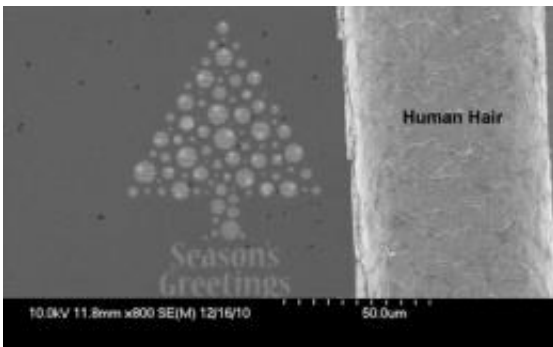


World's smallest Christmas card produced by UG engineers

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(PhysOrg.com) -- It wouldn't look good on the mantelpiece and is bound to get lost in the post – it's the world's smallest Christmas card.

Engineers from the University of Glasgow produced it to highlight their world-leading [nanotechnology](#) expertise.

Invisible to the naked eye, the card is so small that 8276 of them could fit on an area the size of a first class stamp.

Using nanotechnology, Professor David Cumming and Dr. Qin Chen from the University's School of Engineering etched the Christmas tree image onto a minute piece of glass.

Professor Cumming said: “Our nanotechnology is among the best in the world but sometimes explaining to the public what the technology is capable of can be a bit tricky.



“We decided that producing this Christmas card was a simple way to show just how accurate our technology is. The process to manufacture the card only took 30 minutes. It was very straightforward to produce as the process is highly repeatable – the design of the card took far longer than the production of the card itself.

“The card is 200 micro-meters wide by 290 micro-metres tall. To put that into some sort of perspective, a micro-meter is a millionth of a

metre; the width of a human hair is about 100 micro-meters. You could fit over half a million of them onto a standard A5 Christmas card – but signing them would prove to be a bit of a challenge.”

The colors were produced by plasmon resonance in a patterned aluminium film made in the University of Glasgow’s James Watt Nanofabrication Center.

Although the Christmas card example is a simple demonstration, the underlying technology has some very important real world applications.

The electronics industry is taking advantage of micro and nano-fabrication technology by using it in bio-technology sensing, optical filtering and light control components. These applications are critical in the future development of the digital economy and the emerging healthcare technology markets. This technology could eventually find its way into cameras, television and computer screens to reduce the manufacturing cost.

Provided by University of Glasgow

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