

INSTITUTE OF ACOUSTICS

***40th ANNUAL REPORT OF THE COUNCIL
FOR THE YEAR ENDED 31 DECEMBER 2013***



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The Institute has continued to serve the interests of its members through its established programmes in the areas of education, professional development, meetings and publications, and by providing representation in areas such as the Engineering Council, Standardisation and International affairs.

The Trustees confirm that in the exercise of their powers as charity trustees, they have had due regard to the published guidance from the Charities Commission on the operation of the public benefit requirements and the aims of the charity are carried out for the public benefit.

During the year:

- A new Chief Executive was appointed in December 2012 and took up the post in January 2013.
- An ambitious programme of well attended conferences and technical meetings was undertaken at national and regional level.
- Eleven candidates presented themselves for Professional Review Interview. Seven were successful.
- The Diploma in Acoustics and Noise Control is now in its sixth year since extensive revision in 2008. During the year 91 students were awarded the Diploma, with 134 new students registering for the course, of whom 56 have enrolled for distance learning, including six from overseas.
- The Institute's *Acoustics Bulletin* continues to provide a high standard of technical content and remains popular with members.
- Despite the financial climate, membership has been retained at just under 3,000.
- The Institute is represented internationally through the following members: Colin English (Vice President, EAA), Barry Gibbs (Director, IIAV), Prof Yui Wei Lam (ICA Board), and Rupert Thornely-Taylor (Director, IIAV).
- The Institute has purchased demonstration equipment to support the "You've Been Banned" acoustic workshop for presentation to schools. A number of volunteers have been trained and 12 workshops were delivered in schools during the year.
- The Institute continues to engage with a number of government departments (DfE, CLG, Defra and DECC) to influence future policies affecting acoustics.

Standing Committees

The operation of the Institute is guided by Council through standing committees concerned with Education, Engineering, Medals and Awards, Meetings, Membership, Publications and Research Co-ordination. The reports of the various committees follow.

Education Committee

The Diploma and Certificate courses have continued to recruit and to provide education and training for both members and non-members of the IOA. The education programmes and courses introduce many working in acoustics and associated professions to the Institute and help in the recruitment of new members.

The Diploma in Acoustics and Noise Control is now in its sixth year since extensive revision in 2008. As a result of grades obtained in 2012/13, the Diploma was awarded to 91 students. NEScot reversed its decision not to operate as a centre, and London South Bank University is offering the course. The committee is continuing to monitor the effects of the changes in funding for higher education on students and centres, and investigating options for electronic delivery of learning materials.

In 2013, the Certificate of Competence Courses recruited as follows; Management of Hand-Arm Vibration nine students (six passes), Environmental Noise 184 students (170 passes), Building Acoustics Measurement 19 students (17 passes) and Workplace Noise and Risk Assessment 42 students (35 passes). The Certificate of Proficiency programme in Anti-Social Behaviour (Noise) continues to be run in Scotland by Bel Education and Strathclyde University and recruited 32 students (28 passes).

Since 2011, Diploma members have been able, for CPD or other reasons, to register for additional specialist modules. So far four people have taken advantage of this opportunity. Additional "formal" CPD courses (with a syllabus and assessment) are being considered in conjunction with groups and branches. Options for alternative delivery of courses (including e-learning) continue to be considered. The committee is also keen to work with groups and branches to support "formal" CPD, where there is a defined syllabus and assessment of learning outcomes. This may include on-line learning and topics for consideration include "sustainable acoustics" and new acoustic guidance currently in preparation.

In 2012 Council approved the purchase of sets of demonstration equipment to support the "You've Been Banned" acoustic workshop for presentation to schools. Twelve "You've Been Banned" presentations were given during 2013.

The committee continues to be indebted to the support of its members, course tutors and examiners, the work of the Education Manager and for the assistance provided by the Education Administrator and other members of office staff.

Engineering Division Committee

The committee met twice during the year, confirmation of approval of registration for some candidates being given by email correspondence with committee members. Two internal audits were carried out, with no non-compliances identified. The Policy and Procedures Manual is to be revised in early 2014, to incorporate several minor amendments. The number of enquiries for registration from Institute members remained strong, but many potential candidates still deferred or failed to complete their applications, despite the personal support provided.

The number of formal applications for Chartered Engineer and Incorporated Engineer registration was higher in 2013 than in recent years. Eleven candidates presented themselves for Professional Review Interview, of whom four were "Standard Route"

CEng candidates, holding accredited degrees, and six were “Individual Route” CEng candidates with diverse backgrounds, including physics degrees. One candidate, holding the University of Salford Acoustics degree, was elected IEng. Seven candidates were registered with the Engineering Council. Four candidates were invited to submit further written evidence for consideration before confirmation of their registration. Their areas of employment were mostly in architectural and building acoustics.

The Institute’s EC licence is due for renewal in January 2015.

Medals and Awards Committee

The recipient of the 2013 Rayleigh Medal was Professor Jacques Guigne of PanGeo Subsea based in Newfoundland, Canada; he is also a visiting professor at the University of Bath. The medal was presented at the International Conference on Underwater Acoustics in Corfu in June 2013. Two A B Wood Medals for underwater acoustics (for 2012 and 2013) were also presented, to Dr John Smith (2012) and Dr Brian Hefner (2013).

The R W B Stephens Medal was awarded to Dr Bob Peters, for his long and valuable contribution to acoustics education. He was presented with the award at the Spring Conference in Nottingham, where he entertained the delegates with his medal lecture. Several awards were made at the Reproduced Sound conference in Salford in November. Luis Gomez Agustina received the Peter Barnett Memorial Student Award for his work on speech intelligibility on the London Underground, while Marcos Felipe Simón received the IAC Young Persons’ Award for Innovation in Acoustical Engineering. Roy Bratby, a former Chief Executive of the Institute, was given an Honorary Fellowship in appreciation of his work for the IOA in the past and his continued interest and contributions. Three awards were made for Distinguished Services to the Institute, to Allen Mornington-West, David Sproston and Jon Lee. Allen’s award was in recognition of his many years’ service to the Institute, including on the Electro-Acoustics Group and the Publications Committee, and for all the time and effort he put into redeveloping the IOA website, ably assisted by David and Jon. The recipient of the 2013 award for Promoting Acoustics to the Public, presented at the Musical Acoustics Group meeting in London in June, was Gianluca Memoli of NPL for his very extensive range of activities in this area. A new award is to be established in memory of Peter Lord, a founder member of the IOA and past President, who died in December 2012. The proposal is for an award to be given for a general project (e.g. a building or product); the details of the operation of the award are to be decided but it is hoped to make the award for the first time in 2014.

Meetings Committee

The committee met four times in 2013. Its membership remained unchanged from last year’s report, although the Secretary changed. At the end of 2013 the committee constituted a Chair (Jeremy Newton), Secretary and Young Members Representative (Chris Turner) and three other members – Hilary Notley, Ken Dibble and Paul Lepper. The committee presided over the organisation of 11 events covering a wide variety of topics. There were nine one-day meetings, the Reproduced Sound conference and Acoustics 2013. The feedback from the events’ questionnaires in general continues to be very favourable and many of the proposals for future meeting topics are passed to the relevant specialist group. Acoustics 2013 trialled the proposed format for the Institute’s 40th Anniversary Conference in 2014, and specialist groups organised sessions that were run in parallel. Many members commented that they enjoyed this format and would

have appreciated more time to network and meet with colleagues. As a result, the 40th anniversary event will again involve as many groups as possible and this time will be held over two days to maximise the networking opportunities. In a break from tradition, Reproduced Sound will be held at the same venue and timed to overlap to give members the chance to attend this popular event as well.

Given the global recession, the financial performance of meetings has been under some scrutiny and we continue to review performances and learn from our experiences so that deficits may be minimised in the future and events continue to generate a moderate surplus. Specifically, the committee aims to meet a target of an average surplus of £1,000 per event. During 2013, this target was exceeded by more than 100%.

Membership Committee

The committee met four times during 2013. Chris Stopford was welcomed to the committee as a representative of our local authority members. During the year Rob Hill retired from the committee due to a house move, after many years of service to the committee and to the Institute generally. The vacancy is to be filled by Ellen Harrison representing our Young Members.

A CPD review team was formed and has now commenced the task of reviewing samples of members' CPD records. This will be an ongoing exercise in the future.

The committee considered 10 cases under the Institute's Code of Conduct, four of which have been classed as dormant due to lack of response from the complainant. Of the remainder, one was not within our remit, a second had no case to answer, a third is in abeyance due to impending legal action and three are ongoing. Unfortunately, this represents an increase in the number of cases brought to the committee compared with last year. In addition, action was taken against an individual falsely claiming to be a TechIOA.

Discussions were held with officers of the CSCS site safety card system over appropriate grades of membership. In response to a request by Council, the committee developed a policy on the use of the IOA logo on company websites. Several trials of webinars were carried out during the year to assist members with their CPD. These seemed to meet with general approval. A new grade of free membership has been proposed for all students studying in fields associated with acoustics.

During the year 316 applications were assessed by the committee, of which 310 were elected to membership of various grades, representing an encouraging increase on the previous year's figure.

	FIOA	MIOA	AMIOA	Tech	Affil	Student	Sponsor	Total
Applicants	5	111	133	21	11	30	5	316
Elected	5	107	131	21	11	30	5	310
New bers	0	41	120	21	11	30	4	227
Resigned	3	35	14	1	1	1	2	57
Deceased	0	2	0	0	1	0	0	3

Publications Committee

2013 has been a relatively quiet year for the committee. During 2014 several changes are due to come on line for publications topics. The new website is expected to come on line in early in 2014, and as part of this the publicly accessible search facility changes from being the *Register of Members* style search to the *Buyers' Guide* style search, allowing companies to provide better information about their services to the public using this facility. The decision was also taken in 2013 to stop production of the paper *Register of Members*, making the 2013 edition the last one. Electronic availability of *Acoustics Bulletin* is also being trialled through 2014.

Acoustics Bulletin and *Acoustics Update* continue to provide a high standard of technical content, reporting news and details of the Institute's meetings and affairs. One change to the Bulletin will happen in 2014, where a level of technical editorship will be introduced to assist Charles Ellis with his editorial duties.

During 2013 the committee welcomed three new members, Rebecca Hutt, Mark Lawson and James Hill, whose contributions are most welcome. On a related thread, the historic activities of the committee have come under examination in preparation for the Institute's 40th anniversary celebrations, and determining who has been on the committee at various times seems to be a challenge. Opportunity is therefore taken to thank all of the committee and sub-committee members for volunteering their time and enthusiasm to the committee since I (Adam Lawrence) became Publications Chairman in 2008: Peter Bird, Bob Walker, Matthew Ling, Michael Morrow, David Sproston, Seth Roberts, Gary Timmins, Alice Hubley, Gwyn Mapp, Briony Williams, Allen Mornington-West, Jon Lee, Chris Chittock, Daniel Goodhand, and Dan Pope. Thanks are also due to the editors, Ian Bennett and Charles Ellis, the advertising manager Dennis Baylis, and all the staff at the IOA office, particularly those in the publicity role: Judy Edrich, Kevin Hyatt, Debbie White and Charles Ellis. Lastly, thanks are due to everyone who contributes to the Bulletin with meeting reports, technical contributions, letters, book reviews and everything else.

Research Co-ordination Committee

During 2013, the committee (RCC) met in May and October at the Defra offices in London. The committee reviewed their performance in the light of the committee's responsibilities listed in the Committee Terms of Reference document. It was noted that a very important responsibility of the RCC is to improve the national status of acoustics as an academic discipline. The committee noted that a considerable proportion of RCUK funding for acoustics related research does not go to members of the IOA, but to members of IoP, IMechE and other professional bodies. This makes the IOA a relatively small player in defining the UK's horizon for acoustics related research. Therefore, the ability of the RCC to fulfil this responsibility may be limited because of the above situation. The RCC noted that this responsibility can be fulfilled much more efficiently if the IOA, IoP and IMechE agree to work together in a coordinated manner.

Representatives from IoP (Dr Eleanor Stride) and IMechE (Professor Steven Daley) were approached and persuaded to attend the committee meeting in October 2013. An important outcome of this meeting was the agreement between members of these three institutes to work together in a concerted manner to promote acoustics as a research discipline. It was agreed to apply together for RCUK funding to facilitate a series of workshops/showcases to help to address the current state of fragmentation in funding for acoustics related research. It was also agreed to set up a framework which enables the challenges in acoustics to be communicated to the RCUK directly by the industry rather than by the academics. The latter can be achieved by engaging the industry better and in a more concerted manner in the future RCC meetings to which members of IoP and

IMechE will also be invited. The committee has spent a considerable amount of time discussing ways for better interaction between the PHE, Defra and RCUK. Until December 2013 this issue has been impeded by the lack of noise specialists at PHE with whom the committee, Defra and RCUK could communicate efficiently. This issue has been rectified recently and the committee Chairman, Professor Horoshenkov, will be meeting the newly appointed Principal Noise and Health Specialist, Dr Benjamin Fenech, at the end of February 2014 at Public Health England offices in Birmingham. Dr Fenech has also been invited to attend the forthcoming RCC meeting in May 2014. The committee held a teleconference with Daniel Smith, the new EPSRC Portfolio Manager for Engineering at the EPSRC, during which the Challenges in Acoustics document was discussed. The committee communicated via email with Katie Clark at the RCUK with regard to funding for the acoustics related research, making her aware of the existence of the RCC. The committee discussed funding programmes under Horizon 2020 which might be relevant to acoustics as a research discipline. These and other actions are detailed in the meeting notes which have been submitted to the IOA.

Specialist groups

The Institute reflects the broad spectrum of the science and application of acoustics and several specialist groups exist to foster contacts between members of the various specialisms; the reports of the specialist groups follow below.

Building Acoustics Group

With the continued economic recovery the group gained new enthusiasm and verve for the future. The first major event of the year was the Spring Conference in Nottingham in May. This was a return to multiple simultaneous sessions, with all of the Institute groups taking part. BAG organised a whole day of talks in one of the sessions and the feedback was excellent. Definitely a model to repeat!

The success of this meeting has inspired us to deliver two days of talks for this year's two-day 40th Anniversary Conference which will follow the successful model of multiple simultaneous sessions. There really will be something for everyone!! On one day the BAG session will focus on green buildings and sustainability, with a session on the second day on building acoustics hot topics.

Bridget Shield, our President, has helped to re-invigorate our relationship with the RIBA and we look forward to developing this relationship this year. Our members have also been busy with writing and consulting on several acoustic documents, including the Acoustic Design of Schools, CIBSE guides, sound and impact isolation field testing and many more. I would like to personally thank all of my committee members and everyone else who gives their valuable time for free for the betterment of our noble profession. Here's to a successful and celebratory 2014!

Electro-Acoustics Group

During 2013, the group committee organised and put on Reproduced Sound 2013, the annual two-day conference that has run every year since 1984. This was held at the Renaissance Hotel, Manchester, with opportunities pre-conference to visit the facilities at the BBC in MediaCityUK and the University of Salford. RS was once again well attended by both regulars and new faces, including the pre-conference

tours. Feedback (questionnaire forms) was sought from attendees and these have been scrutinised to inform future events. RS continues to attract a large contingent of student delegates, a number of whom are already forming a positive part of RS looking to the future. Two new members were welcomed to the group committee, James Allen, a student, and Emma Bigg, director of an international sound hire company based in London.

It was announced at RS 2013 that Reproduced Sound 2014 would be alongside and part of the IOA 40th Anniversary Conference. RS 2014 will also be the 30th RS event in as many years.

At the EAG AGM held at RS 2013 the 2014 committee was agreed. Paul Malpas remains as Chairman and Helen Goddard as Secretary. Other offices had been developed within the committee, and this being a definite team effort, the contributions of all members were acknowledged and appreciated.

Environmental Noise Group

The group held a session of eight papers at the IOA Spring Conference in Nottingham in May, which was attended by about 60 delegates and reported in *Acoustics Bulletin*. The AGM was also held to elect the committee, which has nine members following the earlier retirement of Nigel Cogger and Tim Clarke. During the year the committee held three further meetings, and considered four public consultations, preparing responses to two; the Department for Communities and Local Government consultation on review of the planning practice guidance, and the Defra consultation on draft Noise Action Plans. In October 2013 the IOA hosted an evening meeting in London to discuss Defra's Draft Noise Action Plans. Twenty members heard Defra describe their proposals and gave direct feedback to inform the consultation. During 2013 informal discussions began on the need for national guidance to fill the gap left by the repealing of Planning Policy Guidance 24. This work will continue in 2014 when the committee will keep members informed of progress, seeking views as appropriate.

Measurement and Instrumentation Group

During the past year the group has organised two one-day meetings and a session during the Spring Conference. In March, a one-day meeting entitled *Making smooth the rough – the latest in human vibration measuring* was held at the Health & Safety Laboratory in Buxton, Derbyshire. A wide variety of presentations ranged from information on how to measure whole-body vibrations on high speed boats to a practical demonstration of how easy it is to get huge variations in measuring what appears to be the same source of vibration, and indeed whether it is worth measuring it at all! Thirty delegates enjoyed the nine presentations and there were plenty of questions and discussion after each one. The group provided a session at the Spring Conference, held in May in Nottingham, on optical methodologies, covering both sound-in-air and underwater applications. Presentations covered new optical primary standards, the acousto-optic effect, 3D imaging and characterisation and use of an intelligent distributed acoustic sensor. With many parallel sessions of presentations from different IOA groups operating, numbers attending each presentation were quite small. The group returned to the Royal Society in London on 5 June to hear about *The trials and tribulations of overcoming acoustic challenges*, which covered a wide variety of difficulties ranging from comparing predictions and actual results of transport noise systems via the unpredictability of moveable room partitions to trying to measure jet engines at just 2.6 m in 44°C ambient. Twenty-eight delegates enjoyed both

the presentations and used the informal day to network and discuss many different issues. Over the past year, the group's committee members have continued contributing to the regular *Instrumentation Corner* article in *Acoustics Bulletin*, which has produced some interesting discussion and articles, and this is scheduled to continue for the forthcoming year. A programme of two one-day meetings plus contributions for the 40th Anniversary Conference has been planned for 2014, with the first of these scheduled for 12 March 2014 in Birmingham asking *Railway noise – is it on the right track?*. My thanks go to all members of the committee for the active roles they take in all aspects of the group's activities and to Martin Armstrong for his secretarial skills on behalf of the group.

Musical Acoustics Group

Following the considerable recent efforts to revitalise the group, 2013 was certainly an encouraging year. Despite the group's apparent dormancy in recent years, with activity confined to well-attended sessions at the IOA Spring Conference, records show that the membership of the group has actually been increasing since 2002. By 2012, it was approaching 300, showing that the interest was there and the group was long overdue for a proper relaunch. To this end, the focus during 2013 was on widening the appeal of the group, in particular, bringing in acousticians from consultancy, manufacture and development, as well as those from academic institutions and research organisations. The IOA Spring Conference held a full session of musical acoustics papers. The session was chaired by David Sharp and covered a broad range of topics. The acoustics of musical instruments included research on the gamelan gong, guitars, the clarinet and the violin family. The way players can influence the sound of a mechanical action pipe organ was also discussed. Digital signal processing technology aspects included a novel approach for separating sounds produced by different percussion instruments. A novel system was demonstrated that processes the raw electrical output signal from an electric violin to sound like an acoustic instrument. The session even included a discussion of measurements designed to investigate whether a medieval bronze lion statue may once have made a roaring sound.

In July the group held its first one-day meeting for over five years – *Acoustic challenges in quires and places where they sing* – in London. The session chaired by Mike Wright opened with a paper presented by Bridget Shield based upon work done by London South Bank University and the Royal Academy of Music to educate musicians on acoustical issues, taking account of such matters as noise awareness in health and safety, cultural sensitivity, theatre design etc. This was followed by a discussion on the interaction between music, acoustics, and architecture in renaissance churches in Venice by Raf Orłowski. Shane Sugrue presented a study of choral singers and perceptions of auditorium acoustics. Jude Brereton gave an interesting talk on her investigations into singing performance in different acoustic environments in the "virtual singing studio", taking account of perceptions, predictions and analysis of acoustic measurements in three types of auditorium. The effect of pitch drift in a capella singing groups resulting from the natural use of non-equal temperament was highlighted by David Howard and solutions for the well-known problems associated with concerts of unamplified music in cathedral-type spaces were discussed by Mike Barron. Finally, there was an investigation by Chris Stanbury into the use of 21st Century organ technology including the increasing popularity of 'hybrid' instruments and the cost and sonic benefits that are possible.

The group also held its first AGM since 2008 and a formally elected management committee is now in place. Keeping branch members informed is most important and the launch of *MAG MAG*, an e-newsletter, commenced in June. This follows in the footsteps of its paper-based predecessor, *Notes*, which circulated in the 1990s. Owen Woods edits this informative quarterly publication.

In order to really understand the interests and aspirations of the group, a survey was carried out among members, the first for more than 20 years. Those who responded made it very clear that they wanted to be in MAG to "gain knowledge". They would like to visit concert/recital buildings, instrument makers, musical equipment manufacturers and TV, radio and recording studios. They do not like the high costs of one-day meetings which have tended to put off many members from attending, and the survey suggested that lower cost options could prove much more attractive to members. Many simply do not have the time or resources to travel long distances.

The group has an ambitious target for the coming year with a one-day meeting at Salford in March, another at the Royal Academy of Music in July and the IOA 40th Anniversary Conference in October. To extend the interest of the MAG to local level, presentations are being held at evening and other branch meetings. The first was held in Exeter at the October South West Branch meeting, with more planned in 2014 and beyond. Of note will be a half-day meeting in conjunction with the Southern Branch on 28 February. We still have a lot of work ahead but with a strong committee in place there is real hope that the MAG will become a group that will attract a very much wider audience and promote the musical side of acoustics as a mainstream component of the subject and not just a sideline interest.

Noise and Vibration Engineering Group

Five committee meetings were held during the year, mainly by teleconference but including several sub-group meetings in the Southampton area. As always, the focus was on planning events of interest to the membership.

In March a meeting entitled *Buy quiet/design quiet* was organised jointly with HSE in Nottingham; this was a well-attended meeting which produced a good level of discussion among delegates. The group also organised a session at Acoustics 2013, which was chaired by Stephen Walsh and comprised a number of presentations on automotive NVH, including a talk about the design of the Jaguar F-type sports car and several talks about challenges posed by hybrid and electric cars; a brief AGM was also held. A meeting on *Recent advances in engineering noise control* aimed particularly at the process industries was planned for the autumn, but work commitments of the organising sub-committee prevented this happening; it is now planned for May 2014.

Other changes and contributions to the IOA include: Reuben Peckham now acts as an examiner for the Noise and Vibration Control section of the Diploma; Simon Stephenson replaced Mike Hewett as Secretary; David Lewis retired from the committee after many years of service – his contribution will certainly be missed.

Physical Acoustics Group

No activities to report.

Senior Members' Group

The group and its members are one year older! It has been a successful year. All communications have been by email, particularly with the committee, and this seems to have worked. Two meetings were held during the year. The first was our AGM which was kindly hosted at the IOA offices in St Albans in March. The meeting concluded with a fascinating paper by Mike Wright, Chairman of the Musical Acoustics Group, entitled *What is the right note, pitch or temperament in music?* in which he discussed how “classical” composers in Africa had written piano and other fixed pitch instrumental music tuned to the European convention. This is generally the equally tempered 12-note scale which is in conflict to musical traditions still prevalent throughout the continent. Mike’s well-received presentation was also enjoyed by more than 20 people not able to be present at the meeting, thanks to a webinar organised by David Trew. An autumn meeting in conjunction with the Young Members’ Group was held at the Health and Safety Laboratory, Buxton, and concentrated on the noise and vibration work of the laboratory. It included a presentation on the development of a hearing test based on otoacoustic emissions; this test can detect the effect of noise on the ear before it becomes evident by conventional audiometry, and is not dependent on a conscious response by the patient. All those attending the meeting thought it was worthwhile, and it was also appreciated as a contribution to professional development. Holding the meeting jointly with the senior and young members worked well.

The group is cooperating with the CPD committee, and the chair and secretary attended the last meeting at St Albans where procedures for implementing the CPD scheme were examined in detail. It is anticipated that senior members, some of whom have previously shown an interest in helping out, will assist with the monitoring process. So far we have had three offers from committee members who are willing to review CPD submissions. Senior members will be approached when more details of how the scheme will work are published. The History Project is progressing under the guidance of Geoff Kerry with assistance from group members. Submissions covering the activities undertaken over the years by various committees and several groups and branches have already been received and more are expected before the task of editing begins.

The 2014 AGM will take place on 20 March at the IOA offices, St Albans

Speech and Hearing Group

The group co-organised events including a talk on *Protecting the professional ear* by Andy Shiach (Advanced Communications Solutions) and another on *Voices, vices and visors : some applications of forensic speech analysis research* by Dominic Watt (University of York). It also organised two sessions of papers on topics related to speech and hearing at the Institute’s Spring Conference in Nottingham in May.

The group committee met three times during the year, and discussed planning the above events and wider issues of acoustics relating to speech and hearing. Future activities planned include evening talks on *Looking after your voice*, *Recent advances in hearing aid technology* and a visit to the Sound and Vision Unit at the British Library. In addition, sessions on speech and hearing-related topics will be held at the Institute’s 40th Anniversary Conference in October.

The AGM was held in London in March 2013, immediately after the talk by Dominic Watt. Approximately 20 corporate members of the Institute were present. Emma Greenland (WSP Group) was re-elected to the committee, and Allen Hirson (City University, London) was co-opted on to the committee.

Underwater Acoustics Group

The group's main endeavour for 2013 has continued to concentrate on the dissemination of knowledge via its conferences and other activities. A marine renewable session was organised at the IOA Spring Conference, and this attracted eight presentations. Many of the committee were involved with organising sessions and presenting papers at the Underwater Acoustics Conference (UAC) in Corfu in June. This conference provided the ideal opportunity to present the 2013 Rayleigh Medal to Jacques Guigne and the 2012 A B Wood Medal to John Smith. Some members of the committee are on the ISO TC43 SC3 Working Groups 1, 2 and 3. These are working on measuring ship noise, measuring piling noise and acoustical terminology. WG 2 and 3 plan to produce their ISO standards in 2015. The group is now dedicating its efforts to future meetings, including a synthetic aperture sonar conference at Lerici in Italy and sessions at the IOA 40th Anniversary Conference.

Young Members' Group

The Young Members' Group (YMG) committee meets quarterly with one round-the-table meeting a year and three telecom catch-ups. This year's face-to-face meeting was at the IOA office and was held in September.

The YMG has seen a significant change of committee members which can be summarised as:

- Louise Beamish stepped down as Chair to be replaced by Angela Lamacraft
- Ben Piper became the Young Members' Representative (YMR) for the Measurement and Instrumentation Group
- Chris Bradley became the YMR for the Midlands Branch
- Ellen Harrison became the YMR for the Membership Committee
- Lisa Greenhalgh became the YMR for the Musical Acoustics Group
- James Allen became the YMR for the Electro-Acoustics Group.

The year saw a number of activities organised by the YMG:

- Successful webinar trials at one day and evening branch meetings by one of our members means this function is likely to be used for some meetings within the IOA
 - Nearly all of the YMR positions have been filled, although Underwater Acoustics Group and Eastern and Yorkshire & Humberside Branches remain vacant
 - We held an informal meet after the wind turbine Good Practice Guide launch in Bristol
 - We held an informal meet during Reproduced Sound in November which was attended by eight young members
 - We participated in the Sky's the Limit, an inter-professional networking event in Manchester, for the first time in November. This was a brilliant opportunity to meet young members from other institutes such as RTPI, CIBSE and ICE, to name a few.
- The group has also developed ties with the Sustainable Design Task Force, with a few of our members becoming directly involved. We are helping to arrange a joint meeting with the CIBSE Society of Light and Lighting on 17 June 2014.

Regional branches

The regional branches of the Institute exist to further the technical and social activities of the Institute at a local level.

Central Branch

The branch held five meetings in 2013, with an average attendance of 17 and attracting a total of 55 different people (including the speakers). Although this was down on 2012 due to lack of time to organise events, branch membership continued to increase year on year, rising to 194.

Meeting topics during 2013 were: *Groundborne vibration – instrumentation and criteria*, presented by Mike Breslin; *Wind turbine noise: a brief history and some technical issues* presented by Dr Andy McKenzie; *The review of BB93* presented by Andrew Parkin; *Practical acoustics and noise control* presented by Paul Absolon; and *The replacement of BB93 – what next?* presented by Jason Clouston. NHBC once again kindly hosted the vast majority of this year's meetings, although AECOM's offices in St Albans were a new venue for the final meeting of the year.

David Trew has made significant progress with webinar technology, enabling members to participate in some meetings remotely. This promises to be a valuable enhancement to branch meetings for members who are either unable to attend a meeting, or where they are interested in the topic but cannot justify the time/ cost of attending. However, physically attending meetings will continue to provide additional benefits, such as the opportunity to network with colleagues and participate in discussions before and after the meeting, including the "post meeting meeting" at a local restaurant.

Our grateful thanks are extended to all the speakers and the venues for hosting for the meetings.

Eastern Branch

It has been a busy year in what is the 25th year of the branch and my first as Chairman. I was a touch daunted taking the reins from my predecessor, Colin Bachelor, as he did such a fantastic job and a genuine natural, but with his help and with the as always excellent work by Secretary Clive Pink I am pleased to say that this year has gone without too many glitches. As regards our branch meetings, we've done quite well this year and I hope that next year's representations will be equally entertaining. We enjoy a decent debate following these meetings and below are the meetings we have held this year:

Noise Policy Statement for England – how well is it working? Dani Fiumicelli, Orwell Room, Ipswich Borough Council

Understanding instrumentation, Simon Bull, The Lounge at the Athenaeum, Bury St Edmunds

Vibration from transport and industry, Roger Kelly, The Quality Inn, Colchester

Replacement of BB93, Andy Parkin, Cambridge Golf & Conference Centre, Huntingdon

Noise from nitro-fuelled radio controlled buggies, Kieran Gayler, Constable Rooms, Marks Tey Hotel

Vibration measurement, Martin Armstrong & Chris Gilbert, The British Racing School, Newmarket

Good Practice Guide of ETSU-R-97, Richard Perkins, The Quality Inn, Colchester.

Please mention our meetings to your colleagues; I will be trying to increase our support in 2014 by contacting all the local organisations I can find and I will report on my success

(or otherwise) at next year's AGM. Finally drawing to a close, I'd like to thank Clive Pink for his absolutely sterling work as Secretary in my time as Chairman and I'm sure my predecessor Colin would echo those sentiments. It's going to be difficult to replace you Clive, so perhaps your last role as Secretary could be to pressgang a suitable replacement!

Irish Branch

During the year, despite a number of plans, the branch did not hold any events. The annual Gerry McCullagh Memorial Lecture was planned for November with the current IOA President, Professor Bridget Shield, giving a talk on *Acoustic design of schools – 100 years of guidance*. Unfortunately, the meeting had to be postponed and is now planned for February 2014. With the recent issue of the consultation document on the proposed revision to the Irish Government Wind Energy Development Guidelines 2006, it is proposed to have a branch meeting in mid-January 2014 to provide a response to this.

London Branch

Our evening meetings have been successfully held for the fifth year at WSP's offices. Attendance began well this year, with some sessions drawing nearly 100 attendees. Attendance at all other meetings has typically been between 30 and 50 people. It has been another very busy year which has included 10 events, comprising of eight evening meetings, a one-day meeting and the annual dinner.

As usual, the topics for the evening meetings have been very varied in nature, covering subjects such as rail noise, noise and health effects, optical acoustics and hearing protection.

The year started with an informative talk on rail grinding which was followed a few months later by an all-encompassing rail noise talk from the legendary Brian Hemsworth. Bernard Berry was next up, presenting the latest on noise and health effects which attracted some 100 attendees. We then had a number of short presentations from students from London South Bank University and the first part of the year was concluded by a fascinating talk from William Minting on the Party Wall Act and its use at the Hiscox v Pinnacle case. The one-day meeting was held in September on uncertainty in measurement and prediction, chaired by Bob Peters. This generated a lively debate among the 50 or so delegates. The second half of the year comprised a session on optical acoustics, the annual dinner and ended with an interesting talk on protecting the professional ear by Andy Shiack.

November saw a repeat of the annual dinner at Pescatori, an Italian seafood restaurant in Charlotte Street, W1. During the evening we were fortunate to have Bob Peters giving the after dinner speech which encompassed his varied and interesting career in the world of acoustics.

Exciting and interesting talks are already planned for 2014 and I would like to take this opportunity to thank all the members of the branch committee and, of course, the Institute staff at HQ for all their invaluable support throughout 2013. I would also like to thank all branch members for their continued support at the meetings and, of course, all the speakers who have helped make the branch such a success.

Midlands Branch

The branch had another successful year in 2013 with 11 monthly evening meetings with an average attendance of more than 30. The January meeting was unfortunately cancelled due to severe weather. The November meeting incorporated the branch's first webinar which attracted nine participants. The year's meetings covered a wide and interesting range of subjects at six different venues across the East and West Midlands. The committee continues to aim to appeal to the wide range of members' interests in the region and CPD certificates were provided at all meetings.

The branch committee would like to thank the many speakers for their excellent technical contributions: Richard Tyler, Konca Saher, Brian Hemsworth, Jorge de Avillez, David Waddington, Chris Jones, Rupert Thornely-Taylor, Mohammed Hussein, Jonathan Robinson, Colin Cobbing, Andrew Bird, Andrew Parkin, Chris Parkin, Christina Girvan, Nicholas Bush, Ben Piper, Gary Turner and Stephen Turner. Thanks also to the various sponsoring venues that provide the vital facilities and refreshments: Atkins Birmingham, Arup Solihull, Jacobs Coventry, URS Nottingham and the University of Derby, Finally, thank you to the branch members who have supported the branch so well again this year.

North West Branch

An era ended for the branch in 2013 when Peter Sacre stood down as Chair after many years of dedicated service. The exact number of years seemed to be the subject of some debate but most opinions put it at more than 20. During the year five successful and varied meetings were held, starting in February with Dr Matthew Robinson speaking about the *Measurement and prediction of maximum sound levels inside buildings due to transient events*.

In March, Phil Dunbavin drew a huge crowd for his talk on the *Revision to BS 8233*. Debate was lively on many aspects of the proposal, including the proposed changes to the numbers and Phil encouraged the audience to make their views known through the consultation process that was ongoing at the time.

In May, Andy Parkin of Cundall drew another healthy attendance for his update on the progress of the BB93 revision. There were many comments and questions about an apparent reduction in required performance standards and concern was expressed about the way that acoustic performance seemed to be carrying less weight than thermal requirements and cost reduction.

In September, Dr Carl Hopkins of the University of Liverpool spoke on *Interactive performance for musicians with hearing impairment*, presenting the findings of a research collaboration between the University of Liverpool and music psychologists at the Royal Northern College of Music. The research looked into vibrotactile feedback to aid hearing impaired musicians.

The AGM was held at the last meeting of the year in November, when Michael Lotinga and Mike Hewett officially took over as Secretary and Chair respectively. The meeting gave a hearty round of thanks to Peter Sacre for his decades of service. The AGM was followed by a presentation from Derek McLaughlin who described his *Diploma project investigating and controlling speech intelligibility problems with teleconferencing equipment in a small meeting room*.

Thanks again go to BDP and ARUP for hosting most of the meetings during the year and all those who provide the backup at the venues.

Scottish Branch

The year began with the AGM in March at the Institute of Sustainable Construction in Edinburgh. This was preceded by presentations from IOA Diploma students from Edinburgh Napier University and PhD students at the University of Edinburgh.

The presentation topics included room acoustic modelling and wind turbine noise. The research and hard work the students had put in was evident and we wish them well with their future studies. Due to feedback from members attending this session, it is proposed to make this an annual event by encouraging student acousticians to present a summary of their research. Afterwards the branch retired to a nearby restaurant for some much needed refreshments. Thanks go to Chris Steel for organising this event.

Thanks also go to Dr Elena Prokofieva for organising a joint visit in conjunction with AES – Scotland to the BBC headquarters at Pacific Quay, Glasgow in May where members enjoyed a presentation on the transmission of TV and radio sound.

In July members had the opportunity of attending the Forth Replacement Crossing (FRC) Contact and Education Centre, South Queensferry to learn about the interesting and challenging aspects of managing the largest infrastructure project in Scotland for a generation. This took the form of a series of presentations covering the principal contract works and methodology, the Parliamentary Inquiry, the Code of Construction Practice, plans for the control of noise and vibration and the implementation of these controls. Thanks go to Martin Butterfield for organising this event.

Wind turbine noise continues to be very topical and the launch of the IOA Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise prompted the branch and Institute Working Group on Wind Turbine Noise to hold a one day seminar at the Hilton Edinburgh Airport Hotel in November. The event was designed to update delegates on the new Supplementary Guidance Notes (SGNs) and to discuss any issues that had arisen since the implementation of the Good Practice Guide. The meeting was very well attended and some lively discussion took place during the break-out sessions. The SGNs are currently out for consultation and it is proposed to hold a further meeting in 2014 to ensure that branch members' views are taken into account. There has been no change to committee membership during 2013 and thanks go to Andy Watson for continuing to look after branch financial matters and to all committee members for their continued support during 2013.

Southern Branch

The branch has been revitalised in 2013 following a somewhat dormant 2012. With Peter Rogers in the Chair and Daniel Saunders as Secretary supported by a dedicated and assiduous committee, we held six meetings in 2013. The year began with our first AGM for nearly five years with the new committee elected and Ian Campbell giving a talk on *Calibration and legal metrology*. In April, one year on from the publication of NPPF, Dani Fiumicelli asked "How well is it working?" In June, Brian Hemswort's railway noise presentation stopped at Winchester. This was the branch's first evening meeting to be shown via webcast. Subsequent meetings included a panel discussion entitled '*Ask Us Anything?, Application of the wind turbine Good Practice Guide*' by Richard Perkins and Mike Stigwood sharing his views on *Motorsport noise from 'both sides of the tyre wall'*. We are grateful to all our speakers and participants for their time and efforts during 2013. The 2014 calendar is nearly finalised and will include a half-day conference in Brighton on 28 February on Creative Soundscapes featuring Trevor Cox, Jian Kang, Dan Pope and a demonstration of Aeolian harps. 2014 will also see the branch committee

moving forward the joint initiative with CIEH for a *Code of practice for noise reports* at a one-off meeting in April to finalise the details with the aim of running a pilot scheme starting later in the year.

South West Branch

The branch has been reinvigorated in 2013. Although sad to lose its first female Chair, Hannah Kent, previous Secretary Dan Pope of Atkins has stepped up to the role and David O'Neill of ION Acoustics has taken on the secretarial role. We were also excited to take on several new committee members and now have a dedicated Young Person's Representative in the form of Andrew Rickard of Mach Acoustics.

In addition to the AGM, the branch held three meetings during 2013. In June a practical comparative study of reverberation times in varying performance spaces was carried out around Bristol. This allowed members to sample the acoustics of the renowned St George's Hall, the converted cinema of the Bristol O2 Academy, and the intimate St. Bonaventure's Parish Social Club, and was followed by the branch social.

In Exeter in October a combined event with the Musical Acoustics Group saw MAG Chair Mike Wright and Dan Pope talking about musical issues. Mike presented on temperament in music and what should be considered "right". Dan presented a case study of his experience in video game sound design. Both included audio examples and there was much discussion on the topics.

In November the Atkins Bristol office was host to Cheryl Tipp and Jonnie Robinson of the British Library. Cheryl is the library's curator of natural sounds, and she presented on the early history of wildlife sound recording. This delved deep into the library's 3.5 million recording archive to play some of the first known examples of recordings of captured birds, of artificially created village soundscapes, and singing dogs, as well as snippets of audio interviews with the pioneers of field recording. Jonnie is the library's lead curator, sociolinguistics and education. He presented on the evolution of various English language dialects, with a particular emphasis on some fine examples of West Country accents, using audio samples from both published and unpublished material (such as donations and research projects), as well as being an accomplished mimic of many accents himself.

We look forward to an active 2014, with many events already in planning, and, of course, we welcome ideas and suggestions from members.

Welsh Branch

2013 was a very quiet year for the branch. One conference was planned for September, but had to be cancelled due to lack of interest. It is hoped that 2014 will prove to be a more eventful year.

Yorkshire and North West Branch

The branch did not have any activities in 2013 due to a number of factors including loss of Secretary. The branch committee will organise a number of events in 2014.

TABLE 1 MEMBERSHIP

Grade	201 2	201 3
Hon Fellow	35	35
Fellow	173	174
Member	172 2	175 1
Associate Member	733	731
Affiliate	65	69
Technician Member	81	88
Student	67	72
Totals	293 0	297 5
Key Sponsor	3	2
Sponsor	51	50

TABLE 2 GROUP MEMBERSHIP

Group	201 2	201 3
Building Acoustics	122 6	123 4
Electro-Acoustics	322	340
Environmental Noise	154 0	156 3
Measurement & Instrumentation	499	546
Musical Acoustics	280	299
Noise and Vibration Engineering	984	998
Physical Acoustics	199	206
Senior Members	104	96
Speech & Hearing	186	183
Underwater Acoustics	172	190
Young Members	145	172

TABLE 3 BRANCH MEMBERSHIP

Branch	201 2	201 3
Central	172	194
Eastern	260	261
Irish	127	125
London	767	789
Midlands	387	380
North West	386	385
Overseas	326	345
Scottish	160	168
South West	265	271
Southern	454	472
Welsh	71	77
Yorkshire & North East	224	220

TABLE 4 DETAILS OF EMPLOYMENT

Employment Category	201 2	201 3
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Architectural Practice	43	56
Consultancy	142 0	145 5
Education	221	221
Industry/Commerce	365	366
Public Authority	370	390
Research & Development	219	219
Retired	149	146
Other	91	88

TABLE 5 MEETINGS ATTENDANCE IN 2013

<i>Topic, Date & Venue</i>	<i>Attendance</i>
Hosanna Project 28 January London	65
Buy Quiet – Quiet by Design 5 March Nottingham	34
Making smooth the rough 21 March Buxton	30
Acoustics 2013 13 May Nottingham	168
Wind Turbine Noise 21 May Bristol	110
It shouldn't happen to an acoustician 5 June London	28
Acoustic challenges in quires 2 July London	30
Are you sure?	45

25 September London	
Wilson Report – 50 years on 29 October London	44
Wind Farm Noise – update 7 November Edinburgh	69
RS 2013 12-14 November Manchester	115

