulation of indoor air in Australia and Professor J Kagawa who spoke about indoor air quality and regulatory activity in Japan.

Other papers on regulatory aspects and standards were presented by Dr C Pettersson from Sweden, Dr J Hoskins from the UK, Dr D Bienfait from France, Professor P Siskos from Greece, Professor L Dobrovolsky from the Ukraine, Dr C Mackay and F W Lunau from the UK.

There were more presentations about radon than about any other specific pollutant with papers by Dr J Smejkal, Dr I Senitkova and Dr M Neznal, all from Czechoslovakia, Professor I Mocsy from Romania, Professor G Tymen from France and Professor D F Weetman from the UK.

The design and operation of HVAC systems was a subject that attracted many papers from Czechoslovakia including Professor M V Jokl, Professor D Petras, Dr M Zalesak, Dr J Langner, Dr V Gluske, Dr J Koci and Dr M Carvanova as well as from abroad such as Professor A J Willman from the USA, Dr M Rolloos from the Netherlands, Dr J Nevrala from the UK, Professor S Piardi from Italy and Professor L Molnar from Hungary.

Papers on problems from heating and cooking methods were presented by Professor L Targowski from Poland, Professor G Abbritti from Italy, Dr J Zahourek from Czechoslovakia, and Dr G B Leslie from the UK.

Other interesting papers from abroad came from Dr Ensor from the USA who discussed the particle-size dependent efficiency of ventilation filters in dust control, Professor N Bitcolov from Russia who talked about concentration limits for beryllium and Professor R Perry from the UK who discussed indoor and outdoor air quality factors with respect to VOC emissions from vehicles.

Biologists and physicians presented papers on various health issues from indoor pollutants. Dr E Papes from Czechoslovakia spoke about the bacteriological problems from hot water supplies and Dr I Holcatova, also from Czechoslovakia, considered allergic reactions in children.

Over 50 papers were presented and there were about 120 participants. Despite the attractions of sightseeing in Prague the meeting was very well attended throughout and there was a great deal of discussion outside as well as inside the conference room.

Many of the foreign visitors were treated to a visit to the opera - to see Don Giovanni in the beautifully restored old opera house where Mozart's opera was first performed.

The local arrangements made by Dr J Fryba, the President of the Czech Society for Environmental Technology and his staff were really excellent and everyone agreed that his assistant Petr Madr and Mrs Madr had done a wonderful job. It is hoped that IAI and the Czech Society will collaborate again in the future.

Many of the papers presented in Prague will be presented in 'Indoor Environment'.

George Leslie

### CANADIAN ENVIRONMENTAL AWARD TO GOOD-FELLOW CONSULTANTS INC.

Created in 1984 by the Government of Canada, the Canada Awards for Business Excellence (CABE) now have global recognition as representing the best of Canadian business by honouring outstanding industry achievement.

Winning a CABE award is not an easy feat. Winners are selected by independent panels of prominent private sector experts and senior business executives who conduct meticulous examinations of each entry. The Environment and Quality category panels are assisted by on-site examiners who visit short-listed companies.

The basis for the award to Goodfellow Consultants Inc. is the company's creation of a Direct Evacuation Control Simulation Model for the Electric Arc Furnace as used in the production of steel. The production process produces significant quantities of air pollutants and with mounting pressure for productivity increases, demands on fume control systems have expanded. At the same time, steelmakers are faced with more stringent environmental regulations.

While this ecological breakthrough was specifically developed to reduce air pollution in the steel industry, the simulation programme is also adaptable to other industries such as Chemical, Metals, Pharmaceutical or Manufacturing and Processing for control of air contaminants.

Dr Howard D Goodfellow accepted the award from the Honourable Michael Wilson, Minister for Science and Technology Canada and Minister for International Trade, and the Honourable Pauline Browne, Minister of State (Environment), at a gala awards ceremony in Ottawa in October 1992.

IAI members will recall that Howard is a current Council member and a past Technical Secretary of the Association.

### LETTER FROM STOCKHOLM - PART 2

Most people describe physical environments in regional terms, or unconsciously biased by personal experience. This can limit international communication in the indoor environment/health field, and may be a special problem for researchers who have not previously worked with built environments. Becoming aware of such limitations requires deliberate effort. Take, for instance, a reference to "south" or "north" facing walls. For the majority, these terms will bring to mind walls that are sunny and shady respectively. Referring to "equatorial" and "polar" facing walls helps communication between people at most latitudes of both hemispheres. Yet it should be borne in mind that for those close to the equator, all four terms describe shady walls.

There is nothing like being transplanted from one side of the world to the other to increase awareness of such matters. It took about two years in Sweden before I modified my spontaneous responses to sun directions, traffic directions and spoken words to an acceptable - and safe - extent. Tourism is one thing; daily life another.

Some say that a sign of adapting to a culture is dreaming in its language - for me the corresponding event was dreaming building plans to suit the northern hemisphere sun which moves from left to right for the south facing Scandinavian, but from right to left for the north facing Antipodean.

At the University of Melbourne I studied architecture, but not with any strong ambition to be an architect. Rather the six year course seemed so long as to put off a career decision almost forever. Also, the study of architecture was an attractive option to a student who couldn't choose between sciences and humanities, and who nurtured a vague Renaissance-type ideal of an all round education. However there was a strong demand for practising architects in the 1970s, and after completing the degree I worked for two years in various offices, on all phases of large and small buildings, commercial as well as domestic. The most memorable task was one of the earliest, making the stability calculations for a water-ballasted yacht. Otherwise there was more satisfaction in self-employment, especially where designing houses included the possibility of shaping the surrounding landscape on a broad scale.

In 1979, through a common interest in farming and gardening, I met an allergy specialist who observed that some of his patients were helped far more by environmental changes than by other treatments. After many discussions, I began to include work on hypersensitive persons' housing in my architectural practice. This was indeed being thrown in at the deep end - finding practical solutions when there was no research into problem buildings in the region.

[The last part of Dr Robertson's letter will follow in Air Mail 10. Ed.]

**ERNEST LAURENCE KENNAWAY (1881-1958) :**  
**Pioneer in chemical carcinogenesis and cancer epidemiology**

It is now 60 years since Sir Ernest Kennaway and his colleagues reported the production of cancer by a pure polycyclic aromatic hydrocarbon present in coal tar<sup>1</sup>. This was an important landmark in the history of inhalation carcinogenesis and air pollution research. Since then numerous other carcinogenic air pollutants have been identified and the role of metabolic activation in converting seemingly unreactive compounds, such as benzo(a)pyrene, to genotoxic carcinogens has been recognised<sup>2</sup>.

But nowadays, the mere detection of the presence in air of a known carcinogen or of genotoxic activity is not enough to establish that humans are at risk of developing cancer of the respiratory tract if they breathe such air. Modern analytical techniques have the power to detect trace levels of carcinogens that, as far as one can tell, are orders of magnitude below those that could have any demonstrable carcinogenic effect. Also, laboratory techniques for detecting genotoxic activity can, for several reasons, falsely predict carcinogenic risk, particularly from exposure to very low doses.

Thus, one is still heavily dependent on epidemiology to identify and measure actual carcinogenic risks to man. In this respect we are again indebted to Kennaway, whose holistic approach to cancer research resulted in his undertaking carefully and logically planned research in the field of cancer several years before Sir Austin Bradford Hill and Sir Richard Doll put the discipline on a firm scientific basis.

Notwithstanding the efforts and advances that have been made in the field of cancer epidemiology it is still, alas, a very insensitive tool by comparison with the analytic methods available for detecting the presence of traces of genotoxins and animal carcinogens. But the fault lies not with the scientists concerned, but firstly with the impossibility of collecting accurate exposure data and of controlling for confounding variables and secondly with the inaccuracy of cancer mortality data on which most cancer epidemiology studies rely.

But if it is disappointing that we have not travelled further in the last 60 years, let us not forget the pioneer who helped us get as far as we have. Words from a eulogy on Kennaway written by James Cook<sup>3</sup> merit fly-posting on many an ivory tower where academic carcinogenesis research is in progress:

"He never forgot that the main aim of experimental cancer research is to assist in combating a disease which takes a heavy and increasing toll of human life."

Francis J Roe

<sup>1</sup> Cook J W, Heiger I, Kennaway E L and Mayneord W V. The production of cancer by pure hydrocarbons: Part I Proc Roy Soc B 111, 455-484 (1932)

<sup>2</sup> Miller J A (1970) Carcinogenesis and chemicals: An Overview. Cancer Res, 30 559

<sup>3</sup> Cook J W, Ernest Lawrence Kennaway: 1888-1958 Biographical Memoirs of Fellows of the Royal Society 4 139-154 (1958)

## FORTHCOMING IAI MEETINGS

4th April 1993

### Indoor Air Quality and Respiratory Disease

The Royal Institution of Great Britain, London

Details: Dr J A Hoskins, MRC Toxicology Unit, Woodmansterne Road, Carshalton, Surrey SM5 4EF UK

Tel: +44 81 643 8000 Fax: +44 81 642 6538

27th - 28th September 1993

### Indoor Air Quality and Climate in Central and Eastern Europe. IAI and the Public Health and Medical Research Institute of Romania

Cluj, Romania

Details: Dr Ildiko Mocsy Public Health and Medical Research Institute Str Pasteur 6 CP Box 93 3400 Cluj-Napoca Romania

Tel: +40 95 118 252 Fax: +40 95 116 112

27th - 28th October 1993

### Volatile Organic Chemicals

The Royal College of Physicians, London

Details: IAI Conference Secretariat Indoor Air International Office 179 2 Old Brompton Road London SW7 3DQ UK

11th - 13th November 1993

### Contemporary Concepts of Indoor Air Quality. IAI and Hacettepe University, Ankara, Turkey

Hacettepe University, Ankara

Details: Professor R Sunal-Demirdamar Department of Pharmacology Faculty of Pharmacy Hacettepe University 06100 Ankara Turkey

Tel: +90 4 433 70 01 Fax: +90 4 446 80 90/433 70 00

## EDITOR AIRMAIL:

Dr John Dille, Chilvester Hill House, Caine, Wiltshire SN11 0LP UK

Tel: +44-249-813981/815785 Fax: +44-249-814217