

**ANC** | ACOUSTICS &  
NOISE  
CONSULTANTS

**ACOUSTIC  
AWARDS  
2021**



# Building Acoustics Award

sponsored by  PLITEQ

## SRL Technical Services Sir William Henry Bragg Building, University of Leeds

This building has been designed explicitly in terms of its acoustic performance, to create a world class facility housing some of the most advanced electroscope technology in the UK. The new facility will enable researchers from across Europe to see and video the motion of individual molecules. All of this would not be possible if it were not for the consideration of how all noise and vibration throughout the building will travel. The smallest movements in the structure have the potential to affect the equipment within the building and so every single source of noise and vibration had to be considered in detail. This included isolation of all mechanical services plant and reduced airborne noise from mechanical services (to avoid erroneous air movement affecting test samples).

The Bragg Building is also a working University building so the control of noise and vibration had to be achieved without limiting the functionality for users in the other more traditional teaching areas and laboratory spaces. Through careful considered acoustic design work, the result has been a vibrant and collaborative space for academics and students to share knowledge and experience. Expert and detailed acoustic design advice provided has enabled the client's requirements to be realised in full and help researchers continue their ground-breaking work.

This is an impressive and complex project showing excellent collaboration with both equipment

manufacturers, design team and the client. The judges observed that designing for vibration sensitive equipment with lightweight slabs and multiple storeys is always challenging and increases the complexity of a project but the consultants have made this work. The variable air flow system and BREEAM approval for the design were also noted as was the use of BB93 to create a methodology and reference point, even though this was not a requirement for this type of building. The whole project is contingent on success of acoustic design and the contractor's testimonial sums up why this in the 2021 Building Acoustics Award winner:

*The acoustic design of the Sir William Henry Bragg Building is integral to the successful operation and use of this world class research and learning facility. Without design advice and support from SRL, we would not have been able to provide future users with the ultra-low noise and vibration environments needed to continue their research and work. – J. Conway, BAM Construction*



# Acoustics for Inclusion Award

sponsored by **Ecophon**  
SAINT-GOBAIN

## Mach Acoustics

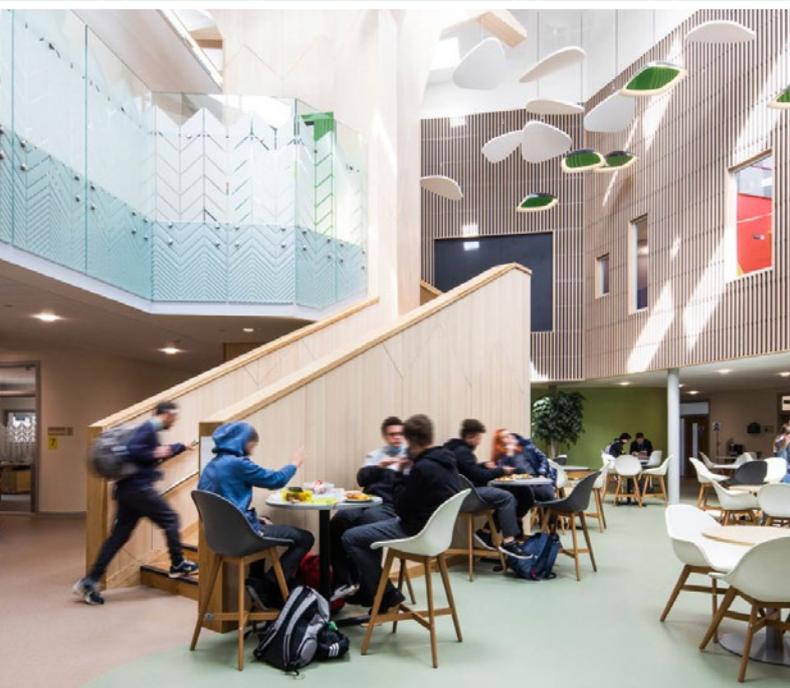
*The Deaf Academy, Exmouth*

The Deaf Academy in Exmouth provides new living and teaching accommodation for the Royal Academy for Deaf Education, previously located in Exeter. The acoustic consultancy was provided from RIBA Stage 1 to completion, and they worked closely with the design team to ensure that acoustics was always considered within the architectural design, resulting in spaces such as the central Learning Forest that creates a comfortable open plan learning and common space with low reverberation time beyond BB93 requirements, due to a combination of slatted timber and suspended 'leaf' rafts that make up the forest.

From numerous workshops with the staff, an understanding was obtained of the unique requirements of the school, and through a large amount of testing of the existing Exeter teaching spaces, a benchmark of acoustic targets was set to establish where any improvements above BB93 were needed. The complex reverberation and internal noise requirements, in combination with passionate staff that have strong views on the quality of teaching space needed, made this a highly challenging project.

The challenge of keeping all the different interest groups happy when all those parties had some expertise and

understanding of the issues, is a distinctive element of this project. The staff were involved throughout and the workshops show good collaboration and modifications to the design as issues were identified. The design goes beyond the requirements for both the teaching areas and living accommodation. The judges liked the progressive acoustic treatment and gradual increase in reverberation times for communal living areas in the accommodation blocks for each year group, to prepare students for moving into the world outside. The central double height 'Learning Forest' atrium that acts as the hub of the new building is a distinctive feature with acoustic treatment squeezed in wherever possible. This project has rightly won other awards and the architect's, Stride Treglown, awareness of the importance of acoustic quality and close collaboration shows what can be achieved when acoustics is considered at an early stage.



# Environmental Noise Award

sponsored by 

## Hoare Lea Gunfire Noise Analysis Tool

The project involved the design, supply and installation of a network of fixed noise monitoring systems at multiple military ranges across the UK, plus portable systems deployable anywhere in the world. Designed for use by the Ministry of Defence during training to manage noise exposure, critical to system design was robustness, both physically and always-on data availability. A total of 43 systems were delivered despite challenges arising from a multitude of location-specific issues, including accessibility, power and communications, plus Brexit. These issues were addressed through the development of bespoke solutions. No single off-the-shelf system could have achieved the MoD's exacting requirements. All systems are location-aware, time-synchronised and constantly connected to a cloud database, with solar power as required.

The systems used commercially-available class 1 sound level meters with low-sensitivity microphones. However,

the system, database and communication software were all developed in-house to limit risk from third-party/commercial data services becoming obsolete.

This was a technically difficult project which had been well executed with impressive client collaboration. It demonstrates complicated noise monitoring and can be used anywhere as was admirably illustrated by its deployment in Belize. Developing bespoke software to interpret the data, introduces another level of technical competence over and above that required for standard noise monitoring. Making the equipment easily deployable by the client in any location is another element in making this project distinctive. The judges liked the testimonial and that the project has been completed and so there is proof that it works.

*"Monitoring and managing the impulse noise emissions from gunfire is a vital requirement for the compliant operation of live firing across the defence estate ranges. The upgraded Gunfire Noise Analysis Tool (GNAT) system now supports the management of our training across our rurally located ranges, supported by fixed monitors often positioned in the most inaccessible remote locations away from the luxury of utility connections. The live data feed and alert system has enabled the range operations teams to manage our firing far more effectively and now have the benefit of recorded data providing real time evidence." Senior Environmental Adviser for Defence Infrastructure Organisation, Technical Services*



# Innovation Award

sponsored by  MASON UK LTD  
Vibration Control Products  
& Acoustic Floor Systems

## AECOM

### *Natural Capital Laboratory*

Located in the Scottish Highlands near Loch Ness, the Natural Capital Laboratory (NCL) is a live laboratory, which offers a unique environment to enable the understanding and measurement of natural capital. Immersive Sound Demonstrations are one of the new digital tools that has been pioneered on this project to track and communicate complex data at scale and to identify, quantify and feed into value assessments of the impacts of rewilding.

With its positive and substantial impact on the environmental and acoustic landscape, the innovative techniques in the application of acoustics have been used to identify direct links between climate change action and biodiversity increase and represents a fantastic example of how to push the boundaries of acoustic applications for the benefit of all. There is collaboration between acousticians, ecologists, landscape surveyors, environmental economists, and visualisation specialists. The most recent Immersive Sound Demonstration was featured in BBC Countryfile Highlands Rewilding episode.

This is a very clever project in which the acoustic elements are key to the success, with use of virtual reality to explain how it can work. It offers an excellent way of showing the client and the public what they can expect and it offers great potential for the future. It recognises that soundscape has changed the way information is presented and that use of technology can enable good acoustics to be demonstrated to everyone. It has pushed innovation from the very start and goes beyond existing good practice as well as having timescales that were huge and challenging. The use of audio to assess changes in animal and bats behaviour was brilliant and this type of immersive sound demonstration can benefit future programmes. This is the sort of work that shows what acoustic consultancy can cover and displays creativity in design and testing new techniques to quantify, measure and communicate environmental and social change.



# Best Presentation Award

sponsored by **CMSDANSKIN**  
ACOUSTICS

**SRL Technical Services**  
*Sir William Henry Bragg Building,  
University of Leeds*

This award is decided by delegates attending the event and recognises the best presentation by one of the shortlisted entrants for the 2021 awards.



## Acoustic Awards 2021

The ANC awards highlight the unique skills of our UK-based acoustic and noise professionals, and the dynamic and diverse nature of the industry overall, to inspire the next generation of acoustic consultants. These accolades demonstrate excellence among our members in addressing challenges across the nation and around the world – championing innovation and originality and showcasing the significance of a profession which blends art and science to transformational effect.

## Judges 2021

The judging panels are made up of consultants, academics, suppliers and those with specialist knowledge of each award category. We gratefully acknowledge their contribution and input to reviewing the entries and providing feedback. Any conflicts of interest were declared.

The judges have not visited any of the projects or heard the results. In a number of cases the projects are not built, and so it is not possible to validate the results. The judges expressed a preference for projects that have obtained planning permission or are complete.

**Sue Bird**  
(chair of judges)

**Rob Adnitt**,  
Adnitt Acoustics

**James Bligh**,  
Pliteq

**Mike Breslin**,  
ANV  
Measurement  
Systems

**Shane Cryer**,  
Ecophon

**Stephen Dance**,  
London South  
Bank University

**Phil Dunbavin**,  
PDA

**Clare Forshaw**,  
UK Hearing  
Conservation  
Association

**Adam Fox**,  
Mason

**Lisa Lavia**,  
Noise  
Abatement  
Society

**Andy Parkin**,  
Cundall

**Bridget Shield**,  
London South  
Bank University

**Ian Strangward**,  
Architectural  
Wallz

**Stephen Turner**,  
ST Acoustics

**David  
Waddington**,  
Salford  
University

**David Watts**,  
AIRO