ACOUSTIC AWARDS 2019

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.

EDUCATION ACOUSTICS

sponsored by Ecophon

Adrian James Acoustics

New music school, Kings College School, Wimbledon

WINNER

The project locates a music teaching and performance facility on a very sensitive site, close to houses whose influential owners were concerned about the building's size and potential noise nuisance. Given the planning sensitivity to building height, the consultants had to demonstrate the need for the ideal volume, height and shape of the performance space, using architectural precedents.

Starting with the ideal shape and volume allowed the acousticians to provide optimal concert hall acoustics with no absorption other than seating and audience, maximising the "Loudness" or Gain and hence achieving the maximum possible dynamic range. This approach requires very effective diffusing and scattering finishes on walls and roof to avoid strong room modes and flutter echoes. Working closely with the architect and structural engineers, an innovative modular system of visually striking, flat surface, diffusing finishes was designed which perform an acoustic, architectural and structural function both in the concert hall and in the large rehearsal/recording room.

The Concert Hall features strong triangular geometric elements both externally and internally, with triangular timber panels between exposed glue-lam structural timber beams. The architects wanted a visually flat surface so an entirely novel system of modular diffusers was developed by overlaying layers of board with CNC-machined slots of differing sizes. It is a very elegant and affordable solution to an otherwise intractable acoustic and architectural design challenge.

The judges observed that this project displayed the value of collaboration with other consultants and were impressed that the form and massing on the building had been informed by the acoustic strategy. The use of flat diffusers has enabled the project to be delivered within the architectural requirements. The Head of Music described it as *"A stunning concert hall of exceptional acoustic quality"*.

HIGHLY COMMENDED

Mach Acoustics

Leighton Park School, Reading

The acoustic design at Leighton Park shows that through complex modelling, it is possible to naturally ventilate music practice spaces – not by installing expensive acoustic attenuators that take up valuable floor area, but by adding simple, yet innovative, extrusions on to the façade. In-house Finite Difference Time Domain (FDTD) modelling software provides confidence in applying untried and untested attenuation measures that upon completion have proven to provide good levels of accuracy and produce a successful design.

FDTD software was used to work closely with the architect to develop a bespoke opening that is complementary to the architect's vision. Post-completion testing has been carried out to corroborate predicted and actual test data.

The judges noted that the consultants developed in house software tools based around FDTD methods in conjunction with Southampton University (ISVR). They recognised that the client had been persuaded to use something untested and untried which had achieved the desired outcome. This went beyond existing good practice and so could benefit future projects. It was simple to build and provided an appropriate solution.