

Sound advice

The new Guangzhou Opera House in China has already received acclaim for its superb acoustics

Sensual convex and concave forms characterise the interior design of the Guangzhou Opera House in China

The newly opened Guangzhou Opera House, located on the bank of the Pearl River in the southern Chinese city of Guangzhou, is a masterpiece created by the joint talents of Zaha Hadid's design expertise and Marshall Day Acoustics' innovative approach to room acoustics. Zaha Hadid won the design competition in 2003 and shortly after Marshall Day Acoustics was selected as acoustician – all after a rigorous tender process.

Zaha Hadid is a London architect, renowned for her avantgarde design approach for 21st century buildings. Marshall Day Acoustics is a multinational acoustic consulting company that specialises in a collaborative approach to the acoustic design of performing arts centres and concert halls. The interior of the Guangzhou Opera House has very sensual convex and concave forms, which is the signature of a Zaha Hadid building.

Peter Exton of Marshall Day Acoustics says: "Acoustically, the project was extremely

challenging to model and the 3D Odeon model required over 6,000 surfaces to accurately simulate all the curved surfaces. A 1.25 physical scale model was also needed to fully investigate the room's behaviour."

The completed 1,800 seat Guangzhou Opera House, built over five years and at a cost of £92 million, is one of the three biggest theatres in China. It is now a core part of the city's cultural centre and is one of the city's key attractions. The opera house opened in May 2010 to great acclaim with a performance of Puccini's Turandot. This opera is a favourite in China and the stage production was under the expertise of the director, Chen Kaige, who made full use of the aesthetics and asymmetrical interior of the opera house to great effect. Lorin Maazel's conducting of the chorus and orchestra of the Shanghai Opera displayed the superb acoustics of the hall.

The acoustics of the opera house received splendid reviews from performer Richard



Margison (Canadian tenor) in an interview with Opera Now after the first night's performance at Guangzhou Opera House: "The auditorium itself is pretty big inside, but still has an intimate feeling. The acoustics are fantastic – not too dry and not too bright. We kept the opening night performance going continuously, but at the end of the opera the response was extremely tumultuous and we received a standing ovation. All in all, it's been a huge honour for me to be part of the birth of a new opera house and a new audience. It's a wonderful venue and I'd certainly like to come back here to perform again in the future."

In addition to the room acoustics, Marshall Day Acoustics was also involved in the assessment of vibration transfer from the adjacent underground railway line and the control of building services noise. ■

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GUANGZHOU OPERA HOUSE Opened May 2010

Marshall Day Acoustics collaborated with London-based architect Zaha Hadid on the acoustic design for the Guangzhou Opera House

"The auditorium itself is pretty big inside, but still has an intimate feeling. I must also say that the acoustic is fantastic - not too dry and not too bright . . ."

Canadian tenor, Richard Margison, in an interview with Opera Now after the First night's performance of Turandot at Guangzhou Opera House

Marshall Day Acoustics opened a UK office in London in June 2010

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