

## 香港聲學會 The Hong Kong Institute of Acoustics



Ir. Richard Kwan, the Chairman & Dr. K.M. Li, the Honorary Secretary, holding the AGM.

#### The 8th HKIOAAGM

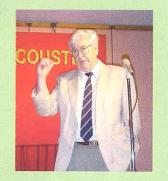
Maurice K.L. Yeung

The 8th AGM held on 21.3.2000 in Nikko Hotel attracted more than 50 members and guests. Richard and Tommy took turn to present the annual report and the financial report. It was grateful to

learn while the Institute was keeping members busy through organizing many activities, the financial status of the Institute was also kept in a very healthy position. The members attended accepted both reports with delights. Apart from the reports, election of the new committee members was conducted in the AGM. The Institute received nominations of Dr CM MAK (the Hong Kong Polytechnic University), Mr YN AU YEUNG (the Hong Kong Institute of Vocational Education), Mr Andy

CHUNG (Scott Wilson) and (Hyder). The members endorsed the nominations.

Before the AGM ended, great honour to invite Profesfrom Cambridge University to his experience on the develthe past few decades. Willnowned expert in a number of acoustics. He has consistently



Professor Fowes Williams giving his talk to the audience.

Mr Martin CHAN attended, accepted and

the Institute had the sor Fowcs Williams share with us many of opment of acoustics in iams is a world-reareas including worked at the interface

of commerce and academia and has been responsible for some significant industrial

research initiatives in noise control. Currently, he is the Master of Emmanuel College, Cambridge. Members attended found the talk very interesting and insightful.

Following the AGM, the Institute held the Spring Dinner. Members had a great moment in enjoying delicious food and good wine.



Spring Dinner at the end of AGM.

#### JOINT SEMINAR ON BUILDING SERVICES NOISE AND CONTROL

Y.N. Au Yeung

The Joint Seminar on Building Services Noise and Control was jointly organised by the Department of Mechanical, Marine and Building Services Engineering of the Hong Kong Institute of Vocational Education (Tsing Yi) and the HKIOA.

Building services noise and control is a continuous challenge to engineers. Although technology has been advancing rapidly, the basic noise emission characteristics from building services systems and equipment remain largely unchanged. The principles involved in various noise control measures can still be applied, despite that new techniques have been evolved.

The target audience of the seminar was young and potential engineers who have interest in the field of building services noise and control. Three speakers from different sectors of the acoustic industry were invited to give their talks to cover the overall picture in the field.

The first speaker, Mr. Anthony C.W. Lo, gave the background theories in building services noise and control. He is a Project Engineer from Parsons Brinckerhoff (Asia) Ltd., a leading building services consultant. The second speaker, Mr. Tommy N.F. Wan, dealt with the application aspects of noise control. He is the Vice President of IAC, a well-known acoustic contractor/supplier. The third speaker was Mr. Aaron S.W. Lui who is a Senior Environmental Protection Officer from the Environmental Protection Department of HKSAR. He gave an overall summary and introduced the topic from the legislative point of view.

The seminar was held in the morning of 28 April 2001 (Saturday) at the Hong Kong Institute of Vocational Education (IVE) in Tsing Yi. Despite the relative remote location of the venue, the seminar attracted a large audience of around 150. Most of them were young members in the field. The seminar was started with Dr. S. T-Poposka, the Acting Head of the Department of Mechanical, Marine and Building Services Engineering of IVE giving a welcoming speech. The three speakers then took turn to give their talks and the audience participated actively in the question and answer session. The seminar was ended by Mr. Martin Chan, the representative from HKIOA who also acted as the chairman of the seminar, giving the closing speech and presenting souvenirs to the speakers.

Besides giving the technical knowledge of building services noise and control to the audience, the seminar also served to disseminate the activity of HKIOA to young and potential engineers in the acoustic field. This would help to promote the image and increase the public awareness of the Institute. It was also a good start in having a joint function with another academic institute (IVE) in the building services field. With the continuous demand in this field, it is anticipated that further collaboration will take place between the two Institutes.



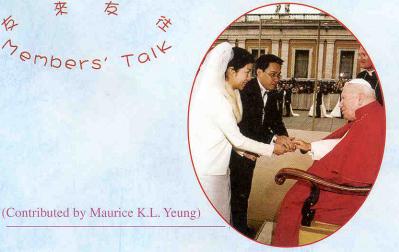
Ir. Anthony Lo presenting his paper to the audience.



Members (from left to right): Ir. Y.N. Au Yeung (M.C. of the Seminar), Mr. Martin Chan (Seminar Chairman), Ir. Dr. S. T-Poposka (Ag. Head of ME Department, IVE/TY), Mr. Aaron Lui , Ir. Anthony Lo & Ir. Tommy Wan (Speakers).



The three speakers answering questions from the audience.



Angela and Maurice married in S Lorenzo, Rome, Italy on 16.12.2000 in the presence of their parents, brothers, sister and friends. The Pope (John Paul II) later blessed them at St Pietro's Square at Vatican. Congratulations!

#### SYMPOSIUM 2001: NEW CHALLENGES IN BUILDING ACOUSTICS

Dr. S.K. Tang

The Institute had organized jointly with the Department of Building Services Engineering and Department of Mechanical Engineering of the Hong Kong Polytechnic University the one-day symposium "New Challenges in Building Acoustics" on 2 March 2001 in the Nikko Hotel.

Several experts in building acoustics were invited to share their experience in the symposium. They were Professor J Q Wang of Tongji University, Professor B M Gibbs of the University of Liverpool, Mr Richard Cowell of Arup Acoustics (UK), Dr Daniel W T Chan of the Hong Kong Polytechnic University and Mr Sam Tsoi of Arup Acoustics (HK). Professor J M Ko, the Associate Vice President of the Hong Kong Polytechnic University gave the welcoming speech and Mr Ronald Chin, the Assistant Director of the Architectural Services Department, HKSAR Government gave the opening address. The symposium was attended by over 120 professionals and academics.



Prof John Burnett
presenting souvenir to
Mr Ronald Chin, our Guest of Honour.

#### TECHNICAL VISIT TO YUEN LONG THEATRE-

Andy Chung



Group photo taken at the main reception hall of the Yuen Long Theatre.

On 24 March 2001, a delegation of about thirty members of HKIOA visited a newly opened modern cultural centre for arts in Hong Kongthe Yuen Long Theatre. The Theatre is situated at Yuen Long Tai Yuk Road in the beautiful vicinity of Yuen Long Park, Yuen Long Stadium and the Public Swimming Pool. The main foyer is designed in context with the existing



A representative of ASD explaining the special features of the Theatre to the audience.

built environment, with glass walls to give a sense of lightness and transparency. The bamboo courtyard is a focus within the foyer, which creates an ambience of serenity and tranquility.

The visit began at the Auditorium, the main performance venue seats 923. Inside which are 24 remote-controlled motor drapes, covering the ceiling and the 2 sides of the Auditorium. These drapes, a one-of-a-kind installation available in Hong Kong only at this Theatre, are fully adjustable to cater for different acoustics requirements for a variety of programmes. This can accommodate from concerts, operatic performance, drama, dance, to ceremony, seminar and film show.

The adjustable proscenium is 11 to 15 meters wide and 7 to 9 meters high. The stage is equipped with advanced technical equipment for various needs. These include a flying system which comprises over a hundred motorised and manual cross stage hoists to handle the most complex stage designs, a revolving stage wagon to facilitate scene changes, as well as excellent sound and lighting systems.

The Auditorium also houses the largest single-unit, convertible orchestra shell in Hong Kong. It produces the best acoustic effects within the hall and makes it ideal for concerts and as a large-scale recording studio. Another feature of the orchestra shell is its reverse side, which is a film projection screen. This 2-in-1 design greatly increases the versatility of usage on stage.

The delegation was received by the Architect, Mr Randy Kong, Architectural Services Department, the Resident Technical Manager of Yuen Long Theatre, Ms Don Pui-ching Lo, Leisure and Cultural Services Department, and Mr K C Szeto of Woon

Auditorium: the main performance venue with 923 seats.

Lee Construction Co Ltd. They were very pleased to explain the architectural design of the Theatre to the members. It was also our pleasure to have the Resident Manager, Mr Paul Kwong, of Vipac Engineers & Scientist Ltd., to explain the acoustical design of the Theatre. He was the acoustical consultant in designing this modern theatre. With their commitments and careful design, the Theatre was successfully designed to meet all the stringent acoustical requirements. The acoustical performance of the Theatre is well received by the professionals, including Yan Huichang, Music Director of the Chinese Orchestra, who is quoted commenting the Theatre "The sound dispersion is excellent!"



A total of 24 remote-controlled motor drapes, covering the ceiling and the 2 sides of the Auditorium.

The acoustic profession can also be reinforced by stipulating in individual contracts a statement that every acoustic submission has to be checked and endorsed by a Corporate Member of the Hong Kong Institute of Acoustics. This requirement is only occasionally included in the tender document by a few major developers such as MTRC. The inclusion of the requirement stems mainly from the fact that the engineers/managers in those major developers are also active members of the Institute and they help to alert their companies the importance of involving appropriate and qualified professionals in their work. This practice, however, is not frequently followed and encouraged by the Government.



From left to right:

Ir. K.K. Iu, Mr. Stephen Leung & Mr. Rex Yiu.

In the recent revision of the General Specification for Air Conditioning, Refrigeration, Ventilation and Central Monitoring and Control System Installation in Government Building by the Architectural Services Department, consultation has been carried out to solicit opinion in the permissible noise emission from various equipments. This is an indication that the Government is paying more attention to the noise aspect. The Institute can pursue further with the Government in this issue.

As highlighted before, some companies have their products produced in Shenzhen after which their own brand names will be added. However, there is no proper certification of performance resulting in the quality not being guaranteed. Some acoustic submissions are not done by qualified acousticians resulting in extra effort being provided by consultants to check and amend the problems. In some cases, the consultants themselves are not expert in the acoustic field. They may approve the submissions without identifying the errors. Eventually both the contractor and the consultant are in the same boat. The ultimate suffering goes to developers and end users.

Another observation is the award of contracts to suppliers not specialising in the acoustic field. Large quantity of noise barrier is required for the highways. Some contracts are awarded to overseas building material suppliers. They lack the required specialised knowledge leading to installation deficiency such as lack of continuity along the line of barrier.

These problems can be largely prevented if the list of registered suppliers and contractors exists and there is a code of conduct and codes of practices for practising professionals to follow. The inclusion in contracts the necessary involvement of competent acoustic engineers will definitely help to improve the quality of work.

#### Acoustics Trade Association

Trade associations exist in many different trades. They can influence the Government and various sectors such as education providers and professional bodies in policy making. They can also contribute in the drawing up of codes of practice and code of conduct. This form of association does not exist in the local acoustic world. Interested parties can consider coming together to form an acoustics trade association to unify efforts in strengthening the status and image of the profession. It can supplement the input provided by the HKIOA.

#### Education

The last but not the least aspect is education. It is perceived that there are not enough courses specifically dedicated to acoustics. It is largely taught as part of the curriculum in environmental related courses. In view of the limited specialised training, HKIOA had initiated to work with an academic institution to offer a postgraduate course in acoustics. This helps to supply the industry annually with a definite number of trained personnel. Depending on the demand, it may be necessary to introduce a part-time master degree course. Apart from acting as a conversion course for graduates in various fields, it can foster future local research and development activities.

#### Conclusion

With the increased public awareness of noise problems, there are plenty of rooms for improvement in the acoustic profession. The maintenance of a registered list of qualified professionals and companies by the Government together with the recognition of the importance of involving competent acoustic engineers in related projects can help to improve the quality of work. The status and image of the profession can be enhanced through the drawing up of codes of practice and code of conduct. The Government should be convinced to take the leading role in co-ordinating these activities. More subsidies should be given to improve the laboratory and testing facilities for the use of industry. More consideration should be given to noise control in residential buildings and the associated household equipment. Higher level of education in the field should be considered to provide specialised training and to promote local research and development activities. The HKIOA has a definite role to play in this process while the formation of a trade association would facilitate its evolution and development.

#### Sounding Board Sounding Board Sounding Board Sounding Board Sounding Board Sounding Board

except quite recently and there is not a strong industry to provide the back up. The situation seems to have improved after 1995.

The adoption of new products and materials depends on the economic situation of the market. It is difficult to launch new products because noise control is usually seen as a luxury item. It is perceived as something of life quality improvement rather than of basic and essential need. The effect is of local rather than society wide nature compared with water and air pollution. The advancement in digital and microprocessor technology leading to the evolvement of active noise control equipment as

commercially viable products is an example. The concept of supplementing the traditional passive silencers in the treatment of low frequency noise is fantastic. Unfortunately, market acceptability is low.

#### Legislative Control

The legislative control on the environmental noise is considered sufficient and sometimes even quite strict, particularly for the industrial noise, after the implementation of the Noise Control and Environmental Impact Assessment Ordinances. Yet, the control on residential noise is still quite loose. In UK, regulations governing the noise control in residential and institutional buildings are now in consultation. Room to room and building facade sound insulation are amongst the items to be considered. Similar approaches can be adopted



From left to right: Ir. Tommy Wan and Ir. K.K. Iu.

in Hong Kong. Besides, there is no control on the noise emission from room air conditioners. People are frequently annoyed by the noise generated from the closely spaced adjoining buildings. They have no control measure except to close the windows and operate the air conditioners. The problem will be elevated. The noise label approach can be considered similar to breakers and compressors in product noise control. In fact, the Electrical and Mechanical Services Department has been operating a similar product labeling scheme on energy usage.

The quality of indoor air is receiving much concern and the Environmental Protection Department has issued a consultation paper on the Management of Indoor Air Quality in Offices and Public Places. Indoor air quality will likely be classified according to three levels leading to the corresponding certification of buildings. Should similar approach be adopted for indoor noise and is it practicable? Its implementation would definitely enhance the status of the acoustic profession. Nevertheless, it would not be so easily and widely accepted by the public because, apart from financial reasons, nuisance from noise can be quantified relatively easy but not the comfort aural conditions. Noise is more readily perceived than other environmental parameters. It may be better left to the market force to drive developers for improved acoustical design and installation for better rentals and marketability.

#### Professional Enhancement

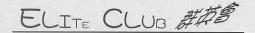
The roles of contractors and suppliers, apart from others, include the import of new products and technologies. This is more pronounced compared with the roles of other parties in the profession because they are directly involved in the detailed design, selection and installation of equipment. They can also play an important part in promoting the image and status of the profession, which at the moment is seemingly not high enough.

It is in general agreed that too strict rules and regulations may not be so applicable to the industry as it may restrict the flexibility afforded. Instead, codes of practice and code of conduct can be developed for better professional ethics and control. These can provide guidelines for the professionals to follow. Since the work involved will be tremendous, it would be ideal if the Government together with the HKIOA can initiate and act as the co-ordinator.

Establishing a list of approved acoustic suppliers and contractors by the Government will definitely help to strengthen the profession. Similar lists on ventilation, electrical and fire services contractors in the building services field have long been maintained by the Government. Their status is well recognised. The Architectural Services Department is also considering the introduction of registered indoor air quality workers. With the registration process, the quality of the work can be improved and appropriately guaranteed since the financial and technical background of the companies have to be vetted for suitability before registration.

In fact, in the issue of noise labels for breakers and compressors in 1992/93, it was stipulated that members of the UK Institute of Acoustics could be the competent persons involved. This could be considered as the initial stage towards registration. However, because of the pressure from other professional bodies that in the later vehicle noise control, only the term competent person was quoted. No exact definition was given. The acoustic profession could not be strengthened further.

Another related practice towards registration is the list of companies maintained by the Environmental Protection Department. The list will be issued to guide the public seeking companies in the acoustic field. Unfortunately, the list is only for reference and is not updated to include new companies. No vetting was carried out at the time of compilation. Some companies may no longer or even since the beginning be in the field. Newly formed ones are not allowed to be included.



#### PERSPECTIVE OF THE ACOUSTIC PROFESSION: CONTRACTORS AND SUPPLIERS

Guest Speakers: Ir. K.K. Iu, Managing Director, NAP Acoustics (Far East) Ltd.

Mr. Stephen W.Y. Leung, Managing Director, Architectural Acoustics (HK) Ltd.

Ir. Tommy N.F. Wan, Vice President, IAC (HK) Ltd.

Mr. Rex K.C. Yiu, General Manager, Mason Industries (HK) Ltd.

#### Facilitator: Ir. Y.N. Au Yeung, Chairman, Publication Sub-committee, HKIOA

(Note: The paper includes the opinion of the guest speakers and it does not represent the view of the Institute.)

#### Public Awareness and Development of Acoustic Profession

The acoustic profession in Hong Kong started at the end of the seventies. No particular rules and regulations was imposed by the Government except the guideline laid down by the previous Urban Services Department that the noise level produced should not be more than 5 dB(A) above the ambient level. This was applied to outdoor noise only with no control over the indoor noise. In 1989, the Noise Control Ordinance was enforced and since then, there have been clear guidelines and requirements about the environmental noise control. Various parties including the developers, consultants and contractors have a



The four speakers sharing their view points on the topic.

better understanding of their legal responsibilities and have the necessary noise control measures incorporated into their projects and developments. In 1998, the Environmental Impact Assessment Ordinance was enacted which brought into awareness of the public towards their living environment and how their lives could be affected by the surroundings such as traffic noise. In recent days, people are more alert of the noise issues. Without exact statistical data, the number of complaint again noise problems exceeds those arising from air and water pollution. The acoustic industry is becoming more developed as a standalone profession with its own identity.

#### **Business Environment**

The recent economic situation results in the slowing down of the market growth. The acoustic industry is most vulnerable to the economic condition than others because it is not dealing with things that are lethal. Any budget cut or putting on hold of developments would be reflected immediately in the amount of money spent in noise control provisions. The various sectors in the industry consist of consulting, manufacturing, contracting and sales. The main focus is still in the local market except those with international background. The demand on noise control measures in term of population is larger in Hong Kong compared with that in the Mainland China. Nevertheless, many of the companies have the manufacturing of their products carried out in China.

The number of contracting companies increases despite that they are of relatively smaller scale. This makes up a total of around twenty together with the fewer number of larger scale companies. Individuals tend to obtain initial training and experience from those prominent ones after which they start to set up their own business. The market competition is keen but they manage to survive. The contract sums for most projects with similar involvement are only half those three to four years ago. The material and labour costs have been reduced but the percentage reduction is of much less extent. They survive by reducing profit margins and by carrying out more critical design in their projects to reduce the unnecessarily large safety margin. Joint venture is not common in the profession since individual companies have their own target segments.

Apart from competition from within the market, companies are facing competition from overseas competitors who are not originally in the acoustic field. In recent years, the market in noise barrier is increasing because of the many highway projects associated with the infrastructure development. Some of the overseas competitors obtained contracts in the capacity of building material suppliers.

#### Technology Advancement

Technology advancement is seen to be slow in progress and very little research and development activity can be visualised in the acoustic area. There is a lack of acoustic laboratories for the use of industry. Quality acoustic laboratories require lots of space and the support from Government is essential for them to be viable. In foreign countries, professional institutes usually have active involvement of academics who will bring into partnership the industrial and academic sectors. The strong and well developed industry also helps to provide support to and generate demand for research and development activities in academic institutions. This is in contrast to the local situation in which very few academics are involved in the professional institute

#### MESSAGE FROM THE CHAIRMAN

Dear Members,

At the recent AGM we have pledged to work harder to keep you better informed via the printed medium of institute affairs while enhancing our capability to communicate with you on the electronic front. This edition of the Sounding Board represents the initial results of our efforts.

You will notice that we are not just extending the coverage. We are also introducing new elements in the newsletter. The intention is to enable you to get a better feel of what is happening both within and around the local profession.

We invite your comments on this initiative. Our goal is not just to publish some glossy pages regularly but to serve you well.

Ir Richard Kwan Chairman

#### MESSAGE FROM THE EDITOR

Y.N. Au Yeung

It is my pleasure to be the Editor of the Sounding Board starting from 2001. It gives me chances to participate in the activities of HKIOA and contribute to the acoustic profession. I hope that everybody can benefit from reading the regular issues of Sounding Board.

Besides other means of communication, Sounding Board provides a very direct contact for members of the Institute. It will give members information about the latest activities and development of the Institute and the profession. To arouse your attention in the field, starting from this issue, the Elite Club (群英會) has been added. This will focus on matters that are of general interest to members. It will start with a series of discussion. The first topic is "Perspective of the Acoustic Profession: Contractors and Suppliers". Professionals in the sector of contractors and suppliers were invited to a forum to express their opinions about the acoustic industry. Their views were then reported. In the coming issues of Sounding Board, members from other sectors such as consultants, legislative bodies and academics will be invited to share their ideas with members.

To enrich the content of the Sounding Board and to raise your interest in reading it, another corner Members' Talk (友 来友往) has been introduced. This aims largely at incorporating non-technical materials. Members must have something interesting to share with others. Examples include personal interest, hobbies, recent activities and happenings, and queries that you want help from others. In this issue, one of our members shared his good news of marriage with us. We are waiting for your contributions!

Sounding Board is not a one-way communication. You can write to us to suggest things to be included in both corners. They will be published if found appropriate. If you have any comments, do write to us. We need your ideas and support. It is our wish to have the Sounding Board an interesting and informative newsletter to read.



# The Hong Kong Institute of Acoustics

### **Executive Committee 2001 - 2002**



Honorary Secretary
Dr K M LI
ME, PolyU
Tel:2766 7953, Fax: 2365 4703
Email: mmkmli@polyu.edu.hk



Chairman
Ir Richard KWAN
ERM
Tel: 2271 3191, Fax: 2723 5660
Email: rkwan@ermhk.com



Immediate Past Chairman Ir Maurice K L YEUNG Environmental Protection Department Tel: 2594 6577, Fax: 2802 4511 Email: mklyeung@epd.gov.hk



Honorary Treasurer
Dr C M Mak
BSE, PolyU
Tel: 2766 5856, Fax: 2774 6146
Email: becmmak@polyu.edu.hk



Chairman, Membership SC Ir Daniel P C CHAN Daniel Chan & Associates Tel: 2838 1138, Fax: 2838 2708 Email: danielpc@dcal.com.hk



Chairman, Activities SC Mr Andy CHUNG Scott Wilson (Hong Kong) Limited Tel: 2410 3744, Fax: 2428 9922 Email: andy.chung@scott-wilson.com.hk.



Chairman, Publication SC Ir Y N AU YEUNG IVE (TY) Tel: 2436 8762, Fax: 2436 1707 Email: yiunam@vtc.edu.hk



Chairman, Inform. Tech. SC Dr Kin CHENG Environmental Protection Department Tel: 2117 7550, Fax: 2756 8588 Email: chengkw@epd.gov.hk



Chairman, Education SC Ir Dr Westwood HONG Westwood Hong & Associates Tel: 2838 2738, Fax: 2591 6189 Email: wha\_hong@pacific.net.hk



Special Duties Mr. Martin CHAN Hyder Consulting Limited Tel: 2911 2720, Fax: 2827 2891 Email: martinc@hyder.com.hk



Special Duties
Ir Tommy WAN
IAC
Tel: 2528 1138, Fax: 2529 1961
Email: iachk@netvigator.com



Adviser
Professional Development & Discipline
Ir K K IU
NAP Acoustics
Tel: 2866 2886, Fax:2866 3777
Email: napkkiu@hkstar.com

CONTACT



The Hong Kong Institute of Acoustics
G.P.O. Box 7261 HK
E-Mail: hkioa@hk.super.net

Website: http://www.pacific.net.hk/~hkioa

US