

WREN | 300

SQUARE MILE CHURCHES

80 budding engineers to build mini dome of St Paul's

The word 'iconic' may well have become meaningless in relation to everyday objects such as sausage rolls, electronic devices or moments on TV but when it comes to St Paul's Cathedral - or more specifically its dome - the term is truly appropriate.



The triple dome of St Paul's Cathedral is one of Christopher Wren's (1632 -1723) most complex and awe-inspiring designs and in 18th-century Britain there was nothing to rival it. The lantern alone weighs some 850 tons. The entire structure – including inner and outer domes, central cone, drum piers and supports down to foundation level - has been reckoned at 67,270 tons. It is a masterpiece of structural engineering, and even today there is much young engineers can learn from Wren's remarkable, indeed iconic, achievement.

That's why as part of the year-long the Square Mile Churches *Wren 300* celebrations supported by a £241,000 grant by The National Lottery Heritage Fund, a very special one-day workshop is being hosted by Chris Wise, Senior Director, Expedition Engineering and Catherine Ramsden, Founding Director of the architectural practice Useful Studio on **Tuesday 14 March**. Sponsored by the Royal Academy of Engineering, the event will take place in the church of Holy Sepulchre, Holborn Viaduct, the largest parish church in inner London.

Eighty youngsters from ten London schools will have a chance to test their engineering potential as part of this practical, hands-on exploration of the Dome's construction. After visiting St Paul's Cathedral to see the Dome for themselves and learn more about it, the Year 12 students will then be challenged to build a mini-dome (3m in diameter x 4.5m high), using a variety of different materials, including foam blocks and bamboo, with lead-coloured muslin covering the exterior. They will be joined by a group of young engineers who will assist and guide the students. Teams will come together to share the responsibility for constructing and decorating their masterpiece. The project is intended to give the teenagers a real sense of achievement, the enjoyment of working as part of a team and, of course, a grounding in key engineering principles.

"These young engineers are being challenged to build a mini replica of St Paul's Cathedral Dome in a single day," says Chris Wise. "They're all studying science, technology, and maths (STEM) courses and this is a wonderful chance for them to meet and receive expert guidance from trained engineers during the day. It should be a fantastic and educational day for everyone involved and is sure to be great fun and deliver a rewarding experience."

Catherine Ramsden details how the replica Dome will be constructed: *"We're using foam bricks with a bamboo framework. The wooden support structure round the base will be preconstructed and the bamboo cut to the correct lengths to be formed into trusses to create the outer Dome shape. The central cone which supports the Lantern will be built with the foam bricks. The Dome's covering will be sheets of muslin that have been cut into segments so that it falls over the bamboo structure. The Dome will be lit inside to create a magical effect. The lantern will be part preconstructed*

and one group of students will complete its construction during the day. Someone will be chosen for the task of placing the lantern in position at the end of the day!"

The event gets underway at 8.30am on Tuesday 14 March at St Paul's Cathedral, before the teams begin the build at St Sepulchre, Holborn Viaduct. The plan is to have it completed at 5pm. The result will then be unveiled with an informal party to celebrate their achievement. Throughout, the whole day will be documented with time-lapse photography and vox-pop contributions from all the participants. This will be made available to view across social media channels.

The Bishop of London, the Rt Revd and Rt Hon Dame Sarah Mullally DBE says: *"Wren's masterpiece is as remarkable today as when it was first built, and remains a testament to his visionary talent, which was truly years ahead of its time. I look forward to seeing London's next generation of engineers have the opportunity to follow in Wren's footsteps and create their own 'mini dome.' We are indebted to Wren for the extraordinary legacy of his church buildings, which centuries later continue to provide places of solace to Christians across London, as well as spaces for people of all faiths and none to come together."*

Stuart McLeod, Director England - London & South at The National Lottery Heritage Fund, said: *"This project is a fantastic example of how to engage young people with the heritage that surrounds us. Wren was one of, if not the, most significant architects we have ever had. If you walk through the City of London, you can find his brilliance around every corner. But it's important that we take this moment to connect and inspire the next generation with his legacy and, thanks to National Lottery players, this has been made possible."*

The replica dome will remain on display from 5.00 – 6.30pm before being recycled, with the 2200 foam bricks donated to a local community group.

NOTES FOR EDITORS

THERE WILL BE A PHOTOCALL / INTERVIEW OPPORTUNITY FROM 4.30PM ON TUESDAY 14 MARCH AT HOLY SEPULCHRE, HOLBORN VIADUCT, EC1A 2DQ, WHEN THE LANTERN IS PLACED ON TOP OF THE REPLICA DOME. CHRIS WISE, CATHERINE RAMSDEN, STUDENTS AND TRAINEE ENGINEERS WILL ALL BE AVAILABLE FOR INTERVIEWS.

Wren 300 - 2023 marks the 300th anniversary of the death of Sir Christopher Wren (1632-1723) - mathematician, astronomer, physicist, anatomist and one of the United Kingdom's greatest architects. *Wren 300: The Square Mile Churches* will celebrate his achievements with a year-long education and conservation programme for children and adults, focusing primarily on the City churches and St Paul's Cathedral.

For further information, please see: www.Wren300.org and www.squaremilechurches.co.uk/wren-300

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[HIGH RESOLUTION IMAGES CAN BE DOWNLOADED BY CLICKING ON THIS LINK](#)

Christopher Wren, Godfrey Kneller, 1711 © National Portrait Gallery

FOR MORE INFORMATION, INTERVIEWS AND IMAGES

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