

49th 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, Government Policy 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 that the aims of the charity are carried out for the public benefit.

The major change in 2022 was the return of face-to-face meetings and the Institute's staff returning to work collectively in the office at least 3 days a week. Staff have grown to value the flexibility of home working and are now allowed to work at home one day a week.

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 2022 is listed.

Objective	Progress in 2022
To advise policy makers on acoustics	<p>The Parliamentary Liaison Group (PLG) has had steady success at Parliamentary level in growing a network of influence. A course has been set regarding setting up an All Party Parliamentary Group in Parliament relating to Sound, Noise and Health.</p> <p>The PLG has successfully now published a number of briefing notes, which are intended to be short evidence pieces providing information on a number of projects. For example, a briefing note on Air Source Heat Pumps, which in collaboration with CIEH produced a Practitioner Note, a note for the Public and also a calculation sheet.</p> <p>Members of the Institute continued to liaise with the All-Party Parliamentary Group on Healthy Homes and Buildings having previously given evidence to them.</p> <p>The Institute also provided responses to various Government consultation documents.</p>
Increase public awareness of good acoustic design	The Institute funded both a Secondary Schools' and a Primary Schools' competition, which proved to be a success raising the profile of acoustics with school children and teachers. The winners of the 2022 competition were once again students from St Oscar Romero Catholic School, Worthing. The 3 winners, one

Objective	Progress in 2022
	<p>each of their parents, a teacher and the headteacher all attended the John Connell Awards at the Houses of Parliament (courtesy of the Noise Abatement Society) to receive their award. For the 2023 competitions Oscar Romero School has agreed to act as a hub to encourage more schools in the area to enter.</p> <p>The Institute also again sponsored the John Connell Innovation Award.</p>
<p>Create opportunities for other professionals to gain a better understanding of acoustics and its interaction with their specialist field</p>	<p>The Institute continues to liaise with other professional Institutions, including the ANC, CIEH, the Royal Environmental Health Institute of Scotland (REHIS), the Institute of Licensing, the Royal Academy of Engineering and the British Standards Institute. Members participated in various working groups with other professional bodies.</p>
<p>To support school children's understanding of acoustics</p>	<p>In addition to the Schools' competitions, the Institute has continued to fund the Edinburgh Science Festival's outreach programme to schools using acoustics based science workshops. The Institute also worked with SpringPod to fund and participate in online careers in acoustics workshops for just under 1,000 year 12/13 students.</p>
<p>To improve the operational efficiency of the Institute</p>	<p>The Institute received permission to start the process of formally submitting an application for a Royal Charter and work began on drafting the revised byelaws.</p> <p>Work was also started on upgrading the computer systems to the latest version of our data base software CiviCRM with a view to upgrading the website to the latest version of Drupal. This will increase the office staff's ability to edit the website without having to get specialist IT support.</p>
<p>To develop mechanisms for supporting members' professional development</p>	<p>The Institute hosted a number of events in 2022, including the International Conference in Underwater Acoustics 2022, Reproduced Sound 2022 and Inter-Noise 2022. Inter-Noise was the first Inter-Noise Conference to have a hybrid delivery. Of the 1,300 delegates attending from across the world, approximately 300 were online.</p> <p>In addition, numerous Branch meetings were held with a mix of online and face-to-face meetings. Online refresher CPD and Members' Forum meetings were held during the year. The use of online facilities meant that many members unable to attend face-to-face meetings could still engage. The 10% check of members' CPD was completed during the year.</p>

Standing Committees

Bursary Fund Committee

At the end of 2021, the IOA Council decided that in 2022, the Bursary Fund should be used to help students and other eligible members with the costs associated with attending Inter-Noise 2022. Due to this, no Bursary Fund calls were made between January and August 2022.

Following the launch of the new IOA special interest group on sound and health in April 2022, Ben Fenech announced his intention to step down as chair of the IOA bursary fund committee, so that he can better focus on chairing the new group. Reena Mahtani agreed to take over the role of Bursary chair, and a smooth handover took place in the last quarter of 2022.

A funding call was made in the autumn. Two applications were received, both from student members requesting funds for the IOA diploma and part of PhD fees respectively. The diploma application was successful, and the applicant received a discount of £1,000 in their fees. The PhD applicant was working, part time, as an acoustic consultant and, following the bursary fund rules,, this application was rejected due to the conflict.

Applications for the first round of funding of 2023 are planned to open in February.

Education

The IOA Diploma and Certificate courses continue to provide education and training for both members and non-members and to encourage the recruitment of new corporate members.

As a result of grades obtained in 2021/22, the Diploma was awarded to a total of 75 students from three accredited Centres (University of Derby, London South Bank University and KP Acoustics Research Labs) and four distance learning (DL) centres (Bristol, Dublin, Edinburgh and Milton Keynes).

Daniel Robinson (DL Edinburgh) won the prize for best overall performance on the Diploma and the award for the best performance by an Irish student was gained by Luke Coffey.

The tutorials at Milton Keynes were attended by a proportion of UK distance learners with others participating online ,together with the increasing number of overseas DL candidates.

IOA Classroom (Moodle) was used by Diploma DL Candidates for shared and sharing materials. Extensive use was made of the videos produced for blended learning.

Enquiries for the 2023/24 delivery of the diploma are already coming in for DL and accredited centres. It is hoped that our accredited centres for the 2023/24 academic year will increase to four if not five centres including: LSBU, KP Acoustics Research Labs (offering Southampton and potentially a Manchester regional hub), University of Derby and Leeds Beckett University.

The Dubai Acoustic Research Laboratory delivered the Diploma Laboratory Module to 9 candidates in 2022 and 8 candidates in January 2023. For the 2020 pandemic year, online experiments were devised by Gary Seiffert and 'at home' experiments were devised by John Kennedy. They have continued to be offered to provide a Laboratory option predominantly for overseas candidates facing travel difficulties as well as offering an alternative solution to those candidates who could no longer attend their assigned face-to-face laboratories.

In 2022 several centres delivered certificate courses that they had not been able to deliver during the pandemic. Two centres were re-accredited and two centres were accredited to deliver courses not already in their short course portfolio including CCWNRA and CCBAM courses. After many years CCBAM returned to the IOA list of courses offered in 2022 and momentum has been maintained with another course planned for March 2023. Although CCBAM (37 Candidates) and CCENM (150 Candidates) continued to be most popular, it is good to see an increasing interest in the CCWNRA course (34 Candidates). Unfortunately, 2023 will see fewer CCBAM exams as SITMA have decided to take their two CCBAM courses inhouse, however an IOA Spring and Autumn delivery will be maintained. There were 8 candidates for the CCMOEHAV course which is run essentially by one person, Gurmail Paddan. The Certificate of Proficiency in Anti-Social Behaviour (Noise) was not offered in 2021 or 2022.

Two new certificate courses in report writing and evaluation are being developed and the first presentation by KP Acoustics Research Labs of a certificate of proficiency in technical report writing is planned for the end of March 2023 subject to recruitment. Currently there appears to be more demand for the more advanced report evaluation certificate course, which is still in development. Its delivery, again by KP Acoustics Research Labs is unlikely before summer 2023.

Since 2011, IOA members, Diploma candidates and holders have been able, for CPD or other reasons, to register for additional specialist modules. One candidate took advantage of this opportunity in 2021-22 following through with the assessed elements, but there have been enquiries from candidates wanting to access notes and tutorials only. So far, no members have sought professional updating through stand-alone registration for the Regulation and Assessment of Noise Module.

During 2022 progress was made on the creation of online CPD courses. The topics included Environmental Noise Measurement, Uncertainty, School Acoustics, Healthcare Facility Acoustics, Sustainability Acoustics and Gym Acoustics. Online refresher videos are being made which reuse and repackage Diploma blended learning content on Transport Noise, Outdoor Sound Propagation, Room Acoustics, Sound Insulation, Vibration and Human Responses to noise and vibration.

The Committee continues to be indebted to the support of its members, course tutors and examiners, the work of the Education Manager Professor Keith Attenborough, supported by Education Officer, Helen Davies, Student Support Officer, Fiona Pizzey, Finance Officer, Julie Clements and other members of office staff.

Engineering Committee

The Committee met three times during 2022 and held 4 Professional Review Interview (PRI) assessments.

PRI assessments from 2022 onwards have been conducted against the new Version 4 of the UK Specification, and the interviews continue to be conducted using Zoom. This has increased the efficiency of training new assessors, with 3 new members joining the Committee.

The majority of PRI assessments held in 2020 were conducted using Zoom, and, following on from the Committee's plan from 2019, multiple candidates are now being interviewed concurrently, enabling the Committee to deal with the increasing number of candidates looking to obtain registration with the Engineering Council.

An internal audit of the Committee processes and procedures was held in November 2021, with the results and recommendations implemented in 2022; this has included producing new assessment forms to replace the previous paper forms, given the assessments are now held online.

Medals and Awards Committee

The 2022 awards were as follows.

The A B Wood Medal 2022 was awarded to Sophie Nedelec and was presented at ICUA2022

The Peter Barnett Award was awarded to Glen Leembruggen and was present at Reproduced Sound 2022

Presentation of the following Awards was delayed due to Covid 19 and were planned to be presented at an awards lunch at the Oval in April 2023.

The Rayleigh Medal was awarded to Jian Kang,

The IOA Engineering Medal was awarded to Richard Bowdler

The Bob Peters Award was awarded to Keith Attenborough.

Promoting Acoustics to the Public Award was awarded to Matt Muirhead.

Services to the Institute Award was awarded to Robin Woodward.

Best Diploma Student was awarded to Daniel Robinson

Best Irish Student was awarded Luke Coffey (to be presented at an Irish Branch event).

Meetings Committee

The Meetings Committee of the Institute of Acoustics met four times during the year. The membership of the Committee consists of Mr C W Turner (Chair), Mr K Jackson (Secretary and Early Careers Group Representative), Dr M Lester, Mr P Rogers, Mr C Skinner, Mr R Woodward. Ms J Smyrnova stepped down from the Committee at the start of the year.

Since the Institute was hosting Inter-Noise in 2022 there was no annual conference under the Acoustics 20xx banner for the committee to oversee.

The Committee's focus during 2022 was to support the specialist groups and regional branches in maintaining the meetings output for the Institute. The Committee relaunched the update to the meetings strategy for the Institute and consulted with representatives of the Groups and Branches to understand how the Committee could best support them.

Meetings in 2022 consisted of in-person, virtual and hybrid meetings. However, there has not been a return to the paid-for one-day technical meeting with important topics and consultations being presented in a series of virtual meetings held at different times of the day and on different days.

Reproduced Sound was a successful event held in-person but with an option for online attendance for those who were unable to make it to Bristol. The Committee thanks the RS2022 team for encouraging this blended approach.

Looking forward to 2023, Meetings Committee will be responsible for organising an Acoustics 2023 and will begin to prepare for the IOA 50th Anniversary meeting - Acoustics 2024.

The Committee's focus will be building upon the meeting strategy developed in early 2021 and looking to build further on the successful hybrid events held thus far whilst encouraging a return to in-person meetings where possible. To enable this, the Committee will be looking to engage with other similar professional bodies and associations to share experience with organising hybrid conferences.

Membership Committee

The Committee met 4 times during 2022. All were hybrid with most attending in-person at IOA HQ and some joining remotely. The Committee welcomed Derek Nash, Sam Williams, and Phil Evans - all made a valuable contribution.

Paul Freeborn retired from the Committee and Tony Garton stepped down from his role as secretary but remains on the Committee. Both deserve praise for their service to the IOA over many years.

The CPD Sub-committee continued its work through the year, meeting twice to assess members' CPD records and to provide constructive advice where needed. The Committee continues to be concerned at the lack of response from those selected to provide CPD evidence.

The roles of Vice Chair Code of Conduct (Brian Tunbridge took over from Paul Freeborn) and Vice Chair Continuing Professional Development (Richard Collman) and Vice Chair Professional Standards Committee (David Trew) have continued to help to share the workload and increase the output from this committee. This is particularly the case for Code of Conduct issues which have taken a lot of time.

Code of Conduct cases – we had 8 CoC cases plus one ongoing from 2021. The status at the end of 2022 is four closed, one ongoing, two pending receipt of information, and 2 new ones.

We continued with conference calls with committee members involved with the CoC cases to help maintain momentum on CoC cases and resolve them as quickly as possible. These meetings only take place on the months we do not have a membership meeting and when we have ongoing cases.

As a result of an issue arising from a complaint plus a request from Engineering Council to upgrade the IOA Code to align with their recent changes, the IOA Code of Conduct was revised and submitted to Council for approval. This was approved at their December 2022 meeting and will be published on the IOA website in due course.

New Grade "Research Member grade of the Institute of Acoustics" was approved at the IOA AGM in September 2022.

Background The status of researchers was previously covered under the Institute of Acoustics Student status. The Student status was free to join and designed for taught students, such as undergraduate or postgraduate students. The Research Member of the Institute of Acoustics (RMIOA) is a sub-set of Associate Member grade (AMIOA) and as such can lead to full corporate status in due course, typically 3 years of work at a responsible level, as for current AMIOAs. RMIOA is limited to 5 years, considered the normal duration for completion of studies. Applications would be considered for the study of MRes, MPhil or PhD in a field related to acoustics. The membership fee will be significantly reduced, made possible by using only electronic means of communication. Applications need to be supported by the research supervisor. The Membership committee will process the application in the

normal way; however it is proposed that the anticipated initial high number of applications be processed by a group of peers, i.e. academics holding corporate membership, led by Steve Dance (Membership Committee member) . Postnominals would be RMIOA or R.M.I.O.A.. Thanks to Steve Dance for progressing this.

Apprenticeship – The Apprentice Technician course started September 2022 at London Southbank. The Council agreed to the Membership committee proposal that the apprentices would be eligible for the following grades of IOA Membership;

- TechIOA after one year in, by application, using the Transcript provided the Education provider.
- AMIOA by application following End Point successfully completed; and
- MIOA by application after 3 more years (post End Point successfully completed) working in acoustics at a responsible level and with suitable CPD evidence

During 2022, 283 membership applications were assessed by the Committee; (2021 - 275, 2020 – 255, 2019 - 241, 2018 - 309,). Of these 232 were elected to membership of various grades

Current membership of the Institute now stands at 3055 (2021 = 3037, 2020 = 2988, 2019 = 3007, 2018 = just over 3,000) members. Further details are provided in Appendix B

There have been fewer challenges to the Committee’s decisions (largely due to an improved consistency in decision making and use of standard forms) however the workload of the Committee is too high - largely due to code of conduct cases and challenges to membership decisions and is not sustainable.

To help address this, the Committee proposed the appointment of a Membership Officer to help with application queries, code of conduct cases, improving online guidance on process and on clear procedures to deal with challenges - we are waiting to hear back from the new President on this issue.

The Committee would like to thank Emma Lilliman who has continued to do a great job in the admin support of Membership and with the CPD.

Focus for 2023 will be on continuing to improve consistency of application reviewing and decision making by

- improving guidance for Membership Committee members particularly around CoC and in providing good feedback to unsuccessful candidates;
- improving guidance for membership applicants for all grades;
- creating guidance and sanctions on what to do with those who do not provide CPD evidence when asked;
- advertising for a committee secretary; and
- considering creating the role of Membership manager to assist with the workload.

We are also looking at guidance on our duties to the defendant as well as the complainant in code of conduct cases. Also regarding how we can share complaint information with other organisations (e.g. the ANC / Engineering Council). There is an increasing area of concern where a complainant, who is not satisfied with the outcome of the investigation by one organisation, approaches another organisation, or who might approach organisations simultaneously to investigate the same complaint.

Publications Committee

Acoustics Bulletin and Supplements

Warners Group Publications has been publishing the Acoustics Bulletin since the end of 2017 and which is edited by Nicky Rogers.

In 2022, we produced additional supplements to the magazine, which were well received. We are currently working on a buildings supplement, which will be published as a digital only publication.

The Acoustics Bulletin itself continues to evolve and is well received. We have introduced new topics in the magazine this year, including articles on new research, women in engineering, EDI, education and sustainability. With sustainability in mind, we now carry the FSC logo on the contents page, that shows that the paper we use is sustainably sourced. At this stage, we still use oil-based ink, and this is unlikely to change in the foreseeable future. We use a compostable wrapper and keep the print run to a minimum to avoid wastage.

The system for reviewing all technical articles works well and although technical contributors can be difficult to source, we still produce relevant technical articles in each issue. The challenge is that there is a very small pool of authors we can approach, so any suggestions are always very welcome. Encouragingly, in recent months, there are an increase in articles submitted spontaneously. Most can often be adapted (in collaboration with authors) to make them relevant for IOA members.

Marketing

During 2022, Alex Shaida, the IOA's Head of Marketing, continued to lead the development of our marketing activities. We continued to grow engagement across social media platforms, and we advertised through these platforms.

The IOA logo was updated to include the strap line "Sound. Noise. Vibration" to communicate quickly what acoustics encompasses to those unfamiliar with the IOA.

We promoted the IOA Diploma in the UK and internationally, which helped drive a continued increase in registered candidates for our 2022-23 cohort along with sustaining the levels of delegate attendances for short courses delivered via our partner learning centres.

The IOA also set up and ran a digital marketing and social media campaign for Inter-Noise 2022. This helped achieve impressive delegate numbers for the event that took place in Glasgow in August 2022.

Emphasis continued to be placed on collecting and analysing detailed metrics to measure our monthly reach and engagement performance, especially across digital and social media. Marketing data was also published in the Acoustics Bulletin for IOA members to provide insights on how we market ourselves.

For Google, HTML5 advertising was introduced as the Google AdWords platform moves towards delivering more display-oriented digital advertising that's driven by AI algorithms for audience delivery.

In 2022, video content was made available on the IOA website. Also, email integration to improve communication with members and those that contact the IOA was begun and will be introduced in 2023. A large percentage of website visitors were through mobile devices, and we continue to develop more effective strategies to communicate through these devices.

Advertising

Dennis Baylis continues to oversee advertising through the IOA. Overall advertising income has improved in 2022, but the balance is very different:

- Bulletin advertising down to 2015 level - we lost 3 regulars due to their budget constraints (as mentioned in 2021 report), but gained 1 new one
- Web (job) postings – best ever, approximately 40% of the total advertising income.
- Banner advertising was introduced in late 2022 – so far there have been 3 bookings 2 of which are annual. There will be a more pro-active push on this in 2023 – including a piece in the Bulletin.

Looking forward to 2023 there is a positive outlook:

- Acoustic Bulletin regulars are re-booked (1 missing for the January/February issue, but aiming at returning from March April issue).
- 1 new (6 issue) regular.
- There are prospects for later in the year.

Committee Membership

Over the course of 2022 the Committee has been joined by Andrew Fermer.

Long standing member and former chairman of the committee Adam Lawrence has stepped down this year to focus on his work for the Equalities, Diversity and Inclusion working group, where he is a passionate advocate for those with disabilities in the industry. Adam himself suffers from a rare neurological condition Hereditary Spastic Paraplegia (HSP) and is chair of the HSP Support Group and co-chair of the Atkins Enable support network for people with disability. Adam has provided effective leadership and steadfast support for the work of the Publications Committee and has had a central role in the modernisation of the IOA publications and the creation of our social media outlets. The Committee expresses its heartfelt thanks for these many years of service.

The Committee remains reasonably well balanced across the different sectors, although more members from local government would be most welcome.

Thanks are due to all Committee members for volunteering their time and enthusiasm throughout the year and all those IOA members who are part of the Editorial Board for the Bulletin and who review the technical contributions prior to publication. Thanks are also due to the IOA Office, Allan Chesney, Alex Shaida, Nicky Rogers and Dennis Baylis. Thanks to everyone who contributes to the Bulletin and other publications with meeting reports, technical contributions, letters, book reviews, blog posts and everything else.

There are several vacant positions relating to publications for which we are seeking volunteers. These includes: members for the committee, contributors for the Acoustics Bulletin, reviewers for

technical articles and moderators for our various social media platforms. Please contact Daniel Goodhand daniel@goodhandacoustics.co.uk to find out more.

Research Co-ordination Committee

In 2022, virtual meetings of the Research Coordination Committee (RCC) were held in April and November on Zoom and in-person at the Defra offices. Professor Stephen Dance chaired the meetings and Dr Jonathan Hargreaves was the Secretary.

RCC continued to work with the EPSRC UK Acoustics Network+ (UKAN+) led by Prof Kirill Horoshenkov and Prof Richard Craster. Over the last year UKAN and RCC organised 50+ joint meetings and workshops, all online, to bring together industry and academia working in acoustics. UKAN supported two conferences: Inter-Noise 2022 and Reproduced Sound, and a one-day meeting of the Musical Acoustics Group. UKAN also offered the first tranche of pilot funding for risk research projects, three in total and two knowledge transfer collaborations each lasting six months.

RCC analysed the results of UKRI funding, establishing that £173m of running grants (May 2022) down from £183m in May 2021. Most of the monies were to fund audio, speech, sonic, sound and hearing research £51m, closely followed by ultrasound £44m and acoustics £43m with noise and vibration projects each receiving £17m. On average each grant was valued at £1m with EPSRC funding 117 projects, InnovateUK 16 and the MRC funding 10. Each of the other funding agencies, except Astronomy had single figures but this did emphasise the breadth of acoustics.

The RCC analysed the results from this year's Research Exercise Framework (REF). This is a national audit of UK research undertaken at Higher Education Institutes between 2014 and 2020. Although difficult to dissect, as acoustics is not large enough subject to be one of the 33 units of assessments, it was possible to analyse the real world impact case studies. Of 6,781 there were 25 on acoustics related work, but these covered ten unit of assessment areas. Again, this demonstrated the breadth and reach of acoustics.

Finally, RCC are glad to report that the new RMIOA status was approved by the August 2022 IOA AGM. This will aid the integration of UKAN with the IOA which will be facilitated by the RCC to create the National Centre for the Co-ordination of Acoustics Research. To this end a new Spring Conference focused on Early Career members from both organisations is being arranged in London for March 2023.

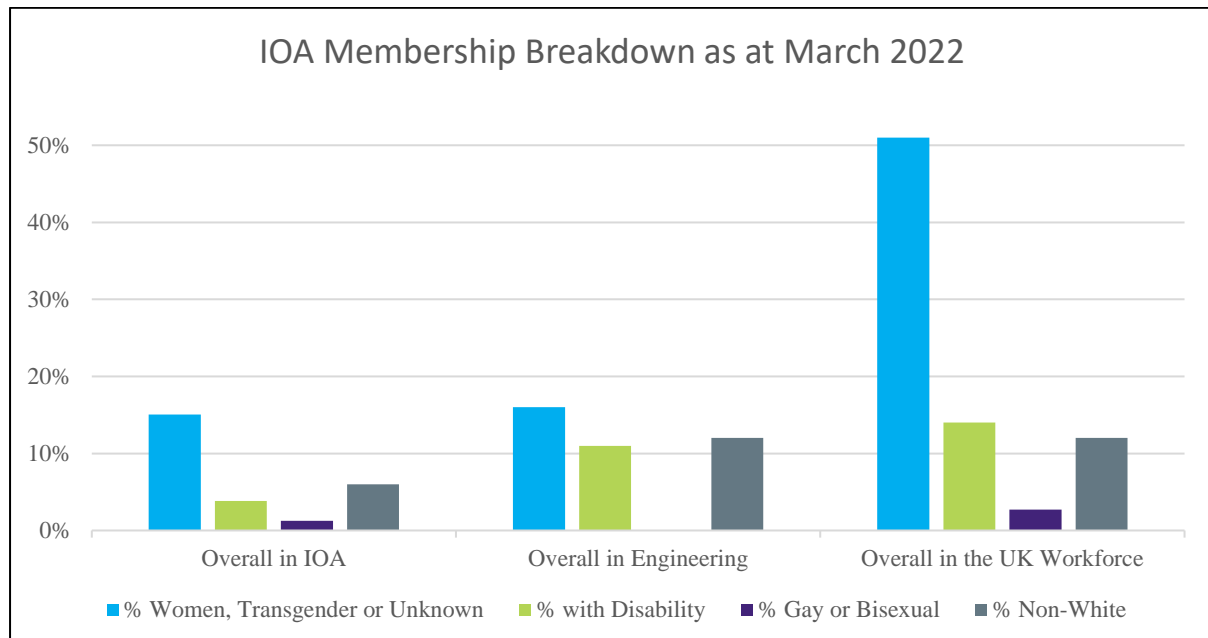
Equality Diversity and Inclusion Committee

The EDI WG currently has ten members from a variety of backgrounds. The Chair of the working group also sits on Council and has the role of Diversity Champion for the Institute. The working group was set up in 2021 to:

- Improve inclusion within the Institute, to encourage a more diverse membership and increased participation at meetings, consultations, events etc;
- Improve inclusion in the organisation of the Institute to encourage a more diverse Leadership team; and
- Improve inclusion of Institute members within employment to encourage a more diverse acoustics workforce.

At the beginning of 2022 members of the EDI WG had EDI training by a Diversity and Inclusion Consultant. We learnt some of the fundamental principles of diversity, equality and inclusion as well as how we can help improve them within the Institute. It is hoped that the training will be delivered to a new group, including the President, President-Elect, Chairs of standing committees etc in 2023.

The EDI WG has publicised the current demographic composition of the Institute membership in an Acoustics Bulletin article and the composition as at March 2022 is provided below.



(We haven't found reliable data for the percentage of gay or bisexual people in engineering for comparison.) This highlights that there is a low proportion of members who are women, non-white, consider themselves to have a disability and/or are not heterosexual.

Members of the EDI WG have discussed the benefits of improved EDI at a number of events, including during an IOA Forum, at the Art of Being a Consultant, at Inter-Noise 2022 and at an ANC Board meeting. We have also suggested ways that everyone can help to improve EDI, for example, by being aware of their unconscious bias, speaking up when they have an idea, taking part in Institute events (especially if you are from an underrepresented group) and becoming an ally to underrepresented people by calling out detrimental behaviour (if you feel comfortable doing so).

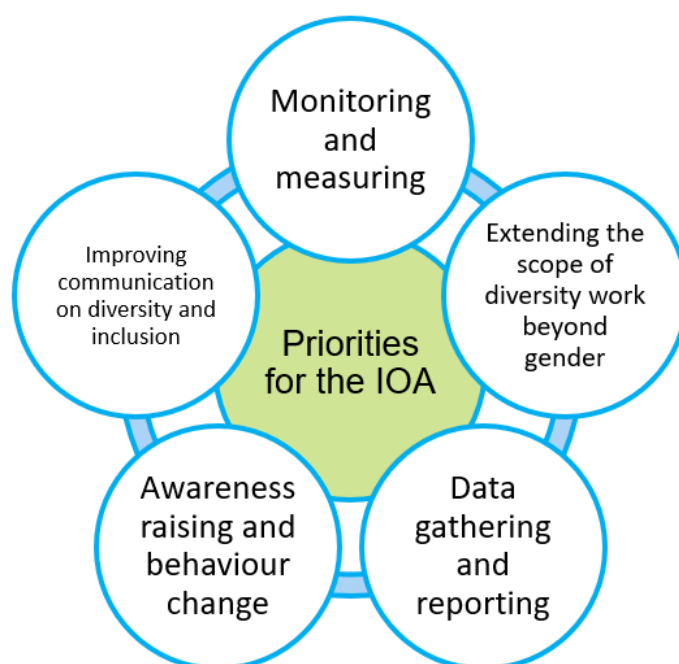
Several specific areas requiring work have emerged from our training and discussion with Institute members, including:

- The need to review the way demographic information is collected during membership renewals – currently some categories are incorrect and insensitive;
- The need to review the process for applying for Fellowship of the Institute (currently a member must find three FIOA grade members to support their application, which may rule out people who don't know many people in the Institute);
- The problem members have in seeking part-time work, for example, parents caring for young children;
- Designing Institute meetings and events to be more inclusive, for example, not always choosing venues that serve alcohol, thinking about whether meetings and events are online,

in-person or hybrid, their timing, where they are held and whether a recording of the event can be provided online afterwards for people who could not attend;

- Considering how to encourage fewer occurrences of people selecting 'unknown' or 'prefer not to say' when answering the demographic data collection questions.

We have reviewed the Royal Academy of Engineering benchmarking reports and have identified that the following areas should be a priority for the Institute of Acoustics



We have put together a list of specialist societies for people with protected characteristics and are investigating how we can collaborate with them to improve EDI in the Institute and beyond.

We have also publicised various awareness days, weeks and months by creating Acoustics Bulletin articles or social media posts about different characteristics to help our underrepresented members share their experiences of working in acoustics. In 2022 this included a report summarising an EDI survey that was undertaken, writing about neurodiversity and providing profiles for women in acoustics.

The EDI WG helped the ECG to provide the Institute's first Buddy Scheme, which was provided at Inter-Noise 2022. The purpose of the scheme was to help people who felt nervous about attending the conference to get more out of the experience of attending and to encourage people who are nervous to sign up. It was a huge success with very good feedback. Some participants are even recommending that their national institutes create similar schemes for their meetings and events.

Ultimately, people should be employable in the acoustics industry and not only if they fit what is currently regarded as normal. It is clear to the EDI Working Group that Institute members are individuals with unique strengths and different needs.

International

During 2022, IOA has continued its involvement in a wide range of both National and International events and initiatives including active involvement in activities of the European Acoustics Association (EAA) and the International Commission for Acoustics (ICA), collaboration with Acoustical Society of America (ASA) through its the International Liaison Committee, The Institute of Noise Control Engineering I-INCE through hosting of Inter-Noise 2022 and many other international acoustics events and organizations.

In 2022 the IOA was associated via its EAA membership with a number of major international acoustics conference. These included the EAA's Euroregio2022 which took place in Aalborg (Denmark) in May. The format was Hybrid and included the EAA General Assembly attended by the IOA's President Elect at that time and Vice President – International. From the 21st – 24th August 2022 the IOA organized in collaboration with the UK Acoustics Network (UKAN), Inter-Noise 2022 in Glasgow on behalf of I-INCE (The International Institute of Noise Control Engineering) under the theme *Noise Control in a More Sustainable Future*. This conference was a major success, reported in more detail elsewhere in this report drawing delegates and presenters from all around the world.

Similarly the IOA also organized the International Conference on Underwater Acoustics (ICUA-2022) another major international conference in June in Southampton. The IOA was also involved in the international conference on the Effects of Noise on Aquatic Life Conference that took place in Berlin in July 2022 bringing together scientists from all around the world looking at these issues. Although the International Year of Sound (2020-2021) had officially concluded, a wide range of international acoustics events took place in 2022 and are still being planned for 2023, for example the 28th international Noise Awareness Day on 26th April 2023 (<https://noiseawareness.org/>). The International Year of Sound website was still active (<https://sound2020.org/>) and continues to list international events on acoustics taking place throughout 2022 and resources highlighting the importance of sound on a global platform.

IOA continues to be involved in a number of international acoustic associations including the European Acoustics Association (EAA). The IOA's Vice President -International, Paul Lepper, completed his three-year tenure as General secretary of the EAA but will remain as part of the General Assembly of the EAA representing the IOA going forward. 2022 also saw former President Jo Webb representing the IOA re-elected as a member of the Board of the International Commission for Acoustics (ICA) for a second term. Both Jo and Paul report directly back to IOA Council continuing the IOA active participation in these organizations. In addition the VP-International directly contributes to the Acoustical Society of America (ASA) international Liaison Committee. This has led to ongoing development of a number of exciting initiatives going forward into 2023 including proposals for collaborative events with the South and South Eastern Asia chapter of the ASA to deliver to a range of Asian acoustical societies. In addition, there are ongoing discussions with the Acoustical Society of Australia and New Zealand for closer collaborative ties and future joint working programmes.

Specialist Groups

Building Acoustics Group

Reflecting on 2022, the Building Acoustics Group spent the year planning and drafting the soon to be published white paper., *Sustainable Building Acoustic Design – A Practical Framework*. We also engaged with other IOA groups, including planning for the forthcoming combined event with the Measurement & Instrumentation group. Committee members also contributed to the draft Approved Document O Noise Guidance, which was released in July 2022. In 2023, in addition to our planned one day conferences, we intend to also contribute to Acoustics 2023 and input to a Building Acoustics supplement to be published by the IOA.

Early Careers Group

Tomasz Galikowski stepped down as chair in June 2022 and Josephine (Josie) Nixon was elected as the current chair. The secretary Adam Woolley also stepped down in December 2022 and Diogo Pereira was elected. Elections were held with time to allow for a 3-6 months cross over period of both roles in order to provide a seamless transition. The number of representatives on the committee has remained steady in 2022 – but we currently have 4 vacancies which we will focus on filling in 2023 along with the relevant committees.

The group's committee meets quarterly with three meetings online and one in-person. This year, the in-person meeting was shifted from the Q4 meeting (typically December) to Q2 meeting which falls in the early summer (typically June). Due to COVID, this was the first time we had an in-person meeting since 2020. There were two in-person hubs (Manchester and London) to assist with travelling.

The ECG organised its first in-person social event since COVID in June 2022, which was held after the Q2 meeting. These were sponsored events, held in London and Manchester which saw a fantastic turn out and provided a great chance of for networking. For many ECG members it was their first in person event they had attended.

Earlier in the year Art of Being a Consultant (AOBAC) took place in Manchester in March 2022, which had a great attendance with a mixture of students and consultants starting their acoustics career attending. AOBAC in 2023 will be a 2 day event held in London and organised with the UKAN+, who will organise the Art of Being An Acoustician (AOBAA), for the second day.

The webinar sub-section of the ECG is continuing to arrange webinars roughly once a month, as well as looking at another in-person networking event. The webinars cover a range of topics from specific standards to unique topics and soft skills. These seem to be well attended by a variety of people (ECG members and non ECG members).

The ECG helped to organise a session at Inter-Noise 2022, specifically looking at soft skills, which was well attended. The ECG and the Equality, Diversity and Inclusion working group (EDI) launched the buddy scheme at Inter-Noise, which was a success with a number of buddies meeting up with their mentors at the breakfast morning and throughout the event. The ECG also helped host a social with the Scottish regional branch which was a fantastic night.

The Students Representative initiative was launched in September 2022, with 3 students representing different courses/institutions so far. We are scheduling talks at more employers in the next few months. Electro

The group has continued to liaise with the EDI working group and plans are to engage an ECG representative.

We continued publishing a regular column in the Acoustic Bulletin dedicated to Early Careers members.

We have continued to reach out to other organisations to exchange experience and ideas. The formal arrangement with the ANC's Future Acousticians Group and with the EAA's Young Acoustics Network allows the ECG to reach other organisations and to attend these meetings, coordinate events and liaise with other important acoustical organisations worldwide. The ECG also continued engaging with the UKAN+ (e.g. Student representative and Inter-Noise 2022).

Plans for 2023: Work on all of the above items will continue with particular emphasis on the webinars, Student Representative initiative and liaison with the IOA groups and EDI group.

The ECG will also be organising the AOBAC & AOBAA in April 2023, alongside UKAN + Early Careers Special Interest Group.

The group also plans to review and upgrade Awards for early career members.

Electro Acoustics Group

The main activity of the Electroacoustics Group during 2022 was the organisation of the 38th annual Reproduced Sound conference. The conference was held at the Bristol Hotel, Bristol, in November. . Many interesting things happened during the three days, starting with the first event of the programme where Luke Jerram and Tamasine Leighton-Crawford involved the audience in brilliant examples of art and sound mixed together as soundscapes and installation, followed by the traditional Peter Barnett Memorial Award which was granted to Glenn Leembruggen for his extensive contribution to the field of system design and electro-acoustic.

The conference was still a hybrid event, with most of the presenters being gathered at The Bristol but with a strong participation from the online community thanks to a vibrant use of online tools to manage the Q&A sessions after each presentation. Also, thanks to John Taylor and the crew from d&b audiotechnik, for helping enable all the event to be streamed. This resulted in very positive responses from the attendees, who confirmed in our regular survey that the perceived quality of the conference was between good and excellent for the vast majority of the participants (90+%).

A special thanks to Dan Pope who helped in finding an alternative location for the social event , which turned out to be relaxing as well as productive in terms of great networking and, why not, enjoyment. Another special mention to Bob Walker, who gracefully opened and closed the conference as Acting Chairman.

After 8 years in the post, Keith Holland stood down as chair of the Electro Acoustics Group and handed the reins to Ludo Ausiello at the AGM in November. All other members of the committee remain as last year, although two new members asked to join the working group, namely Adam Hockley from d&b audiotechnik, and Letizia Chisari, PhD student at University of Sussex and also working for Metasonixx Ltd.

All of the meetings of The Electro Acoustics Group committee in 2022 were carried out online via Zoom. These took place in January, May and September, and were mostly dedicated to the organisation of the conference. January saw a review of RS2021 and the drafting of the call for papers for RS2022, a review of abstracts and drafting of the conference programme happened in May with

the finalisation of details in September. Some time at these meetings was also spent discussing other activities of the group including education and collaborations within and outside of the Institute, which also included the appointment of a liaison member between the Electro Acoustics Group and the AES.

The Committee is already at work analysing the results of the survey shared amongst the conference attendees, and preparing the new conference for 2023.

Environmental Sound Group

During 2022 the group progressed its journey into the wider field of environmental sound as well as noise. In March the Committee agreed that we needed to increase our expertise in soundscapes and this led to us recruiting Adam Thomas of Arup and Daniel Goodhand of Goodhand Acoustics, as well as a new Early Careers Representative Justyna Lubas of Ensaf. Having discussed various aspects of how Soundscapes should be considered in the environmental field, the environmental acoustics sessions for Inter-Noise 2022 in Glasgow in August were organised with a suitable soundscape element to help meet members' needs.

In the summer the group met the research team from Reading University and assisted in their Diversifying Drone Stories work to help ensure noise from drones is given suitable attention. And in November two members were invited to join the International Institute of Noise Control Engineering (I-INCE) online global conference organised on Noise Around Airports: A Global Perspective, where we made sure a UK perspective on the global challenges of managing aircraft noise was well represented.

Measurement and Instrumentation Group

During 2022, the Group organised one one-day meeting, and produced six articles for the Acoustics Bulletin.

The one-day meeting was held via Zoom in February 2022 using an 'Ask the Expert' forum. Designed as a forum for members to ask burning questions about sound and vibration instrumentation, over 40 members registered, lower than the previously held session. Chaired by Simon Bull, the panel included Mark Dowie, Charles Greene, John Campbell and Tony Higgins, to whom I send my thanks.

A follow-up meeting planned for Autumn 2022 failed to materialise, but a further meeting is planned for early 2023, and it is hoped that the format can be developed further. We also hope to return to the traditional one-day meeting format in Q2 of 2023, with a combination of papers and practical workshops.

Over the past year, the Group's Committee members have continued to contribute to Instrumentation Corner in the Bulletin, the latest being No. 82 in the November/December 2022 issue, covering comparisons of a PA speaker with an omni-directional dodecahedron speaker by Mark Dowie. Other issues covered MEMS microphones for measurement by John Shelton, Martin Williams and Ben Piper; Sound level meter calibration from Ian Campbell; Machine learning in acoustics from Paul McDonald; and Instrumentation standards and UN sustainability goals from Sue Dowson.

All of these papers form a historical reference section which can be accessed in the M&I group pages of the IOA website. A full schedule is planned going forward, but we welcome suggestions for future subject matters.

This year saw one of our founding members Martin Armstrong, step down from the Committee, after more than 25 years' service. It's fair to say that the group will miss Martin's contributions on vibration measurement and standardisation, and standing in as the occasional secretary. We wish him well in his (second) retirement!

Another member to stand down during 2022 was Matt Robinson and I thank him for his contributions.

Thanks go, as ever, to all members of the Committee for the active roles they take in all aspects of the Group's activities.

Our Honorary Secretary Sue Dowson continues to improve in her health, and we thank her for continuing to keep the gears grinding throughout the year.

List of Committee Members

John Shelton MIOA (re-elected 2022) (Chair)
Simon Bull MIOA (re-elected 2020)
John Campbell MIOA (re-elected 2021)
Steve Cawser MIOA [ANC rep] (elected 2021)
Mark Dowie MIOA (re-elected 2021)
Susan Dowson MIOA (re-elected 2020) (Secretary)
Tony Higgins MIOA (re-elected 2022)
Claire Lomax (elected 2022)
Giles Parker MIOA (re-elected 2020)
Daren Wallis MIOA (elected 2021)

Co-opted members

Ian Arthurs MIOA
Charles Greene MIOA
Paul McDonald MIOA

Musical Acoustics Group

The Group has been heavily affected by COVID over 2022, however meetings have been held virtually and the tenth consecutive Annual General Meeting held in-person in October 2022.

Planned physical events were realized with "Hear for Tomorrow" held at the Royal Academy of Engineering on 30th March 2022 in coordination with the newly formed Hearing Conservation Association with the focus on music and the sound of performance. There were 27 delegates at this light hybrid event with virtual speakers from the United States, UK and Spain as well as eight in-person presentations. Topics covered included hearing conservation, the journey of the Royal Opera House, live event music, personal music exposure, regulations, new hearing assessment methods, pharmacological solutions to hearing loss, the Love Sound initiative, and finally brain surgery using lensed ultrasound. This was all followed by a well-stocked drinks reception. This event was kindly supported by UK Acoustics Network (UKAN) through two special interest groups: Room Acoustics and Communication and the Biomedical SIG. UKAN also supported the in-person annual conference hosted by Birmingham City University. This consisted of seven in-person presentations. A special thanks go to Islah Ali-MacLachlan for organizing the event. The management committee of the Group has been active with six regular virtual meetings using internet conferencing facilities (phone, smartphone, tablet, and computer), thereby avoiding any unnecessary travelling and more importantly being safe in these concerning times.

Our thanks go, as ever, to all members of the Committee for the active roles they take in all aspects of the Group's activities and a special thanks go to Celia Diaz who stepped down this year as the Early Career representative. However, we welcomed Conner Magennis of KSG Acoustics on to the Committee. We hope that 2023 brings Musical Acoustics back to the fore with the support of the new UKAN+ EPSRC grant.

Noise and Vibration Group

The Noise and Vibration Group have continued with quarterly online seminars throughout 2022 and will continue to do so in 2023. Hosting seminars online with a diverse array of topics has helped to maintain seminar attendance of over ~100.

The 2022 seminars were as follows:

- Antonio Torija Martinez: Drone Noise: the next public health challenge
- Gurmail Padden: Acoustics and Vibration Section at the Institute of Naval Medicine
- Daniel Elford: Low Frequency Attenuation with Natural Ventilation: Noise Control Solutions based on Acoustic Metamaterials
- Sue Hewitt: Differences between manufacturers' declared vibration emission data and in-use measurements.

All presenters were engaging and provided excellent talks - recordings are available to watch on the IOA website. The format of the sessions allows the opportunity for a Q&A at the end, where the session Chair uses the most highly voted questions from Slido. Attendees are encouraged to request a CPD certificate and complete a feedback form following the meeting. The information provided is useful for understanding the background of attendees as well as feedback on the presentation topic. During 2022, the Committee has strived to improve the running and planning of online events.

After 17 years as group Chair, Malcolm Smith decided to step down. The Committee wish him well in his retirement and thank him for his years of dedication and commitment to developing the Committee and NVEG community. Naomi Tansey has taken on the role as Chair. The Committee remains a good size and covers a good span of backgrounds, we are however interested in acquiring someone with an industrial noise background.

Parliamentary Liaison Group

The Group has grown in size during 2023 to increase the capabilities to take on a greater level of engagement for the IOA, following its steady success at Parliamentary level in growing a network of influence.

The group has successfully delivered a number of briefing notes, which are intended to be short evidence pieces. A course has been set regarding setting up an All Party Parliamentary Group in Parliament relating to Sound, Noise and Health.

Members met to consider the strategic direction of the group in December 2022. The priorities from that meeting, under direction of the President was that the group would expand its focus to include

informing the public as well as parliamentarians. Stephen Turner is responsible for this aspect of the strategic plan on behalf of IOA Council, and will oversee the efforts of the PLG in that area.

One example that has already been achieved is a briefing note on Air Source Heat Pumps, which in collaboration with CIEH produced a Practitioner Note, a note for the Public and also a calculation sheet.

There remains much to be done, and if members are interested in getting involved, they should contact the chair.

The chair wishes to commemorate one of its original members who died this year, Richard Cowell, who was an ever valuable sounding board.

Physical Acoustics Group

The Group supported the activities of the Group at Inter-Noise 2022 but was otherwise dormant in 2022.

The Physical Acoustics Group is actively looking for new members to join the Committee to increase its engagement activities for 2023. The group will continue to support the annual conference of the IOA.

Senior Members Group

The Senior Members Group held four virtual meetings including its AGM in December 2022. In spite of the continuing challenging economic and political times, the virtual meetings covered a diverse range of topics which were very successful and well attended.

These virtual meetings included the following:

- Using Scale Modelling to Assess the Prehistoric Acoustics of Stonehenge in a presentation by Trevor Cox, University of Salford.
- Acoustical reasons for greening the environment by Professor Keith Attenborough.
- Myths in absorption and diffusion and what testing has revealed, a presentation from Ron Sauro, President, NWAA Labs Elma, Washington USA.

It is the continuing aim of the SMG to focus on identifying speakers and venues for future meetings in 2023 that would appeal to a wider range of SMG members than has previously been achieved. There is also the potential for opening future meetings to other IOA members, including overseas members in Europe (France, Italy), South America, Middle East (Turkey, Qatar), Far East (Hong Kong, Malaysia, Singapore), and Australasia (New Zealand) (time zones permitting).

Sound, Noise and Health Group

The year saw the launch of the 12th special interest group of the Institute of Acoustics. This was the culmination of several years of work by the IOA Executive and Council exploring various options regarding how this important area of acoustics can be incorporated within the Institute's work. In a survey of IOA members carried out during December 2020 – January 2021, three quarters of respondents supported the idea of a new special interest group on sound and health.

The Sound Noise and Health (SN&H) group was officially launched at an online event on Friday 29th April 2022, which was attended by more than 100 people. The event consisted of three parts:

- a presentation by Charlotte Clark and Benjamin Fenech, who gave an overview of the state of the art in the scientific evidence on sound and health and some of the related challenges and opportunities for the acoustics community [this presentation was recorded and is available in the IOA video repository];
- the Group's first annual AGM, chaired by Graham Parry, during which the group's chair and committee were proposed and endorsed; and
- a discussion amongst the attendees on what they see as priorities for the group to consider.

The group's committee currently consists of eight members that bring together experience from central government, academia, acoustic consultancy and the third sector. Since its launch in April, the group's committee has met three times in June, September and November (all online). Work to date has focused on finalising the SN&H group's purpose and aspirations and prioritising the (long) list of relevant topics identified by the membership during the inaugural event.

Speech and Hearing Group

The Speech and Hearing Group hosted or co-hosted two events in 2022. The first was a talk by Professor John Culling of Cardiff University titled "Speech & Hearing: Predicting the intelligibility of conversations in rooms" in June 2022, which took place after the group's AGM. It was a hybrid event and was well attended both in-person and online. The second was the launch of the IOA Stammering Support Group led by the Southern Branch with the IOA Diversity and Inclusion Committee and STAMMA in July 2022. This included a talk entitled 'The Acoustic Characteristics of Stuttered Speech' by Professor Peter Howell of UCL. The group was also represented by the chair Philip Harrison (University of York) who gave a talk titled 'Speech and Audio Forensics' to a joint meeting of the Southern and London Branches in September.

At the group's AGM, Dan Doherty (Sweco) stood down as secretary having served in the role since 2020 and been on the Committee since 2016. No elections or re-elections were held. There is now a vacancy for the role of secretary and nominations are currently being sought.

The group committee met twice in 2022 (January online, June hybrid). The Committee continues to liaise with other professional bodies and organisations (such as the British Standards Institute, the UK Acoustics Network, the British Society of Audiology and the UK Hearing Conversation Association), other specialist groups (including the Building Acoustics Group and Musical Acoustics Group) and local branches of the Institute regarding topics of mutual interest. A joint workshop with the UKAN Hearing Special Interest group on the quantification of sound and spaces is currently in the planning stages.

Underwater Acoustics Group

During 2022 and just prior to Christmas 2021, the Underwater Acoustics Group Committee has been undertaking the planning of the following conferences:

- Early Career and PHD underwater acoustics symposium in Dec 2021. This was an UKAN virtual event with nine PhD presenters and chaired by Prof. Gary Heald.
- ICUA 2022. This was a very successful event with 188 delegates from 17 countries and 152 submitted abstracts. The tours around NOCS and ISVR were popular. The Early Careers Event was a great success.
- Synthetic Aperture in Sonar and Radar conference to be held in Italy in Sep 2023. An organizing committee and technical committee have been formed and the call for papers has been distributed to researchers in these fields and to a number of international Sonar, acoustics and Radar institutes.

At ICUA2022, Stephen Turner, then President of the IOA, awarded the 2021 AB Wood Medal to Dr Megan Ballard, University of Texas, US, and the 2022 Medal to Dr Sophie Nedelec, University of Exeter, UK.

Several members of the Committee are on the ISO TC43 SC3 (Underwater Acoustics), and are helping develop new ISO Standards. Stephen Robinson is the chair of the ISO TC43/SC3. There is a work item on the monitoring of ambient sound in the ocean being run by WG5, with Dr Michael Ainslie as the leader. Work is continuing in WG1 on measurement of ship noise in shallow water (led by Christ e Jong, Netherlands) where progress is being made with the Committee Draft and where highly relevant work by JASCO and funded by Transport Canada is now informing the draft

The IOA has suggested that the IOA Diploma is extended to include underwater acoustics. The IOA's Education committee plan is to do some stakeholder analysis to see if the IOA could support such training, but they were also happy to leave it if the market was covered. There are issues with how we were going to achieve this since several courses have not run in the last few years.

Dr Philippe Blondel has taken on the role of EAA Technical Committee Chair for Underwater Acoustics. The Committee congratulated Philippe.

The UAG committee were saddened to hear about the passing of Prof. Nick Pace, in early July 2022, who, prior to going out to work for NATO in Italy, was a very active member of the underwater acoustics group committee. The UAG committee were represented at his funeral by Dr Philippe Blondel, Prof. Gary Heald and former committee member and colleague Prof. Victor Humphrey. An obituary written by members of the Committee was recently published in the IOA bulletin.

The Committee was also saddened to hear about the death of Dr Dick Hazelwood during September 2022. Dick had been an active member of the Committee for many years. He was well known for his enquiring mind and will be missed by the UAG and beyond.

During the UAG AGM, the Committee presented Dr Peter Dobbins with an engraved tankard in recognition of their appreciation for his time as an active member of the Committee, over many years, including a number of periods as chair of the group.

List of Committee Members

Prof. G Heald	Chair
Mr A Holden	Secretary
Dr P Lepper	
Dr C Capus	

Mr S Robinson
Dr M Ainslie
Mr A Brooker
Dr P Blondel
Mr A Woolley

Co-opted members

Dr N Banda
Mr K Hamson
Dr T Hill
Dr A Curtis

Branch Reports

Central Branch

This report covers the activities of the Central Branch in the Calendar year 2022.

The following meetings were held in 2022:

- Low-vibration design and performance validation of high-end buildings: expectations and realities, Dr Christos Karatsovis, ISVR Consulting. 13.01.22 Attendees 65 - Online
- The Natural Tranquillity Method, Clive Bentley Sharps Acoustics 24.02.22. Attendees 77 – Online
- The Sound from Domestic Air Source Heat Pumps 24.03.22 – Hybrid and Joint with London Branch, Rebecca Hogg, BSRIA Ltd, Anthony Robinson, Westminster City Council & Matt Torjussen, ANV Measurement Systems Ltd– Hybrid. 286 Online 32 in person.
- Planning for Low Frequency Noise, Stephen Ninham UK Power Networks 26.05.22 Hybrid – 99 Online, 7 in person.
- Roadside Vehicle Noise Measurement: Noise Camera Research 30.06.22 Louise Morris, Atkins Hybrid - 104 Online, 10 in person.
- Acoustic Design of Mass Timber Buildings, James Bligh Pliteq – 13.09.22. Hybrid – 29 online, 5 in person
- Factory Visit to Polytec - Joint Central and Midlands Branch Hybrid Event 02.11.22 –25 Online, 18 in person
- Psychoacoustics Measurements, Dr Miguel Garcia Pedroche Head Acoustics -14.12.22 – Hybrid Event 50 Online , 4 in person

Having access to the conference/meeting room at Milton Keynes remains useful as we continue Hybrid events for 2023. We see this as a long-term shift for the Central Branch. We will make meetings available for those who want to meet in person and also for those who are either not local or cannot attend in person via online access.

Matt Torjussen was elected Central Branch Secretary with Mike Breslin Membership Secretary. The central branch is seeking an Early Careers Representative to represent the opinions and aspirations of those in the early stages of their career in acoustics.

Thanks to all involved.

Eastern Branch

With more access to other meetings from other branches available through the IOA Zoom portal, the number of our meetings were again slightly scaled back this year.

The first meeting was held as a hybrid event with Winfried Ollendiek from GERB presenting about the various developments over the years in vibration control. This was a welcome return to face-to-face meetings, however, GERB who had planned to travel over for the meeting, were forced to present remotely from Germany, due to Covid restrictions. Unfortunately, we encountered some

difficulties with the audio during this event, but these were overcome during the evening. This meeting centred around various spring and PUR isolation systems which are now being used to isolate buildings from underground trains and services. A section of the presentation was geared towards floating floors for gyms and dancefloors.

In the summer, we were delighted to have been invited to have a tour around the new test laboratories at SRL. This was an excellent evening where we broke into four groups, touring different sections of the facility. SRL has a lot of new developments underway currently, with not only their new sound insulation test chambers, but also their rain noise simulator and attenuator test rigs. Campbell Associates was also attending, and had some examples of noise and vibration monitoring equipment on display. Afterwards, there was a quick trip to historic Lavenham for a bite to eat and drink, courtesy of Campbell Associates.

Following on from the various Covid related lockdowns, it was very useful for us all to find out from Steve Dance, the impacts and ramifications that this pandemic had on the sound levels across the UK and Ireland. Steve took the opportunity to run through some of the results from The Quiet Project, trying to determine which were the quietest places during the lockdowns. Over 834 days of data were collected by various acousticians nationwide, which provided the data for Steve's very interesting presentation.

John Tofts of the Environment Agency paid us a visit for a presentation on the updated technical guidance "Noise and Vibration Management: Environmental Permits". The guidance sets out how the UK environment agencies assess noise, their legal requirements for managing noise, noise impact assessments and noise management plans. John provided the Eastern Branch with an overview of the changes and updates to the guidance, along with some advice on how the document and procedures should be used. Although not everyone was in agreement with everything discussed, it certainly led to an interesting Q&A session afterwards!

As most of us are aware, electrical transformers and their distribution grid emit a tonal and very specific hum at 100 Hz. This low frequency sound from electrical transformers can potentially impact on the amenity of existing and future residential communities. This low frequency noise source requires specific mitigation measures to control this risk effectively. Stephen Ninham from UKPN visited us in person with his colleague Heather Patrick who gave us a little more in-depth knowledge of how this noise is generated and practical methods to mitigate it. Heather ran through their open source GIS mapping tool which is used to provide an indication of the likelihood of adverse impacts for proposed residential dwellings in close proximity to their existing substations.

We are still struggling to return to the number of in person attendees that came prior to the Covid-19 pandemic. It is reassuring, however, that some consultants still want to meet face-to-face, but also that the sessions are inclusive to other consultants from further afield using the online hybrid meeting approach. I'm sure that this hybrid meeting format will continue into 2023. We are looking forward to an exciting year in 2023 and would actively welcome more of our local consultants to attend in person, should they feel comfortable.

Irish Branch

The Irish Branch did not hold any events or an AGM during 2022. Activity is expected to return to normal in 2023.

Irish Branch Committee

James Mangan	Chair
Paul McCullough	
Damian Brosnan / Ted Dalton	Secretary
Diarmuid Keane	
Artin Lester	
David Coon	
Damian Kelly	
Siobhan Maher	
Gary Duffy	
Derek McCreanor	

London Branch

Last year we had a number of evening presentations take place with a mix of Zoom events as well as getting back to in person/hybrid events.

In January, the LSBU Students returned to kick off the year and present their final year projects. We had presentations from James Gardner on Acoustic Quality and Comfort in Public Gymnasias. Daniel Hare on 'The Acoustical Challenges of a Change of Room Purpose' and Gareth Hance on C Weighted low-frequency control at outdoor concerts.

In March we held a joint Central & London Branch Meeting on 'The Sound from Domestic Air Source Heat Pumps where we heard from three speakers, Rebecca Hogg from BSRIA, Anthony Robinson from Westminster Council and Matt Torjussen from ANV Measurement systems, each covering the topic from a different aspect.

In July the LSBU masters students Diego Cordes, Ekim Bakirci and Michael Fort presented their final projects.

In September we hosted a joint event with the Southern Branch for a presentation by Dr Philip Harrison on 'Speech and audio forensics'.

Andrea Harman, Concept Developer at Ecophon joined us in October to present on Healthcare noise - Are we listening?

And we ended the year in November with a talk from Ben Ford 'Increasing our capability to measure infrasound underwater in order to detect natural disasters and nuclear explosions.'

The Committee and I would like to extend our thanks to all the speakers who joined us this year.

I would also like to thank all committee members for giving up their time to input into arranging these events, AECOM and LSBU for hosting. With thanks to the IOA, particularly Linda Canty, for advertising and arranging the notices for all the meetings.

We very much look forward to seeing you over the coming year at our planned in person evening talks and visits and to socialising with you afterwards. Look out for information on the IOA website and update your preferences to include the London branch to keep up to date and receive email notifications.

Midlands Branch

The Midlands Branch has been picking up a post-COVID increase of in-person events during 2022. We held a total of five meetings in the year, four of which were in-person events, including two facility tours. Our average attendance was 25. The events were as follows:

In April, Jim Smith of AECOM presented at Birmingham City University (BCU) on An Overview of Designing Public Address/ Voice Alarm Systems. In May, we were treated to two presentations on the subject of Bioacoustics at Nottingham Trent University (NTU) by Carlos Abrahams of Baker Consultants, and Martin Bencsik from NTU. In July, we hosted an online-only presentation on the Vibration of Heat Pumps and HVAC by Jordi Femenia and George Taylor of Mason. In November, we had a joint Midlands and Central Branch tour of the Polytec factory in Coventry, including a presentation which was successfully presented hybrid over Zoom. In December, we finished the year with a brilliant tour of the Birmingham Conservatoire.

A sincere thank you to all of our 2022 speakers for their informative presentations and support of the Midlands Branch.

Thanks are also extended to the Midlands Branch committee members who make their contributions, often in their own time, and to our members for their ongoing support of the branch. We would also like to welcome Matt Torjussen and Izzy MacLachlan as co-opted members on the Committee, representing ANV Measurement Systems (following the departure of Mike Breslin as an Ordinary Member) and BCU respectively.

Midlands Branch Committee

Fiona Rogerson	Chair
Phil Hainsworth	Secretary
Heather Billin	
Rob Bungay	
Fiona Devine	
Aglaia Foteinou	
Paul Shields	
Mike Swanwick	
Young Youn	
CJ Biggs	

Co-opted committee members

John Pritchard
Matt Torjussen
Izzy MacLachlan

Middle East Branch

The following meetings were held in 2022:

- *March – The purpose of the meeting was to elect a new Chair and Committee (Online)*
- *December – Branch vision and strategy for the year 2023 (Online & In-person)*

An online meeting with Graham Parry and Linda Canty was held to elect a new chair for the branch, this was followed by email communications to elect a committee for the branch.

The first Middle East branch meeting was then held in December to discuss the branch vision and strategy for the year 2023 and discuss the remaining committee vacancies. This was attended by some of the Middle East branch members, Hilary Notley, and Tim Street.

Thanks to all involved in organising both meetings above and the valuable discussions and feedback provided. Special thanks to Hilary for providing a brief introduction to the Institute's vision and goals and for her support with the members' inquiries.

Key focus areas and goals were highlighted, and to be addressed as long and short-term goals for the Branch to work on. This covered various topics including increasing awareness about acoustics and the IOA in the region; reaching out to students at different levels and educating them about the possibility of specialising in acoustics; regulations and standards in the region; technical development and acoustic-related education and CPDs; and how to grow the branch and have more members. Some inquiries were raised which will be addressed and responded to with the support of the IOA in the UK covering different topics including but not limited to: training and educational material available online; ME Branch member mailing list; and possible speakers to approach for future CPDs from the UK.

The discussion around what the future of Branch meetings may look like and how they could be delivered took place as well. It was agreed that the meetings will take place quarterly for the year 2023. Members will be encouraged to attend in person, however, an online attendance option will be provided to encourage more people to attend.

Preliminary Vision & Strategy for the ME Branch

The following aspects were highlighted as the main goals to focus on, and the relevant points of discussion are summarised underneath each.

Awareness

Raise awareness about the importance of acoustics among clients and government parties across the region. Look into local criteria and standards.

- Raise awareness about the importance of acoustic to different parties including the policymakers, clients, and architects.
- Acoustic criteria and standards:
 - Highlight the regions with acoustic criteria and standards, and the region lacking any.
 - Reaching out to relevant authorities or parties to raise awareness of the importance of having similar standards.
 - Reaching out to relevant authorities or parties to raise awareness of the importance of reinforcing established standards and criteria by commissioning tests or other means.

Drive Change

Drive a change in the Middle East. Define critical issues related to acoustic and work on resolving or improving them.

- Collaborating with other technical bodies to create opportunities for other professionals to gain a better understanding of acoustics and its interaction with their specialist field.

Networking

- Connect and collaborate with professionals in the region through the IOA quarterly events.
- Attending Big5 and similar events to increase the acoustics community presence in the construction industry.

CPD

Organise CPDs and networking events for technical development and continuous growth.

- Sharepoint for IOA members, technical knowledge sharing, insight on international bodies.
- Online meetings access and notifications for the UK branch events and meetings.

Career in Acoustic

Raise awareness among schools and universities about the importance of acoustics and the possibility of specialising in it as a career path.

- ECG to lead this, reaching out to universities and schools.
- Awareness of acoustics as a specialism and possible options for further education in acoustics.
- Check the availability of introductory courses in acoustics that can be shared with interested candidates and that can be accessed online.
- Possible internship connections between students and companies to encourage more students to explore acoustics and specialise in it.
- Proposing research topics relevant to acoustic in the region that can be then supervised by professional mentors for the benefit of both students and the acoustic industry in the region.
- Contact universities to add acoustics to their publications.

There were two vacancies in the Committee that were discussed as well during the meeting, and were finalised afterwards i.e. Secretary role was filled by Ali Aurangzeb and the Early Career Group Representative role was filled by Manav Bhatia.

Middle East Branch Committee

Safa Al Gburi	Chair
Ali Aurangzeb	Secretary
Manav Bhatia	
Ullas Karicherry	
Paul Schwarz	

Alan Dawood
Harout Daghelian
Pooja Ganatra
Dimitrios Doutsisos

North West Branch

The Chairman Mark Hinds, of WSP, stepped down as chairman of the NW branch. The NW branch are planning a meeting and AGM in the coming months to appoint a new Chairman and recruit committee members.

Scottish Branch

2022 was dominated for Scottish Branch by Inter-Noise. We were very lucky to have the event on our doorstep in the host city of Glasgow. Branch members attended, presented and Chaired sessions at the event which was a huge success. Members of Scottish Branch also volunteered their time from 7am (!) to be a local buddy on the Early Careers buddy scheme for those delegates not confident about attending an international conference for the first time, with the aim of providing a friendly, local point of contact throughout the event. This initiative provided excellent opportunities for extending our professional networks and knowledge of a wide range of acoustic issues and how they are being dealt with across the world. We are also grateful to committee members who took the time to arrange and run the SoundLab demonstrations at The Hub close to the conference venue. These sessions were well received by conference attendees. Scottish Branch were also involved in the organisation of the joint social event with the Early Careers Group at Platform beneath Glasgow Central Station; this was a very lively affair and another excellent social and professional networking opportunity for more senior and those newer to the profession to mix. And of course, a big thank you to all those Scottish Branch members who attended and danced the night away at the ceilidh in Glasgow Merchant Square, attended by hundreds of delegates from around the world, many keen to dance with one of our experienced Scottish Branch country dancers!

Away from Inter-Noise, Scottish Branch Committee and Branch members have been actively contributing to Scottish Government Consultations including the Draft National Planning Policy Framework, the Onshore Wind Policy Statement Refresh 2021: Consultative Draft, the Scottish Government Review of Permitted Development Rights and the current open consultation on Scottish Highly Protected Marine Areas (HPMAs). We were pleased to see that Scottish Government took on board some of our comments. The branch did not manage to organise and collate responses from the IOA to all Scottish Government consultations due to limitations on our resources and would be delighted for more help from members to do this.

As well as responding on Scottish devolved matters, Scottish Branch committee members have also attended the quarterly Parliamentary Liaison Group (PLG) meetings to provide input on non-devolved and other matters where a coordinated response is required.

Our branch technical meetings programme this year has been limited due to the multiple days of Inter-Noise but we did fit in two excellent presentations. The first of these was held in March, on the topic of “The 2021 update to [“L108, The Control of Noise at Work 2005 Regulations, Guidance on Regulations”](#)”. This was presented to us by committee member and Principal Specialist Inspector (Noise and Vibration) at the Health and Safety Executive, Chris Steele. The presentation included

introductions to the new HSE online calculators and the good practice material being developed by the IoA, BOHS and IOSH.

The second presentation which took place in May was entitled, “Speech masking in open-plan office using water generated sounds”. This was a presentation primarily based on committee member Dr. Zanyar Abdalrahman’s PhD research on using water sounds in open-plan offices as a means of masking irrelevant speech and reducing its negative impact. The presentation briefly explained the basics of speech masking and showed the results of various experiments to evaluate the effectiveness of natural and water sounds in creating a better indoor soundscape where people are more satisfied, and their productivity and privacy are promoted. Both meetings were very well attended (40+ attendees in March and 30+ attendees in May), with good questions and discussion sessions. We are very grateful to all those who have taken the time to organise and to speak at our meetings this year.

From November 7th-12th Scottish Branch members once again volunteered to attend the Edinburgh Science Careers Hive in the beautiful surroundings of the Grand Gallery at the National Museum of Scotland. Volunteers spoke about their careers and experiences to S1-S3 high school pupils from Scotland to help them decide the path they will take through their Nationals and into STEM. The event is a fantastic opportunity to reach a huge number of pupils as well as to spend time with our professional peers across the science and engineering sectors in Scotland. We were all very glad to be back in person after having been virtual for the past couple of years. It is a fun (but exhausting!) experience and one where we all take some learning away, especially about communication and outreach. We thank the IOA who have continued to support Edinburgh Science outreach programs since 2017.

This year, at our AGM, we said goodbye to Nicola Symington of RMP who has been a longstanding committee member, meeting organiser and social convenor for the branch. We also welcomed two new members to the Committee, Zanyar Abdalrahman of Sandy Brown who had previously been co-opted and takes on the joint role of Early Careers Development and Eleni Kontesidou of RMP who is the Education and CPD contact.

Thank you to all our committee members for their hard work this year, especially to Ashley Leiper for his enthusiastic work on Inter-Noise, Mark Robertson for rapid reviewing of consultations, Lindsay McIntyre for drumming up volunteers for the Careers Hive and Laurent Galbrun for coordinating our online meetings.

Our next meeting will be on the topic of Biotremology by Dr. Louise Roberts of the University of Liverpool in the new year and we look forward to a great 2023.

Southern Branch

The Committee has had a great year with a busy programme of engaging events with a mixture of virtual, hybrid and in-person presentations.

In purely chronological order, we have heard from:

- Professor Jian Kang on ‘Designing Soundscapes for Urban Spaces’;
- Martin Raisborough and representatives CDM Stravitec provided the benefit of their experience in ‘Designing and testing fitness and gym isolated floating floors’;
- Chris Turner provided a Case Study looking the implications of ADO versus Permitted Development for office conversions to residential;

- In July, Professor Peter Howell presented on 'Acoustic Characteristics of Stuttered Speech'. The event was part of the launch of the IOA Stammering Support Network;
- James Healey gave a brief introduction to the Draft IOA and ANC Guidance on the application of Approved Document O ahead of the formal consultation events;
- Also in September, Southern Branch hosted the delayed, rearranged and eagerly anticipated 'Speech and audio forensics' presentation by Dr. Philip Harrison;
- Wilson Ho provided insight into 'Construction Noise and Vibration Control Applications' in Hong Kong;
- In November Colin Cobbing presented his work on 'Good Acoustic Design Solutions';
- And Professor Tim Leighton rounded off another successful year with his Christmas lecture at the Winchester Science Centre last month.

We have strived to provide an accessible, diverse and inclusive programme and feel confident that we have given members interesting, varied and high-quality offerings as a result.

As Chair and co-Chair of a great committee over these past seven years, I am very proud of our achievements over this period and 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 and to all the presenters who have given up their time for the benefit of the membership. I wish David Yates the best of luck in his new role as Chair as I step back from the role.

South West Branch

South-West branch hosted four events in 2022. In May, we hosted a tour of the historic Wizard Compton Organ, housed in the Eden Grove Methodist Church Hall in Bristol. This 1927 built organ is hailed by many as the finest, still working, example of John Compton's skills as a theatre organ maker. It turned out that this was to be one of the last opportunities to hear the organ in its current incarnation as the church hall was due to shut and the organ was being sold off. IOA talk attendee Nicholas Rowswell suggested that the upcoming final performance in May should be recorded for posterity and put the owner, Byron Jones, in touch with Bruce McLaren of the University of the West of England. Together with student and IOA volunteers, and a full HD outside broadcast truck, the teary final performance was filmed and recorded. The footage is currently being edited. The organ has since been dismantled and broken up, with most of it having been sold to a collector overseas and the console remaining in the UK.

Later in May we hosted an online webinar from GERB Schwingungsisolierungen GmbH on low-frequency vibration isolation systems. Winfried Ollendiek presented introduction to the vibration control systems available for buildings, floating floors and box-in-box structures.

In October, branch members joined Rory Peliza on a sound walk around Clifton Down, including completion of soundscape questionnaires that were later analysed and shared. A social meeting, debrief, discussion and drinks were held in a local pub afterwards.

In November the Reproduced Sound conference was again held at the Bristol Hotel and the opportunity again taken to make the Tuesday evening opening event open to SW branch members. Two talks were presented on the intersections between acoustics and art. Locally based,

internationally known artist Luke Jerram provided a presentation on how his work has used sound to communicate ideas. Then SW branch committee member Tamasine Leighton-Crawford gave a talk about her compositions and acoustics work, including her cello and djembe drum piece *Energy*, that was selected to be played as part of the *Spirit Medley* at the Birmingham 2022 Festival Commonwealth Games.

The branch AGM was held in October and, during this, several long-standing committee members announced that it was time for them to step away from their roles; some due to work commitments and some to ensure that they do not hold on to roles for too long and prevent younger / more diverse members from representing the Institute. Special thanks for their commitment are given to outgoing Secretary, David O'Neill, outgoing Treasurer, Jeremy Butt, and outgoing Equality, Diversity and Inclusion representative Martin Chan. Dan Pope, also signalled his intention to stand down from the role of Chair, although intends to stay on the Committee. Several new members joined the Committee at the AGM, but no volunteers for the Chair or Secretary roles came forward. As such, it was decided that Dan and David would remain in their current roles for a further three months, whilst a letter to branch members was circulated asking for new volunteers. More events, both online and in person, are planned for 2023, including in February *Sounding Erddig: A Country House by Ear*, an online talk by Jeanice Brooks of University of Southampton and Wiebke Thormahlen of the Royal Northern College of Music on their work to produce an online library exploring the sonic history of the National Trust run Erddig country house in North Wales.

Welsh Branch

Thomas Jones of Hydrock stepped down as the Chair of the Welsh Branch Committee, at the AGM held in June. Rosie Pitt of Wardell Armstrong has taken over as Chair of the Committee. Thomas Jones will continue as an ordinary member. Paul Driscoll will continue as secretary. Chris Duffill will continue as Early Careers Group representative. Neil Morgan joined as new committee member. All other members will continue as ordinary members.

The main focus of the meeting was around potential topics and ideas for future meetings and CPD in the coming year. Tom Jones proposed one to be held by James Bligh of Pliteq regarding embedded carbon and the use of mass timber. Martin McVay of WAG attended and briefly discussed the upcoming TAN 11 revision, which will include elements covering soundscapes and air quality and would be out for public consultation imminently. Discussions were also held around the upcoming draft of Part O Building Regs. It was suggested that Part O and TAN11 would be of particular importance, and would certainly be revisited as topics of conversation throughout the year formally and informally.

In September, a CPD session held by James Bligh of Pliteq. The presentation looked at the findings of James Bligh's research into the relationship of acoustic performance and CO₂e in the Acoustic design of Mass Timber buildings, and proposed alternate approaches that reduce the CO₂e/m² of the acoustic design by up to 66% with little to no detriment to acoustic performance. Through single variable analysis in third party laboratory testing, and in situ testing, it has been found to be possible to utilise low CO₂e acoustic systems that reduce the CO₂e/m² in not only the acoustic design, but structural, M&E and architectural disciplines, too.

The CPD session was followed by a social/meal in Cardiff which was a great forum for socialising and sharing knowledge.

TAN 11

The Welsh Branch continued to support the Welsh Government by responding to requests for consultation. In particular, the Branch organised workshops to facilitate input into the IOA consultation response on TAN11. Two workshops were held, one in November and one in December. The first meeting was led by Martin McVay of Welsh Government and colleagues; and presented the current draft of the revised TAN 11 document, including a chance for initial discussion at the end of the presentation. The second session was a discussion group facilitated by Peter Rogers to encourage questions and suggestions for inclusion in the IOA consultation response.

Background

Planning Policy Wales was revised in 2018 to reflect the Well-being of Future Generations (Wales) Act 2015. It brought noise and air quality policies together for the first time in Welsh planning policy, and set out new policy on soundscape. However, the supporting technical advice on noise, Technical Advice Note (TAN) 11: Noise, has yet to be brought into line with the new policy contained in PPW. The existing TAN 11 dates back to 1997 (excepting a minor clarification in 2015) and relies heavily on decibel-based Noise Exposure Categories for new dwellings.

The new TAN 11, published on 21 October 2022 in consultation draft form, aims to help planning authorities and developers implement the air quality, noise and soundscape policies now contained in Planning Policy Wales. It doesn't dispense entirely with decibel-based criteria, but it gives much more weight to good acoustic design, and to soundscape assessment and design.

The new TAN 11 is accompanied by a Supporting Document on soundscape design, developed jointly with the Noise Abatement Society and in discussion with the soundscape subgroup of the Association of Noise Consultants.

Full details, including the IOA response to the consultation questions, can be found on the IOA website.

The Committee would like to extend their thanks in particular to Martin McVay, Lisa Lavia, Peter Rogers and Jack Harvie-Clark for their valuable input.

Plans for 2023

The Welsh Branch will continue to support the Welsh Government by responding to requests for consultation particularly around TAN 11.

We hope to organise more in-person events later in the year, both social and CPD, including visits to completed/on-site projects. A suggestion to visit the new arena in Swansea has been proposed, which will be of particular interest as we await final plans for the proposed Cardiff Arena.

Yorkshire and North East Branch

Meetings in 2022

Date	Subject	Speaker	Attendance
26/01/2022	Soundscape – practicalities and community engagement	Pete Stollery and Martin Purdy	45
22/02/2022	A workshop on the new (July 2021) EA technical guidance on environmental permits	Jon Tofts	90
10/05/2022	Vibration Isolation Trackbeds+Stiffness	Ignacio Carranza and Winfried Ollendiek	25
07/06/2022	Applications & References for Tuned Mass Dampers (TMD) + Industrial	Ignacio Carranza and Winfried Ollendiek	20
20/09/2022	The DSP Approach to Loudspeakers	Laurence Hobden, Ethan Stanhope and Steve Oxnard	35

In 2022 we had five online branch meetings. The attendance at the meetings was 20– 90 participants, which was comparable to the attendance in the previous year.

At the AGM Meeting in January 2022 Julija Smyrnova and Owen Downey were re-elected as the chair and secretary of the branch, respectively. The role of the Early Careers Group Representative was still carried out by Nathan Green.

This year's talks covered various topics of acoustics. At the first meeting Pete Stollery, University of Aberdeen and Martin Purdy, Harp & a Monkey talked about practicalities and community engagement in Soundscape assessment in design.

The second meeting was dedicated to the new (July 2021) EA technical guidance on environmental permit. The presentation was given by Jon Tofts by Environment Agency who had been involved in the production of the guidance.

The third and the fourth talks were the international events as the presenters broadcasted from GERB Schwingungs (Germany) and the participants joined from various countries. At the third talk, Ignacio Carranza and Winfried Ollendiek discussed and presented the case studies of vibration isolation in track-beds, particularly focusing on floating slab tracks and stiffness. At the fourth talk, the same presenters provided details of applications and references for Tuned Mass Dampers (TMD), including in industrial applications.

The last presentation of the year delivered by Laurence Hobden, Ethan Stanhope and Steve Oxnard of Meridian Audio Ltd. was dedicated to the DSP Approach to Loudspeakers. The talk looked at the core principles of Meridian's technological approach to loudspeakers and sound reproduction with case study examples of proprietary technologies derived from in-house research.

Plans for next year

We have already agreed with two presenters to deliver the following talks in 2023:

1. Occupant comfort & health in Passivhaus homes, by Paul Testa of HEM Architects – 7th February 2023.

2. Introduction to acoustic design catalogue, by Marc Fuzellier-Hart – TBC.

The first meeting is also planned as an AGM at which the current branch chair Julija Smyrnova will officially step down.

TABLE 1: Membership

Grade		2022	2021	2020
Hon Fellow		35	34	33
Fellow		153	151	150
Member		1958	1911	1861
Associate Member		741	770	789
Affiliate		79	53	59
Technician Member		121	122	122
Student		240	295	320
Totals		3327	3336	3334
Founding Key Sponsor		2	2	2
Key Sponsor		1	1	1
Sponsor		46	45	51
Institutional Subscriber		3	3	

TABLE 2: Group membership

Group		2022	2021	2020
Building Acoustics		1729	1712	1729
Early Careers		484	466	450
Electroacoustics		544	537	539
Environmental Noise		1943	1944	1954
Measurement & Instrumentation		907	880	882
Musical Acoustics		623	604	609
Noise and Vibration Engineering		1405	1380	1403
Physical Acoustics		451	430	436
Senior Members		131	129	123
Speech & Hearing		415	398	398
Underwater Acoustics		351	341	336

TABLE 3: Branch membership

Branch	2022	2021	2020
Central	274	276	283
Eastern	281	282	292
Irish	138	137	142
London	959	959	992
Midlands	424	441	466
North West	462	463	483
Overseas	294	293	309
Scottish	203	199	204
South West	322	323	337
Southern	553	563	575
Welsh	99	96	93
Yorks and North East	254	258	272
Middle East	14	8	

TABLE 4 Details of employment (interests)

Employment Category	2022	2021	2020
Architectural Practice	471	467	477
Consultancy	2064	2075	2127
Education	512	510	528
Industry/Commerce	658	674	711
Public Authority	350	365	382
Research & Development	761	757	792
Retired	95	97	100
Other	222	217	233

Table 5: EVENTS AND ATTENDANCE IN 2023	
Topics, date and Venue	Attendance
The Art of Being a Consultant 23 March Manchester	44
Hear for Tomorrow 30 March Milton Keynes	41
ICUA 2022 20-24 June Southampton	180
INTER-NOISE 20-24 August Glasgow	1,246
New Developments in Musical Acoustics 19 October Birmingham	24
Reproduced Sound 2022 15-17 November Bristol	89