

## 44th Annual Report of the Council

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.

The strategic aims confirmed by Council remained as:

1. Advise public policy with regard to the impact and nature of acoustics
2. Increase public awareness of good acoustic design
3. Increase understanding of acoustics by other professionals
4. Developing tomorrow's professionals
5. Providing better support for members
6. Increasing members' professional understanding.

To achieve these aims Council agreed the following objectives against which progress in 2017 is listed.

Objective	Progress in 2017
To advise policy makers on acoustics	The Institute has regularly sent a representative to the Parliamentary and Scientific Committee meetings and has supported the Campaign for Science and Engineering (CaSE). The President has attended a round table workshop with the Secretary of State for Industry and the Parliamentary Liaison Group has given evidence to select committees related to housing and the environment.
Increase public awareness of good acoustic design	The Institute in partnership with the ANC and CIEH published Planning and Noise: Professional Practice Guidance on Planning & Noise - New Residential Development as an advisor document for the sector. It is planned to recruit marketer in 2018 to improve the Institute's presence on social media.
Create opportunities for other professionals to gain a better understanding of acoustics and its interaction with their specialist field	The Institute continues to be involved in the joint working group on 21 <sup>st</sup> Century PEIs Professional practice and guidance document on noise-sensitive development (jointly commissioned with the ANC) was published.

<p>To develop links with undergraduate students</p>	<p>The student e-zine was produced once in 2017 but has been stopped pending a review of student engagement post the recruitment of a digital marketer in 2018. Student membership increased from 397 at the end of 2016 to 467. The Institute ran the ICSV24 conference in London with 1050 attendees from over 50 countries; approximately 20 students helped out at the event. Young members Group have actively engaged with students at both ISVR and Salford – see Young Members Report</p>
<p>To support school children's understanding of acoustics</p>	<p>The Institute sponsored Generation Science teaching in primary schools and secondary schools' Careers Hive in Scotland, in partnership with the Edinburgh International Science Festival in 2017. The Institute has agreed to double its sponsorship for 2018. A project using noise monitoring equipment on a school close to Edinburgh Airport is under development. It is hoped that this project can be used by other schools.</p>
<p>To improve the operational efficiency of the Institute</p>	<p>A contract to develop an education management system and a learning platform was commissioned. Work started in late 2017 and is due to be completed by June 2018</p>
<p>To develop mechanisms for supporting members' professional development</p>	<p>10% monitoring of members' CPD continued. A series of conferences and events was held during the year, including online events attended by groups across the UK. A learning platform capable of delivering online CPD courses was planned, has been commissioned, and is due to be completed by June 2017.</p>

## **Standing Committees**

### **Education Committee**

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

The Diploma in Acoustics and Noise Control is now in its ninth year since revision in 2008. As a result of grades obtained in 2016/17, the Diploma was awarded to 90 students from four Universities (Derby, Leeds Beckett, London South Bank and Southampton Solent) and four distance learning (DL) centres (Bristol, Dublin, Edinburgh and St Albans). Jill Crawford (DL

Dublin) won the prize for best overall performance and also for the best performance by an Irish student. Seven students received special commendation letters for achieving five merits.

The Education Committee continued to monitor the effects of the changes in higher education funding on students and centres, and is developing options for electronic delivery of learning materials. On-line tutorial facilities at St Albans continued to be used for overseas and DL candidates.

In 2017, the numbers taking and passing the Certificate Courses were as follows: Hand-Arm Vibration, 21 students, 19 passes; Environmental Noise, 142 students, 129 passes; Building Acoustics Measurement, 45 students, 42 passes (including presentations made in Ireland, Workplace Noise Risk Assessment; 50 students, 32 passes. The Certificate of Proficiency in Anti-Social Behaviour (Noise) continues to be run in Scotland by Bel Noise Courses and by Strathclyde University, 8 students, 8 passes.

Since 2011, any members have been able, for CPD or other reasons, to register for additional specialist modules. Nobody has taken advantage of this opportunity in 2016-17. However, in view of recent changes in Planning and Assessment regulations and guidance, there is the possibility of increasing numbers on the Regulation and Assessment of Noise Module by promoting it as 'stand-alone' updating. 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', new acoustic guidance (e.g. BS 4142:2014, BB93:2014, BS 8233:2014) and devolved guidance (e.g. Scottish and Northern Ireland Building Regulations).

'You've Been Banned' presentations in schools continue using demonstration equipment purchased in 2012. Also, through Acoustics Ambassadors on the Committee, opportunities for promotion of acoustics to school children continue to be monitored and pursued including local Big Bang fairs. Education Committee supported Council's decision to participate in the Edinburgh International Science Festival in 2017 and is considering exhibiting in the national Big Bang Fair 2020.

Simon Kahn resigned as Chair of the Committee at the March 2017 meeting and Bob Peters has been appointed as his replacement; Jonty Stewart has been appointed as Vice Chair. The committee expressed its gratitude to Simon for his outstanding service to the Committee over several years. The Committee welcomed four young members to its ranks at the June meeting.

The year came to an end with a number of promising initiatives including the formation of a STEM sub-committee; support from Council for Kapil Thirwani of Munro Acoustics LLP to promote and develop IOA courses in India; providing assistance with syllabus and learning material for the acoustic apprenticeship scheme; and an initiative led by Alistair Somerville and Scottish Branch to develop a course in acoustics for a school in Edinburgh relating to their school being used as a site for monitoring noise from aircraft using Edinburgh airport.

The Committee continues to be indebted to the support of its members, course tutors and examiners, to the work of the Education Manager Keith Attenborough, supported by Education Administrator Hansa Parmar and other members of office staff.

## **Engineering Division Committee**

Jim Glasgow continued as Chair of Engineering Division through 2017. He will step down mid-2018 and pass over leadership to Committee member James Hill. James will bring his current industry knowledge and a refreshed enthusiasm to the Committee's work.

Through the year the Committee met three times and held a total of 12 PRI's. Additionally a telephone conference was held to discuss the findings of one IEng interview.

These interviews resulted in six CEng registrations and four IEng registrations. Two applicants were requested to resubmit after gaining enhanced competences.

Three 'Panel' interviews are planned to give exposure and experience to recently trained interviewers.

Mike Swanwick from Rolls Royce carried out his first audit of the Committee's activities. All findings are being actioned.

Mike Lotinga from WSP will join the Committee in 2018.

Kelvin Griffiths of EngDiv committee continued his role as IOA Liaison Officer at the Engineering Council.

Blane Judd, Engineering Manager, reports that the Engineering Council announced their intention to introduce mandatory sampling of CPD for Registrants. Recording of CPD undertaken will be mandatory for registered engineers and technicians no later than January 2019. Professionally-active registrants who persistently do not respond to, or engage with, requests for CPD records from a Licensed Member risk removal from the Engineering Council Register. The Institute of Acoustics has been sampling CPD records of all members for some time now and receives good support from all members selected in the samples.

There has been a constant series of applications for professional registration over the year and there is a good pipeline of applicants who are being supported through the Engineering Division staff and volunteers. We are extremely grateful for the valuable contribution of the volunteers who comment and critique candidate submissions, supply feedback, guidance, and academic analysis, without which we would not be able to progress prospective registrations. This year we have been trialling new guidance to support candidates that do not have the exemplifying qualifications for IEng or CEng standard route applications. This has been well received by candidates and we hope that over time the quality of technical reports submitted through this route will become easier to evaluate and review. Key to the success is providing early input into the form and structure of reports, thereby creating a more consistent approach.

We continue to offer employers the opportunity for presentations on professional registration and are happy to run webinars and face to face events. This year we ran an event for our near neighbours in AECOM at their St Albans office. The Institute continues to be represented by the Engineering Manager at the Engineering Council Heads of Membership meetings where best practice and emerging issues are discussed between all licensed members.

## **Medals and Awards Committee**

The 2017 awards were made at various meetings during the year.

The Raleigh Medal was awarded to Juan A. Gallego-Juárez at the ICSV24 banquet and the W B Stephens Medal was awarded to Murray Campbell.

The A B Wood Medal 2017 was awarded to Jan Dettmer. The Peter Lord award was shared between RBA Acoustics and Free Field Technologies.

An Honorary Fellowship was awarded to Richard Perkins for his exceptional service to acoustics and the Institute.

Bill McTaggart, Paul Michel, Nicola Stedman-Jones, Brian Hemsworth and Simon Kahn received awards for Services to the Institute. Jeremy Newton will receive his in 2018.

Floyd Toole was awarded the Peter Barnett Memorial Award and Alex Southern the IOA Young Persons Award for Innovation in Acoustical Engineering.

Beth Paxton was presented with an award for the best performance in the IOA's 2016 Diploma and Alexander Dickschen received the Professor D W Robinson Prize which was awarded at their graduation ceremony at ISVR in July.

## **Meetings Committee**

The Meetings Committee met four times in 2017.

The membership of the Committee has changed slightly since last year's report. The Chair of the Committee remains as H Notley and C Turner remains as Secretary and Young Member. C Skinner, R Woodward and M Lester continue to be valued members of the team. P Rogers' input ensures the meetings programme is designed with the aims of the Sustainable Development Task Force in mind at all times and we are also benefitting from his role in the Parliamentary Liaison Group. We were also delighted to welcome ex-President Bridget Shield to join us in a role looking at building greater links with other institutions. We hope to target those organisations with similar aims to our own or those whose members work most closely with our members. Many of our members may also be members of these targeted organisations – examples include RIBA, CIBSE, CIEH and so on.

The Committee presided over the organisation of 10 events covering a wide variety of topics. This was slightly less than in recent years and the reason is that many members of the IOA, including committee members, were involved in the highly successful ICSV24. The International Congress of Sound and Vibration was held in London this year and special thanks are due, as always, to Linda Canty for her fantastic efforts in co-ordinating the local and international organising committees, resulting in an event which was thoroughly enjoyed by over 1000 delegates from around the globe. This event replaced our annual conference, but we will be back in April with Acoustics 2018 in Cardiff celebrating the relaunch of the Welsh Branch.

In addition to ICSV there were 7 single-day meetings/workshops and a two-day event; the annual Reproduced Sound conference, this year held in Nottingham. 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. A further one-day meeting saw the launch of the UK Acoustics Network, for which an EPSRC grant has been awarded. The vision of the UKAN is to bring together the internationally leading, but disparate, UK acoustics research community, to promote acoustics in the UK both nationally and internationally and to provide a coherent single point of access to acoustics research for industry and governmental agencies.

The financial performance of meetings has continued to be closely monitored 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. This year the Committee saw a surplus of around £26k, about £14k of this was due to ICSV, leaving £12k associated with our more traditional format of events. Additionally, the Committee made progress on its aims to develop the digital meetings strategy and increase communication between the centre, the specialist groups and the regional branches. A demonstration of the equipment available to enhance digital capabilities at meetings was presented at our annual strategic planning meeting to representatives from Regional Branches and Strategic Groups. This equipment is already available to all Branches and we plan to extend its use to the specialist groups in due course.

### **Membership Committee**

The committee met four times during 2017 under the chairmanship of Paul Freeborn. Mike Breslin was invited to join the Committee and he accepted. Having served two terms of three years as Committee Chair Paul Freeborn stood down and Paul Shields was appointed by Council to the position.

After the revision of the Institute's Code of Conduct last year to ensure it complied with guidance from the Engineering Council, additional guidance was published by the Engineering Council requiring further small revisions which are in the process of being drafted for approval by Council.

The CPD sub-committee continued its work through the year meeting twice to assess member's CPD and to provide constructive advice where needed. Further work was undertaken in support of the provision of maintenance CPD guidance for members whose career position required them to maintain their current level of knowledge. Presentations on CPD were given at 'The Art of Being a Consultant' event and ICSV24.

At the request of Council the Committee drafted Terms of Reference (TORs) for a Professional Standards Subcommittee with a remit to raise standards of work by identifying areas in need of improvement and then assisting to provide resources such as informative articles, presentations or conferences to help raise standards. The TORs were approved by Council and the Subcommittee was convened with David Trew accepting the post of Chair. Two members of the Association of Noise Consultants were invited to join the Committee and the Committee held its inaugural meeting.

One Code of Conduct complaint was referred to the Committee which was held in abeyance as it was the subject of an active planning application.

During the year 300 membership applications were assessed by the Committee; slightly less than the previous year. Of these 299 were elected to membership of various grades, representing a small decrease on the previous year's figures. Current membership of the Institute now stands at just over 3,000 members.

<b>2017</b>	<b>FIOA</b>	<b>MIOA</b>	<b>AMIOA</b>	<b>Tech</b>	<b>Affil</b>	<b>Sponsor</b>	<b>Total</b>
<b>Applicants</b>	<b>2</b>	<b>116</b>	<b>143</b>	<b>24</b>	<b>13</b>	<b>2</b>	<b>300</b>
<b>Elected</b>	<b>1</b>	<b>114</b>	<b>133</b>	<b>29</b>	<b>20</b>	<b>2</b>	<b>299</b>
<b>New Members</b>	<b>0</b>	<b>33</b>	<b>131</b>	<b>22</b>	<b>13</b>	<b>2</b>	<b>201</b>
<b>Resigned</b>	<b>1</b>	<b>25</b>	<b>21</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>49</b>
<b>Deceased</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>

The Membership Committee would like to thank Paul Freeborn for his excellent service as Chair over the last six years, and we thank him for agreeing to remain on the Committee. The Committee would also like to thank Chantel Sankey who has done an outstanding job at running Membership and CPD.

## **Publications Committee**

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. The editor of the Acoustics Bulletin, Charles Ellis, retired in September 2017 but continued as Bulletin editor to facilitate a handover with the November/December 2017 issue being his last one. The editing and printing is now being undertaken by Warner Group led by Juliet Loisselle. Allan Chesney shortlisted and interviewed companies for the new appointment, supported and overseen by the Publications Committee. The handover has also been overseen by the Publications Committee. Feedback is being gathered for the January/February 2018 Acoustics Bulletin.

During 2017 the Publications Committee finalised a strategy plan that details the major objectives of the Committee. The Committee has continued to review the Acoustics Update, proceedings, style and format and advertising income. The Committee has continued to increase the IOA's social media presence and encourage recording videos of talks and presentations, to be uploaded to the IOA's YouTube channel. An electronic calendar has been produced which can be subscribed to by most major e-mail clients and smart phones.

Many of the other ideas of the Committee are still on hold as they require interaction with the Institute website. Some of these include further work on abstracts and proceedings, standards lists, and having more searchable and downloadable content.

The following developments are planned for 2018:

- overseeing the reduction in size of the physical library during the office move;
- continuing the development of social media presence, including YouTube, Twitter, Facebook, LinkedIn and others; and
- developing the relationship with Warner Group and making improvements to the Acoustics Bulletin.

During the year the Committee has been joined by Lisa Greenhalgh. A further two individuals have expressed interest and are joining on a trial basis. Bob Walker and Matthew Cassidy have stepped down from the Committee. Adam Lawrence has stepped down as Chair but has remained on the Committee as Vice Chair. Daniel Goodhand has been elected as the new Chair.

Thanks are due to all Committee members for volunteering their time and enthusiasm throughout the year: Matthew Cassidy, Scott Castle, Daniel Goodhand, James Hill, Adam Lawrence, Mike Lotinga, Jordan Mayes, Chris Middleton, Seth Roberts, Lisa Greenhalgh and Bob Walker. Special thanks are due to Charles Ellis for his work as editor for the past seven years. Special thanks are due to Bob Walker for his 11 years of service on the Committee.

Thanks are also due to IOA Office, Allan Chesney and Dennis Baylis. Lastly, thanks to everyone who contributes to the Bulletin and other publications with meeting reports, technical contributions, letters, book reviews, blog posts and everything else.

## **Research Co-ordination Committee**

In 2017 meetings of the Research Coordination Committee (RCC) were held in May and



November at the Defra offices in London. Professor Abigail Bristow is the Chair of the Committee, Professor Kirill Horoshenkov is the Secretary.

The main 2017 achievement of the Committee was the EPSRC-funded UK Acoustics Network ([www.acoustics.ac.uk](http://www.acoustics.ac.uk)). The network (UKAN) grant is led by Professor Kirill Horoshenkov (University of Sheffield) and Professor Richard Craster (Imperial College) with £561,807 (£687,036 in total) in support from EPSRC.

Three years of funding commenced on 6 November 2017. The UKAN was formally launched on 27 November. The Launch Event held in the Royal Society in London was attended by approximately 150 delegates. The UKAN is focused on acoustics and pursues two main aims: (i) transfer new experimental techniques, models and scientific insights; (ii) promote mobility between universities, industry and other non-academic beneficiaries. The UKAN complements the acoustics-related activities led by the IOA. The current membership is 172 members with a balance between academia and industry.

In late 2017 the RCC organised the process and submission of nominations for REF2021 to enhance the chances of academics with an acoustics expertise serving on the panels.

These and other actions are detailed in meeting notes submitted to the IOA in a timely fashion following meetings and in the Committee Reports.

## **Specialist Groups**

### **Building Acoustics Group**

The focus of 2017 was to make ICSV24 in London the best it could possibly be. It was our 'Olympics' and a chance to show the rest of the world that the UK is at the forefront of acoustics in all fields of acoustics. It was the best attended ICSV conference ever and there were 41 papers given on Building Acoustics from members of the IOA. I would like to thank everyone in the Building Acoustics Group and Institute of Acoustics who contributed to this success.

Much work has been done on standards and guidance documents throughout the year. These include:

- Pro PG
- BS EN ISO 12354 parts 1, 2, 3, 4 & 5
- BS EN ISO 16283 parts 1 & 2
- EN 15657 which relates to noise from building equipment
- EN 14336 which concerns noise from waste pipes
- ISO/DIS 19488 'Acoustic Classification of Dwellings'
- ISO 16283-1 'Field measurement of sound insulation in buildings and of building elements'
- Good practice guide on the control of noise from places of entertainment
- CIBSE Guide B4

We would like to thank Christina Higgins for being part of the Committee and wish her well with her new challenge in Canada. We would also like to thank Mike Wood who stepped down as our Young Member (mainly because he was no longer young) and to welcome Beth Paxton for joining the Committee as our new Young Member. Rory Sullivan also stepped down from the Committee after a long stint – we thank him for all of his efforts over the years.

The programme for the Annual IOA Conference 'Acoustics 2018' in Cardiff on 23 and 24 April is almost complete with a full complement of Building Acoustics abstracts accepted. We are looking forward to meeting old friends and making new ones.

We are also hoping to organize a one-day conference with the Environmental Noise Group on Entertainment Noise which will hopefully take place in September 2018. Also a possible one-day meeting on open plan office acoustics.

### **Electroacoustics Group**

The main activity of the Electroacoustics Group during 2017 was the organisation of the annual Reproduced Sound conference. This year, the conference was held in Nottingham at the Nottingham Conference Centre on 21-23 November, with the nearby Crowne Plaza as the conference hotel. The organisation of the conference was once again very much a team effort, with tasks evenly spread amongst the EAG committee members. The conference was well attended with 94 registered delegates and the committee agreed that it was a success overall. The Peter Barnett Memorial Award for 2017 was awarded at the conference to Floyd Toole; unfortunately, Dr Toole could not attend in person and the conference began with a presentation of his talk, "*Loudspeakers and Rooms: 50 Years of Research*", by committee member Glenn Leembruggen. Delegates were treated to a coach trip to the University of Derby on the Tuesday evening prior to the conference, with workshops on Numerical Methods and 1970s Recording, and an after-dinner presentation on Binaural Theatre supplementing the programme of presentations during the conference. A small number of delegates also visited George Green's Mill on the Friday morning. The conference is moving venue again for 2018 to Bristol. The committee met on three other occasions during 2017. In January, the committee carried out a review of RS2016 and drafted the call for papers for RS2017, the abstracts were reviewed and the programme mapped out in June and the details of the conference were finalised in September.

### **Environmental Noise Group**

The continuing growth in air travel and airport expansion plans to support this, led to growing interest in aviation noise in 2017, and in May the Environmental Noise Group held a workshop to debate the issues. The meeting, entitled Aviation Noise: Key Developments, was held at the Royal Society in London; a diverse range of delegates attended comprising acousticians, local authorities, the CAA and community representatives.

On 22 June 2017 the IOA launched *ProPG Planning and Noise: Professional Practice Guidance on Planning & Noise - New Residential Development*, at the Hyatt Regency Hotel, Birmingham. The event was run twice, once in the morning and again in the afternoon, due to demand. It drew to a close two and a half years of work by the committee comprising eight IOA members working with representatives from the Chartered Institute of Environmental Health and the Association of Noise Consultants. The ProPG was sponsored by the IOA and the ANC and represents a major contribution from the IOA to planning and noise in the UK; we hope it will be used by our members for years to come. The ProPG went on to win the top Noise Abatement Society 2017 John Connell Award, presented by the Parliamentary Under Secretary of State for Defra Thérèse Coffey in the House of Commons on 31 October 2017.

## **Measurement and Instrumentation Group**

During 2017, the Group has organised one one-day meeting.

This was entitled *Sound Transport Modelling* and was the group's first foray into modelling applications, organised by a new committee member, Giles Parker. The meeting, in Manchester, was well attended, with 70 delegates, generating a useful surplus.

Chair support was provided by the Chairman to the ICSV24 Conference in London in July.

Initially planned for Autumn 2017, the next one-day meeting will be held in Northampton on 14<sup>th</sup> March this year, entitled *Sound Power Workshop : Theory & Applications*, organised by Ian Campbell. Some excellent speakers from education and industry are lined up, and the workshop format in the afternoon will provide plenty of discussion on this complex topic. This draws on our experience with previous live workshops.

The group will also provide a day of papers and live demonstrations at the Institute's Annual Conference in Cardiff, based on our successful Instrumentation Corner series.

Over the past year, the Group's committee members have continued to contribute to Instrumentation Corner in the Bulletin (51 issues to date); this has produced some interesting discussions and articles, and these are scheduled to continue for the coming year.

One of the committee meetings this year was scheduled to take place in Scarborough, and clashes of diaries meant that it had to be held remotely, using conferencing software. In fact, this worked surprisingly well and gave us useful experience for future meetings. Although never a substitute for the real thing, it does make it easier for our more remote committee members.

Thanks go to all members of the committee for the active roles they take in all aspects of the Group's activities.

## **Musical Acoustics Group**

The Group has continued to make progress and November saw the fifth consecutive annual one-day meeting and AGM. This time it was held at Nottingham Conference Centre and fielded a very strong programme focusing on some important aspects of musical acoustics. Earlier in the year, the Group also contributed to a stimulating day of musical acoustics presentations at the 24<sup>th</sup> International Congress on Sound and Vibration held in London in July. It was most evident that the subjects discussed at the two meetings once again helped to dispel the views of some members outside the Group that musical acoustics is not simply an 'interest subject'. The diversity of the papers presented would certainly benefit many acousticians who have little direct interest in the musical aspects of acoustics. Such topics as shock wave generation, vibroacoustics, hearing issues and acoustic analysis using high speed photography are core to modern acoustics.

The management committee of the Group has been active with regular meetings using internet conferencing facilities so there is no travel involved. At the AGM, Chris Turner and David Howard stepped down. However, Sara Rubio from Sustainable Acoustics was elected to the committee. After 7 years, Mike Wright will be stepping down as Chair at the

2018 AGM but intends to seek election as an ordinary committee member. At the same time, Dr Stephen Dance has offered stand for election as Chair thus ensuring that the Group will continue to build on its recent efforts.

The Group expects to be represented at Acoustics 2018 and plans are in hand for the sixth annual meeting in September 2018.

## **Noise and Vibration Engineering Group**

Two full committee meetings were held during the year, plus a number of sub-group meetings to focus on planning for particular events. Unfortunately, the work commitments of individuals and conflicting events (from other organisations and from ICSV) prevented any stand-alone meetings actually taking place in 2017. However, after a period of transition on the committee, planning for a number of future events is progressing well. The first commitment for 2018 is a full-day session for the spring conference. Other events planned for the coming 12 months include one-day sessions on '*Sustainable Engineering Design*', '*Quiet Design*' for noise at work, and automotive NVH (Noise Vibration and Harshness).

## **Parliamentary Liaison Group**

The Parliamentary Liaison Group, formed following a Council mandate in 2016 to focus on the Institute's interface with decision makers at Parliamentary level, has had a busy year.

Attendance at the Parliamentary Scientific Committee meetings by the Chair, and others delegated by him, has ensured that acoustics gets a mention whenever appropriate. The main business has been creating a strategic response to emerging government activity, including the Defra 25-year Environment Plan and the All Party Parliamentary Group for Healthy Homes and Buildings. For the latter, evidence was given to the Select Committee and questions asked within the evidence sessions to highlight the importance of acoustics in healthy buildings. Defra were invited to an IOA meeting on the topic of BREXIT, where a response was provided to the consultation and a further briefing also given. In relation to BREXIT the group made recommendations to IOA Executive upon an initial direction of travel for a strategic response by the IOA, and have recommended the formation of a working group to execute a two-part response. This includes an initial informative to the Department responsible, followed by a more in-depth look at legislation relevant to acoustics. This will be ongoing work for the working group over 2018-19, ending with recommendations to Government.

## **Physical Acoustics Group**

This is an opportunity to formally thank our small team for the efforts 'off stage' in raising the profile of Physical Acoustics within the wider membership and beyond. In 2017, we had a huge response to the Physical Acoustics session of ICSV24 in London, where we reached hundreds of acousticians from many countries around the world.

However, there is still a great need for growth of Physical Acoustics and the impact it makes with the IOA membership and the broader acoustics community. Generally, the practising acoustician still remains unaware of how strategically-led Research and Development in Physical Acoustics is able to provide insight for improving all of our products, predictions, measurement and processes. We collectively need to question why we turn the handle of our well-known process without inquiring why we perform predictions, measurements and analyses in the ways we do.

We as a group continue to communicate with our sister organisation 'The Institute of Physics' and their Physical Acoustics Group, where we share ideas to avoid clashes and duplications of effort, in providing a more comprehensive programme of events than a single institute could possibly achieve on its own.

The recent launch of the UK Acoustics Network is seen as an excellent and timely vehicle to spread the word for Physical Acoustics, where we look forward to an increase in impetus for research, collaboration and visibility in the subject that lies fundamentally beneath all we do daily as practising acousticians. Our mandate is that curiosity-driven research in physical acoustics is the prerequisite for all future exploitable technologies for our profession, whatever our fields of acoustics may be.

In 2018, we plan again to run a one-day session at a major conference, this time for: Acoustics 2018 in Cardiff. Furthermore, we intend to plan our own one-day meeting for 2018. This progress is encouraging, as it underpins the necessity for a place where Physical Acoustics can be developed, leading to the sustained future of this specialist group.

We would welcome any proposals for collaboration with other special interest groups and regional branches that would like to know more about: noise source generation mechanisms; transfer of acoustic energy through various media; specialist materials used in acoustics; novel noise reduction mechanisms, or other aspects of the science and technology that relates to the prediction, measurement and analysis of sound or vibration. Would you, your group, or your branch want to know more about Physical Acoustics? Would you as an IOA member be interested in joining the PAG committee? If so, please get in touch with us via the IOA webpage.

### **Senior Members' Group**

The Senior Members' Group has held just one meeting this year, on 6 April 2017, at St Peter's House, Victoria Street, St Albans. The Chairman Ralph Weston, who has held this position since 2011, said that he wished to retire (although remaining on the committee) and, following a suggestion from Graham Parry VP G&B, it was agreed that he should be succeeded by Mike Sugiura. Following election of the committee, a Vote of Thanks for Ralph for his work as Chairman was carried, and he was presented with an engraved tankard.

Immediately following the AGM, Dr Gurmail Paddan of the Institute of Naval Medicine gave an excellent talk on the work of the Institute and, in particular, of the Noise and Vibration Section of which he was Head.

A committee meeting held on 23 May, partly at IOA St Albans and with additional attendance by telephone link, confirmed Mike Sugiura as Chairman and also discussed possibilities for future meetings (although no meetings have yet been held). Other committee business has been carried out by email.

Senior Members have given support to the IOA CPD programme.

### **Speech and Hearing Group**

The Speech & Hearing Group hosted two events in 2017. The first, given in May, was a talk by Dr. Richard Barham (of Acoustic Sensor Networks, and formerly of the NPL) entitled *Development of the next generation of ear simulators for use in modern hearing assessment*. The other was a talk, jointly hosted by the London Branch, entitled *An investigation into the effect of acoustics on vocal strain of opera singers* and given by Dr. Gizem Okten of WSP Group in September. The former talk accompanied the group's AGM, at which all committee members who were due for re-election were duly reappointed. A meeting on *Audiology for Acousticians* has been scheduled for March 2018, along with contributions to the Institute's *Acoustics 2018* conference in April.

During 2017, Pippa Wilson and Dr. Evelyn Abberton chose to stand down from the committee

– in Evelyn’s case this was after 10 years of dedicated service to the group. There are vacancies for two ordinary members of the committee, and nominations are currently being sought.

The group committee met three times (in March, May and September) during 2017. The Group continues to liaise with other professional bodies (such as the British Standards Institute, the Royal College of Speech & Language Therapists and the British Society of Audiology) and also other specialist groups (including the Building Acoustics Group and Musical Acoustics Group) and local branches of the Institute regarding topics of mutual interest. Joint meetings in collaboration with some of these are being planned for the future.

### **Underwater Acoustics Group**

Over the past year, the Underwater Acoustics Group Committee has been undertaking the planning of a number of conferences or sessions at conferences, including:

- Chaired sessions at Oceanoise 2017.
- Organised sessions at Acoustics 2017 in Boston.
- Organised a session at ICSV 2017.
- Organised sessions at UAC 2017.
- Planning an IOA SAR and SAS conference in Sept 2018.
- Planning an IOA bioacoustics conference in Loughborough.

Several members of the committee are on the ISO TC43 SC3 sub-committee, including working groups WG1, 2 and 3 which are developing new ISO Standards relating to underwater sound.

Education Committee suggested that the IOA Diploma is extended to include underwater acoustics and a workshop is to be run with external stakeholders, led by the UAG, to discuss the options.

Overall, the UAG has had another successful year, although an important issue that requires attention is trying to increase the interest in the AB Wood medal amongst European candidates.

### **Young Members’ Group**

The Young Members’ Group committee meets quarterly with three meetings by telecom and one meeting in person. In 2017 we had a face-to-face meeting in December across two locations (London and Manchester), although a number of participants chose to dial in to the meetings instead.

The YMG was pleased to be invited to contribute to the Institution of Engineering and Technology’s vision for the future. Young members of Professional Engineering Institutes came together to discuss the future of engineering institutions and how to build links between engineering network across professional institutions.

Members of the IOA, including some young members, managed a stall at the Edinburgh International Science Festival. The training received by volunteers included the type of language to use when speaking to students and how to become more enthusiastic when explaining our work. The acoustics stand used six iPads with microphones and headphones to show the acoustics behind ‘*Rockband*’. Volunteers also answered questions about their careers in acoustics.

Young members of the IOA’s Southern Branch helped to host an event with the University of Southampton’s ISVR. The event was also provided via weblink to members of the North West Branch who congregated at the University of Salford. The topic was ‘*Interesting Acoustic Activities*’ comprising a series of short presentations from students.



As with many of the IOA Groups, the YMG provided two sessions at ICSV24 in London with help from the European Acoustics Association Young Acousticians' Network. Young delegates of the conference were invited to attend a technical session that aimed to provide useful and interesting information for acousticians at the start of their career. Following this session the YMG hosted a social event aimed at young members held at The Admiralty in Trafalgar Square. An ice-breaker activity based on the Radio 4 game 'Just a Minute' was hosted by Jayanthiny from YAN which successfully lightened the crowd and an enjoyable evening of drinks, nibbles and chatting followed.

The third Inter-Professional Networking Event in London was bigger than ever with Engineers and Architects from ten professional bodies attending. The event used the same format as previously with participants playing 'networking bingo', i.e. seeking out as many individuals as possible that fit the descriptions on the bingo card. Drinks and nibbles were provided.

To promote the IOA to students we gave a presentation at the University of Southampton about the benefits of IOA membership and Chartership. Unfortunately we were unable to fulfil the previous ambition of presenting to students at more universities but this task remains a key aim and progress has been made to deliver it.

Other events hosted by the YMG included a pub quiz in London, presentations from students to the South West Branch and a joint event with Bristol City College at which Lewis Bush presented his research into tracing number stations and covert transmissions between intelligence agencies.

YMG members also regularly contribute to the IOA Blog which can be found on the IOA website. Recent posts include *Draft excluders, part 1: what makes a good report?* and *Things that go bump in the night....*

In 2018 the YMG will be putting on 'The Art of Being a Consultant' in Southampton and will be hosting a session at *Acoustics 2018*. We are also hoping to hold a number of social events throughout the year, details of which will be provided on the Events page of the IOA website.

## **Branches**

### **Central Branch**

After previous more active years, both 2016 & 2017 were relatively quiet due primarily to other commitments restricting the available time to organise meetings.

There were four meetings in 2016: *The Acoustics of Stringed Instruments* by Bernard Richardson; *ANC Sound Insulation Issues* by Russell Richardson; *Pro PG Draft Consultation* by David Trew; and *The Mysteries Of Groundborne Noise And Vibration* by Rupert Thornely-Taylor. There was no AGM for that year, so this AGM covers both years. In 2017 there were only three meetings: *Let's Get the Part E Started* by Peter Turner; *BS4142: 2014 Objective & Reference Methods for Tonal and Impulsive Assessment* by Mike Breslin; and *ProPG – What it Means for Planners and Consultants* by Dani Fiumicelli.

After several years of very valued support from NHBC, hosting many of our meetings, they had to end this support, but Leica have kindly filled the gap and enabled us to continue holding meetings at a great venue in Milton Keynes. BRE is also greatly valued for its support hosting some meetings at Watford. Finding other equally suitable venues remains a challenge.

As ever, our grateful thanks are extended to all the speakers, and to the venues for hosting for the meetings.

## Eastern Branch

This is a review of the branch activity over the past year. We have had fewer meetings in 2017 than in previous years to focus on key topics. That said, our meetings have been well attended and highly interesting. Attendance has remained at the 2015 and 2016 levels but there are so many IOA members in this region that we would like to see more peers and colleagues come out to support the branch and perhaps learn a thing or two from our guest speakers in 2018.

As a branch so much more can be done and we will be increasing communication through IOA HQ to encourage new, existing and budding members from this region to attend the meetings.

Details of the meetings held are given below;

### Eastern Branch Meetings 2017:

Date	Subject	Speaker	Attendance
16 Mar 17	Let's get the Part-E Started	Peter Turner	17
24 May 17	How do we isolate a helicopter?	Adam Fox	14
18 Jul 17	Rationale of long term noise and vibration monitoring	John Shelton	14
14 Sep 17	More mysteries of groundborne noise and vibration	Rupert Taylor	22
12 Oct 17	ProPG – what it means for planners and consultants	Dani Fiumicelli	19

Hugo Cass, as Branch Secretary, is the man who has given up his time to keep this branch going for the last two years. I'm sad to confirm that Hugo will be stepping down from his duties after 2017 and we thank him sincerely for the work he has done for the branch.

In 2018 we seek to achieve a greater level of ownership and involvement from a more coordinated committee and as such we hope to arrange more meetings for our members. We already have two talks planned for 2018 as well as a field trip! ...With access to guns! (more information to follow in due course).

We also have the DVD issued by the IOA called '*In pursuit of silence*' which explores our relationship with silence and how noise affects our lives. As a branch we would be happy to stage a 'movie night' meeting with associated goodies of course.

At the risk of sounding like a broken record a social event and day conference have been talked about for some time now and it is hoped that, with a more involved committee, one or even both may come to fruition in 2018. It's my intention to bounce ideas around with the committee with suggestions always welcome from any other members or attendees of the branch. Then we shall hopefully commence planning and keep the branch members informed via IOA communication.

My thanks to all of our attendees over 2017 and I look forward to seeing you again in 2018.

## Irish Branch

During the year the Irish Branch held just one event:

The Branch AGM was held at the Ventac Facility in Blessington, Co Wicklow, on 5 July 2017, and was followed by a demonstration of an Acoustic Camera System given by Mark

Simms and colleagues at Ventac.

The Branch Committee also provided input to the Irish *Draft National Planning Framework 2040*, on behalf of the Irish Branch of the Institute of Acoustics.

It is planned to have a greater number of meetings this year. Any suggestions from the Branch Membership will be gratefully received.

### **London Branch**

Following on from the success of previous years, the London Branch has had yet another very busy year with one of our most active years to date. The year's activities included a staggering ten London evening meetings, a one-day conference, a sound insulation workshop and our annual evening event. Attendance was high for most of the events and the requests often exceeded the room capacity and meant that potential attendees were put on a waiting list.

As usual we endeavoured to showcase an array of topics regarding general issues within acoustics, noise and vibration as well as new and sustainable technologies that concern us as acousticians.

The year commenced with Peter Turner from Assured Acoustics giving a talk titled *Let's Get the Part E Started*. This was a topical subject with a presentation to invoke ideas and discussion for changes to Approved Document E. In February we had a presentation on psycho-acoustics for open plan offices. Dr Nigel Oseland from Workplace Unlimited gave an interesting account of an alternative psycho-acoustics approach to acoustics. After the talk, Paul Shields from AECOM gave a summary talk on preparing CPD.

The third talk of the year in March was given by Nikhil Mistry. This was very different and presented research into the enhanced target detection and classification using two-pulse sonar methods. Previous studies only assessed a narrow-band source however, recent access to a broadband high-power source has allowed exploitation of bubble resonances. In April, Panos Economou from PEMARD opened our minds with an integrated approach to acoustics which irrespective of where sound propagation takes place, and with the use of surface impedance, image source method and sound pressure summation, these phenomena can be taken into account to calculate room modes and atmospheric refraction etc. The next talk was given by Mike Breslin from ANV Measurement systems who set up a fascinating experiment for attendees to make a subjective assessment of tonal and impact noise and to compare the responses to objective methods (BS4142). Interestingly, Mike came back again in December to present the results completed at five IOA branch meetings with an opportunity to rate the samples again.

In June David Hiller described the recent experience of addressing noise issues in relation to a planning application for two proposed shale gas exploration sites in Lancashire that were intended to investigate the viability of hydraulic fracturing, commonly known as '*fracking*'.

The presentation described the hydraulic fracturing process and then described the assessment approaches taken. The final session for summer included presentations of three projects from students from South Bank University. The presentations were varied in nature and covered 'Impact of Acoustic Design on Education for Non-English Speakers', 'Virtual Reality for an Amphitheatre', and 'Subjective Impact of High Speed 2'. The evening meeting was followed by our summer event at Knights Templar which was kindly sponsored by ANV Measurement Systems.

The autumn term started with an interesting presentation by Gizem Okten of WSP covering an investigation into the effect of acoustics on vocal strain of opera singers. Later in September a workshop dealing with sound insulation was arranged at the impressive BRE facilities. In October the evening meeting was on the subject of *Do performance musicians need basic acoustic education?* This talk was presented by Luis Gomez-Agustina and

discussed the need for the musician's curriculum to include acoustic knowledge which would help them be better placed in their profession to understand the environment and how their performance could be affected/enhanced by the conditions in the room.

The one-day conference was held in November on the topic of 'Noise Management & Assessment of Crossrail: Outcome and Lessons'. The conference was organised by the IOA London Branch in conjunction with Crossrail. Held at the Royal Society, the conference was very well attended and included a series of presentations from contractors, consultants, local authorities and the developer. The conference was concluded by a citation and presentation of the Services to the Institute award to our long-standing secretary Nicola Stedman-Jones. The conference was followed by our evening annual event at The Admiralty in Central London.

We are now in our ninth year of holding London Branch meetings at WSP and I would like to thank them for allowing us to use their Chancery Lane offices as our meeting venue for another year. I would equally like to thank all the members who have attended the presentations and events during the year. Finally, I would like to thank everyone on the committee for their continued support.

Each year we endeavour to bring more interesting talks than the last and we are very hopeful that, following the success of 2017, next year will be just as amazing as the last. I would like to wish you all the very best for the coming year and thank you again for your continued support.

## **Midlands Branch**

The Midlands Branch had another successful year in 2017 with 12 monthly evening meetings with an average attendance of 25 (maximum 51, minimum 8). The meetings included talks on a wide range of topics including psychoacoustics, sound recording and avatar therapy as well as a range of environmental and building acoustics topics.

We started the year with an excellent presentation by Nigel Oseland of Workplace Unlimited who talked about alternative approaches to addressing open plan office acoustics taking into account personalities, roles and tasks. This was followed in February by an informative and interactive talk by Mike Breslin of ANV, investigating how the objective methods of BS 4142 compare with professional opinion. Other highlights included a talk by Mark Huckvale from the Speech, Hearing and Phonetic Sciences department at UCL. Mark gave a fascinating talk, describing the development of an avatar therapy system which can be used to alleviate the symptoms experienced by people who hear voices, a common problem experienced by many sufferers of schizophrenia. In November, David Hiller of Arup presented on 'Lancashire Shale Gas Exploration' at a very well attended meeting at Derby University and in December, for its Christmas lecture, the Branch hosted Jim Griffiths of Vanguardia, who gave a very engaging talk on 'Acoustic Design for Stadia & Venues'.

Meetings were held at six different venues with six meetings being held in the East Midlands and six in the 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: Dr Nigel Oseland (Workplace Unlimited), Mike Breslin (ANV), Mark Huckvale (UCL), Helen Butcher (Arup), Tim Green (TGSacoustics), Daniel Elford (Sonobex Ltd), Peter Turner, Ben Fenech (Public Health England), Dan Pope (Atkins), Norbert Skopinski (Derby University MSc Applied Acoustics graduate), Ian Rees (Adrian James Acoustics), David Hiller (Arup) and Jim Griffiths (Vanguardia).

Thank you also to the various venues that provided the meeting facilities and refreshments:

Atkins Birmingham, AECOM Nottingham, WSP Birmingham, Arup Solihull, Derby University and Wolverhampton University, Walsall. Finally, thank you to the Branch members who have supported the Branch again this year.

At the branch AGM held in December 2017, a number of changes were made to the committee for 2018. Longstanding Chair Paul Shields stood down from the role but remains on the committee as an Ordinary Member. The committee, on behalf of the Midlands Branch membership, would like to thank Paul for his commitment and contribution to the Branch over the past ten years as Chair. His enthusiasm and persistence kept the branch alive in the early years of his Chairmanship and he has played a vital role in making it a success. Fiona Rogerson was elected as the new Chair of the branch, leaving the Secretary role vacant. Post AGM, Fiona Devine agreed to take on this role. Aglaia Foteinou was elected as an Ordinary Member, having previously been a co-opted member and Philip Hainsworth was co-opted onto the committee, taking on the role of bulletin editorial contact.

## **North West Branch**

The North West Branch has undergone significant change in the last year. The official election of Adam Thomas as Branch Chair occurred at our AGM in March, during which Naomi Tansey was elected as Branch Secretary. We would like to offer extended thanks to Peter Sacre for running the North West Branch for an extended period and also for giving a smooth handover. We also offer warm thanks to Peter Hargreaves who kept the branch running through a challenging period. Both have now retired from the committee and we wish them well for the future.

The new Chair's goals upon election are focused on two main principles. To offer more to the IOA membership across the NW region and to improve communications between us all. This has been broken down into two priorities: firstly increasing the number of meetings and CPD opportunities for our membership; and secondly using modern video conferencing technology to reach a wider membership audience.

The number of meetings has significantly increased with a total of 10 events including one half-day meeting titled *Infrastructure Acoustics* which was held at the University of Salford.

Video conferencing technology is reaching an age where it is a normal part of our working and personal lives. It provides an ideal platform for improving communication with and beyond our membership. The North West stretches out across a wide area with a significant rural part, but most of our events are held in Manchester due to the resources we have available there, kindly offered by Arup, BDP and The University of Salford.

During our half day meeting on infrastructure acoustics at the University of Salford, we successfully created a live video link to a simultaneous half-day meeting hosted by the Southern Branch at the oceanographic centre in Southampton. As well as streaming our talk to their audience, we were able to hold a good Q&A session between the groups. Our thanks in particular go to Matthew Simpson from Southern Branch for working with us to make this goal a success. We look forward to more opportunities to connect with Branches across the UK.

In addition we have been trialling both video recording and streaming evening meetings using different AV resources including YouTube. We welcome the IOA's commitment to these technologies by investing in the AV equipment suitable for these purposes and look forward to using it in 2018 with the aim of it becoming standard procedure for all meetings.

We have aimed at providing a diverse programme this year but a core concentration has been on meetings around large-scale infrastructure projects. We extend huge thanks to the speakers who have provided our talks. A summary of the year's events follows:

- *Noise, ventilation and overheating: the forthcoming ANC Guidelines*, Jack Harvie-Clark
- *World class performance in construction noise control*, Andrew Bird & Colin Cobbing

- Auditorium and studio tour at LIPA, Pete Philipson

- *'Show me the Money!' The monetisation of noise impacts*, Peter Mumford
- *Infrastructure Acoustics*: Alan Taylor, Alex Wilson, Graham Parry, Ian Holmes, James Trow, Lauren Ward, Nikhilesh Patil, Pam Lowery and Peter Mumford
- *ProPG: Planning & Noise*, Dani Fiumicelli
- *The Acoustics of the Bridgewater Hall*, Rob Harris
- *60 years of Salford Acoustics Research*
- *Lancashire Shale Gas Exploration: Drilling Noise and Planning Process*, David Hiller
- *The acoustic design of the Stoller Hall at Chethams School of Music*, Adam Thomas and Steven Swan

Additional changes to the committee include the resignation of Dave Logan and Paul Freeborn. Dave has served as an active committee member for a long time, and been particularly supportive during the transition of the Chair and Secretary roles. We wish them both well and thank them for their contributions.

We welcome Chris Youdale as Young Member Representative, and Prof David Waddington from the University of Salford. Our committee membership is now as follows:

Adam Thomas (Branch Chair), Naomi Tansey (Branch Secretary), Chris Youdale (Young Members' Representative), Eloise Kalavsky (Salford University student representative), Paul Francis, Mark Hinds, Hannah Jones, David Terry, Keith Vickers and Prof. David Waddington.

## **Scottish Branch**

This year has been a fairly busy one for the branch, with a mixture of activities taking place:

### **Edinburgh International Science Festival - IOA spreads acoustics message among Scots schoolchildren**

A 13-strong team of IOA volunteers took part in an education project entitled **Careers Hive** which aimed to spread 'the acoustics message' to thousands of secondary pupils in Scotland and open the eyes of 11 to 14 year olds to the wealth of opportunities available to those who opt for STEM subjects when choosing what to study. During a special schools week, Careers Hive attracted more than 2,400 pupils and around 200 teachers from 38 high schools in 12 local authorities across Scotland. This major event was supported by both Branch and HQ. Our involvement was extremely successful. Feedback from our volunteers was that the students spoken to were interested and surprised to learn about acoustics as a career. And once they'd made the link with school subjects they were quick to think about aspects of their own lives affected by acoustics every day.

Joan Davidson, the Festival Education Manager, warmly welcomed the IOA's involvement in Careers Hive, recognising that the addition by the keen STEM professionals and engaging activities, like those provided by the Institute of Acoustics, really unearthed the diversity of opportunities that are out there for students.

This project was one of two that the Institute supported as part of a partnership agreement with this year's Edinburgh International Science Festival. The other saw it support the

delivery of **Generation Science** shows and workshops known as *Ella's Wobble* and *Good Vibrations* at 600 primary schools across the country, reaching 58,000 children.

### **AGM, Radio Broadcast Studios, SoundLab and Virtual Reality**

On 25th October the branch AGM, held at Arup Glasgow, was attended by 29 members. It was great to see such a good turnout, with some new faces and the return of some from a few years back. Bob Craik made it to his first Scottish Branch meeting after five years abroad as Provost, Chief Executive and Vice-Principal, Heriot-Watt University, Malaysia.

This was followed by demonstrations of SoundLab Lite and Virtual Reality in the Arup office and a tour of Global Media radio studios. The visit was extremely popular but unfortunately had to be capped at 30 places due to the practicalities of running the demonstrations and tour. The Arup SoundLab Lite and a Virtual Reality setup were both demonstrated in the Arup office, and the broadcast studio visit took place in the Global Media offices, conveniently located one floor up. Arup SoundLab Lite was demonstrated by Iain Laird of Arup, the Virtual Reality setup was demonstrated by César Bustos of Arup (and also our Scottish Branch Young Members' representative) and the Global Media studio tour was given by John McNally of Global Media. The meeting was described by participants as both enjoyable and very informative.

After the visits we gathered again for the presentation of a Distinguished Service Award to Bill McTaggart for his outstanding contribution to the life of the Institute of Acoustics. Bill's service and commitment to our Institute has been significant. He is most widely known for his knowledge and expertise in noise and vibration instrumentation and software. However, his many years' experience in the measurement, monitoring and analysis of noise and vibration meant that he was much in demand as an educator, trainer and presenter.

Before heading off for a social gathering and meal there was just enough time to recognise the birthday of probably our most senior (and still active) member, Andy Watson by celebrating his 81st birthday on the day of our meeting!

Scottish Branch Committee: Chairman: Alistair Somerville; Secretary: Martin Butterfield; Treasurer: Andy Watson; Branch Editorial Contact: Sean Smith; Membership Secretary: Craig Simpson; Meetings Secretary: Anne Budd/Laurent Galbrun/Nicola Robertson; Social Convener: Fiona Watson; Young Members' Representative: César Bustos; Education / Professional Development Contact: Lilianne Lauder.

### **South West Branch**

The South West branch hosted six events during 2017. In January a joint screening of *In Pursuit of Silence* was held for IOA members and University of West of England film students at UWE's Bristol campus.

Mike Breslin of ANV visited the SW branch in March to discuss *BS 4142: 2014 – How do the Results of the Objective & Reference Methods for Tonal & Impulsive Noise compare to your Professional Opinion?* Mike presented recordings of various commercial sounds and the audience were asked to submit their subjective assessments of tonality and impulsiveness in accordance, which were then collated and discussed among the group.

Paige Hodsman of Ecophon presented to the branch in May on *Psychoacoustics - An Alternative Approach to Solving Office Noise*. The talk included a summary of



psychological research to date on the subject of office noise and discussion of what can potentially be done about it.

An information pack of papers and resources was also provided to attendees.

In July the branch once again celebrated World Listening Day, this year with a sound walk around Sylvia Crow's landmark Cumberland Basin scheme. Background on the history of the scheme was provided by landscape architect Wendy Tippet and the listening exercises were provided by Dan Pope of Atkins. The branch summer social followed, with members eating, drinking and providing acoustic-related commentary on kayak mishaps in the harbour.

Following the success of the previous year's Young Members' Group talks the event was repeated this year, with members of the YMG being asked to present on recent research. Three employees of Mach Acoustics presented, one on work at Mach and two on their university final year projects. The branch would like to encourage young members to talk about their projects and ideas and plan to run a similar event again next year.

The year was rounded off in November with a joint meeting at City of Bristol College, where writer and photographer Lewis Bush presented on his research into the *Shadow of the State*. Lewis discussed cold war short wave radio signals, triangulation, satellite imagery, and provided a live demo of listening in to number stations. Tin hat wearing conspiratorial fun was had by all.

Once again we enter a new year with a strong list of planned events and we look forward to another year of fascinating talks, unusual site visits and some occasional acoustics.

## **Southern Branch**

The committee has had another strong and active year, focusing on leading Branch activity in respect of membership connectivity as well as content.

The February meeting last year saw a joint presentation by expert witnesses Dr. Andy McKenzie (Hayes McKenzie) and Ed Clarke (Clarke Saunders) who had represented Lancashire County Council and the Roseacre Action Group respectively in the Lancashire Shale Gas Extraction Inquiry. This gave branch members a fascinating insight into the process of fracking and the assessment methodologies involved in determining a mutually acceptable outcome.

March's joint event with the Audio Engineering Society's Southern Region [AES] entitled *The Virtual Singing Studio* was closely followed in early April by an informative legal perspective on 'Clay Target Shooting' and a specific case that our presenter, Lionel Fynn of Laceys Solicitors, had been working on for around 10 years or so.

At the end of June, the ANV team led by Mike Breslin were good enough to try out their audio presentation on BS4142 character penalties to the Southern Branch.

Undoubtedly, the stand out event in the Southern Branch's calendar was the free half-day event which we held in October. Returning to the National Oceanography Centre in Southampton two years after the successful IOA40 event, Southern Branch Committee led by the tireless efforts of Matt Simpson (Baker Consultants) provided a fantastic event entitled *Interesting Acoustics*. This included a keynote presentation from Paul White (ISVR)

and a series of shorter presentations on current research topics. A subsequent tour of the NOC facility was well received and a video link up with North West branch's event provided another dimension to this excellent event. Prizes for best content and best presentation style were awarded together with a long service award to Dr. Andy McKenzie. Thanks again to our event and award sponsors Bruel & Kjaer, PC Environmental and NTi, and to the ISVR for providing the venue.

Solent were again our host in December for wine & mince pies and a showing of *This is Spinal Tap* in Dolby Atmos with Southern Branch Committee Member and AES Southern Region Chair Dr. Chris Barlow offering a chronology of the loudness of rock bands over the last 50 years. As ever, this was a great way to finish off a busy year.

We have strived to move meetings around the region, and feel confident that we have provided members interesting, varied and high quality offerings.

As Chair of a great committee, we can feel very proud of our achievements in the last year which have widened the benefits of the branch meeting for all members.

I offer my sincere thanks to all the committee members who have worked so hard this year.

We have a programme of events for 2018, including an update on the current issues in Groundborne Noise & Vibration from Rupert Thornely-Taylor. In 2018 we will also try to issue a pilot of the IOA/CIEH local initiative *Code of Practice of Noise & Vibration Reports* which has made some progress in 2017. We are also planning another half day event for branch members in the autumn.

### **Welsh Branch**

There were no meetings of the branch in 2017.

### **Yorkshire and North East Branch**

The branch met three times during 2017. In June we were delighted to receive a presentation by Mike Breslin, a Director at ANV Measurement Systems. He discussed aspects of BS4142:2014 focusing on the difference in results from assessing tonality subjectively and objectively. He asked attendees to assess and rate the tonality of a sound subjectively. This highlighted a wide disparity among our group. His presentation showed the wide range of ratings from subjective to the reference objective method. The presentation generated a lively discussion and a very informative evening.

In August we had a very informative presentation by Daniel Elford, Chief Technology Officer at Sonobex Limited. The presentation focused on the abatement of noise through the use of acoustic metamaterial-based technologies. This has been shown to be particularly effective at low frequencies where the design of the attenuators can target specific frequencies, even at high noise levels. The presentation was very insightful and demonstrated an efficient alternative to porous absorbers or mass law-based sound reduction methods. His presentation was absorbing and easy to follow. There was a great question and answer session at the end. The meeting had a broad level of participation.

In November we had a presentation by Dr Paige Hodson who is the concept developer for offices in the UK & Ireland for Saint-Gobain Ecophon. As well as her friendly approach she delivered a thought-provoking look at psychoacoustics in the office work environment.

Her presentation, with the use of reliable data and research, demonstrated how the acoustic environment affects productivity. She was able to show that acoustics of the workplace can have different effects on productivity when designed to specifically suit the nature of work and the personality type of the employee. The question and answer session was so good we ran over time. This was another very engaging presentation.

Our meetings have been a wonderful opportunity to meet and get to know members of our branch. They have been particularly useful by broadening our understanding of the areas of acoustics we may not regularly encounter as part of our specialism. Looking at the vibrant nature of our meetings, we know that they are valued and appreciated.

A big 'thank you' to all who have participated in our meetings this year. Your contribution has been a benefit to the branch. We look forward to continuing the progress of our branch this year.

## **Statistic and Information Tables**

**TABLE 1: Membership**

<b>Grade</b>	<b>2016</b>	<b>2017</b>
Hon Fellow	36	35
Fellow	172	165
Member	1794	1846
Associate Member	799	785
Affiliate	53	61
Technician Member	127	138
Student	397	467
Totals	3378	3497
Founding Key Sponsor	2	2
Key Sponsor	1	1
Sponsor	46	48

**TABLE 2: Group membership**

<b>Group</b>	<b>2016</b>	<b>2017</b>
Building Acoustics	1563	1646
Electroacoustics	464	497
Environmental Noise	1863	1907
Measurement & Instrumentation	767	807
Musical Acoustics	468	502
Noise and Vibration Engineering	1280	1323
Physical Acoustics	321	339
Senior Members	126	128
Speech & Hearing	274	310
Underwater Acoustics	277	291
Young Members	370	396

**TABLE 3: Branch membership**

<b>Branch</b>	<b>2016</b>	<b>2017</b>
Central	247	260
Eastern	293	295
Irish	134	142
London	937	960
Midlands	455	466
North West	427	459
Overseas	326	323
Scottish	206	205
South West	312	333
Southern	545	556
Welsh	84	89
Yorks and North East	257	266

**TABLE 4 Details of employment**

<b>Employment Category</b>	<b>2016</b>	<b>2017</b>
Architectural Practice	376	406
Consultancy	2000	2071
Education	648	683
Industry/Commerce	658	683
Public Authority	433	425
Research & Development	689	727
Retired	124	112
Other	201	210

<b>TABLE 5: EVENTS AND ATTENDANCE IN 2017</b>	
<b><i>Topics, Date &amp; Venue</i></b>	<b>Attendance</b>
The Art of Being a Consultant 22 February London	50
Sound Transport Modelling 14 March Manchester	70
Aviation Noise - Key Developments 11 May, London	50
ProPG: Planning and Noise: New Residential Development Launch Event 22 June Birmingham	226
ICSV 2017, London 24– 7 July London	1,050
Dry Wall Construction Workshop for Acousticians 27 September Watford	33
Noise Management & Assessment of Crossrail 8 November London	97
21 <sup>st</sup> century Musical Sound Production, Presentation and Reproduction 21 November Nottingham	22
Reproduced Sound 2017: Sound Quality by Design 21-23 November, Nottingham	94
UK Acoustics Network 27 November London	150