

The Makers: Professor Sandra Wilson

Elements of surprise and delight

Professor Sandra Wilson is something of a modern day alchemist, harvesting e-waste – rare and precious metals from old tech – in order to create startling pieces of art, writes **Erin McDermott**

CHANCES are you have a few old iPhones or android mobiles hiding in the back of a drawer somewhere. Certainly, most of us feel a compulsion to hang onto ageing technology – often due to the expense of such items, a cost mostly attributable to the manufacturing process using precious or endangered metals.

One Scottish maker who also hoards old technology is Professor Sandra Wilson, but by utilising her knowledge of chemistry to create unique pieces of art from such e-waste, she has not only managed to free up some precious drawer space, but also recover and recycle rare metals to create something shiny and new in the form of jewellery and other artworks.

Wilson, a veteran silversmith, jeweller, researcher and educator at the Dundee-based Duncan of Jordanstone College of Art & Design, is a Professor of Ecological Metal Design, currently specialising (with the help of Edinburgh University's chemistry department) in research into new surface finishes and metal alloys from precious metals recovered from e-waste.

"What's particularly interesting about the chemistry at Edinburgh is they're working with metals and solution in liquid form," she explains.

"That gives us the scope to really innovate by using metals and its solution to paint on and create new surface finishes."

Sandra cites the jewellery industry as the largest user of precious metals, with the electronics industry also becoming a growing area of concern.

"We are currently losing significant amounts of gold and other precious

metals from circulation, as only around 11% of precious metals in e-waste are recovered – with the rest often ending up in landfill," she highlights.

"It was The European Chemical Society that produced an endangered elements Periodic Table a couple of years ago. It shows that materials like copper, silver and gold, if we continue to mine those at the current rate we are right now... we might run out of them in less than 100 years.

"The jewellery industry therefore should really be leading the way in showing how we can work with precious metals more frugally, showing how we can recycle and recover precious metals whether from e-waste or recycling older pieces of jewellery."

To make her unique pieces, Sandra works with the chemistry laboratory using a method called hydro-metallurgy. Which essentially uses acid solution to recover precious metals from e-waste by stripping the plastic from products to extract specific metals such as copper or gold.



■ Sandra Wilson rolling down gold sheet from e-waste. Far left, pendant with recovered e-waste plastics. Left: gold rolled from a computer circuit



Sandra's enthusiasm for the science behind these new methods of chemical extraction is evident as she explains why this method of recovering precious metals excites her so much.

"I'm able to see effects like I've never

seen on pieces before," she says.

"I love to see myself as a kind of alchemist, in transforming metals from a solid form of electronic waste into solution and then back again into a solid form."

Public demand is slowly shifting, Sandra says, towards sustainable consumer choices, with more people willing to ask the important questions.

She adds: "I would like to see e-waste gold becoming more commonplace within the jewellery industry, and I would like to see the e-waste recovery market in other countries such as India become a more formal process – where local artisans can benefit from the premium they can attract for their work.

"If you're getting married, you don't want a ring where the gold has come from a conflict region, or somewhere where children have been involved in collecting the materials.

"Increasingly people are meeting their partners online, so if your computer or phone was an integral part of your relationship then having engagement or wedding rings that have come from electronic waste might appeal."

sandrawilson.co.uk

■ Gold bowl from recovered e-waste

