

It's a piece of cake!

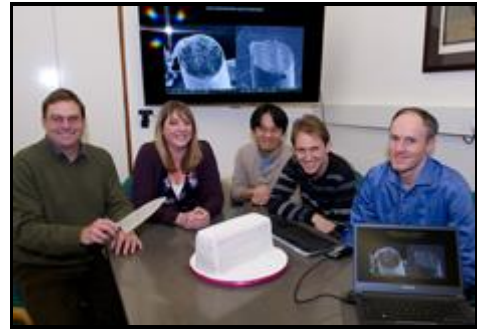
That was the verdict from a team of academics who wowed an audience at the Engineering and Physical Sciences Research Council (EPSRC) with an innovative demonstration of their research into metamaterials.

Scientists from the Optoelectronics Research Centre (ORC), at the University of Southampton, commissioned an extra special cake that revealed a metamaterial pattern through the middle when it was sliced.

The cake was the brainchild of the Nanophotonics and Metamaterials group at the ORC who wanted to combine physics and flavour and give the EPSRC audience a tasty way to get an insight into their pioneering research.

"The cake was part of our interactive demonstration for EPSRC's Science and Sandwiches programme. We wanted to show the audience of scientists and non-scientists the power of metamaterial technology to manipulate properties of light, size scales from metres to nanometres, and analogies between material science and the food industry," said Dr Eric Plum, from the ORC.

"The outside of the cake was a twisted metamaterial design and when we cut it open they could see a metamaterials pattern throughout. We thought it would be a fun, accessible way to show in layman's terms what our research is all about," Eric added.



Dan Hewak, Catherine Mitchell (the Baker), Bruce Ou, Eric Plum and Kevin MacDonald from the Nanophotonics and Metamaterials group feast their eyes on the cake



Professor Nikolay Zheludev, Catherine Mitchell and Professor Dan Hewak
Science and Sandwiches programme following their successful shows at the [Big Bang Fair](#) and the [Cheltenham Science Festival](#) where they introduced school children, teachers and parents to their cutting edge research into metamaterials, light and the nanoscale.

Catherine Mitchell, from [Wish Cakes](#), said: "This cake certainly was different from my usual enquiries. Although it was not complex in terms of decoration, the inside structure of the cake was technically more of a challenge. However, after a little research and a couple of practice cakes, I managed to achieve the best result to meet the scientific nature of the order. I really enjoyed the challenge!"

Science and Sandwiches is a programme of lunchtime sessions run by the [EPSRC](#) to show how the funding they are providing to research schemes around the UK is having an impact, not only to scientists, but to the broader society.

EPSRC asked the ORC to take part in the Science and Sandwiches programme following their successful shows at the [Big Bang Fair](#) and the [Cheltenham Science Festival](#) where they introduced school children, teachers and parents to their cutting edge research into metamaterials, light and the nanoscale.

A £6m EPSRC grant has helped fund ORC research into nanostructured photonic metamaterials. Metamaterial development has grown very rapidly over the past decade and is seen as an enabling technology of the future, Southampton's Centre for Photonic Metamaterials is at the forefront of this development.

Find out more about the [Nanophotonics and Metamaterials group](#) activities and projects.

Learn about the research conducted by Dan Hewak's [Chalcogenide glasses](#) group.