AMY CONGDON is a designer of tissue engineered textiles, growing materials by culturing cells over scaffolds using traditional textile craft techniques including embroidery.

Digital technology

Healthcare and biotech

Amy Congdon explores the crossovers between design and science. She engages with new technologies, such as biotechnology and embeds design thinking in scientific practice to move towards a more sustainable future. She combines her knowledge of traditional craft skills, such as embroidery, with cutting edge biotechnological research to explore developing new materials and processes for future products. The research forms part of Amy's PhD at Central Saint Martins, UAL, and Kings College London. Amy has worked with Microsoft, Nissan, WGSN, Future Filter, Central Saint Martins, Biofabricate, and Biocouture, the world's first bio creative consultancy.

INNOVATION THROUGH CRAFT

OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

INVEST IN

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

ANANAS ANAM Ltd develops, manufactures and sells Piñatex™, a natural textile, and is a pioneer in the development of innovative and sustainable textiles.

Material engineering

Sustainability

Passionate about sustainable textiles, Dr Carmen Hijosa, a former leather-goods designer and manufacturer, developed Piñatex™ from the natural fibres of leaves that are the waste by-product of the pineapple harvest. Piñatex harnesses advanced technologies to create a totally sustainable high performance natural textile, using no extra land, water, fertilisers or chemicals in its production. Hijosa founded Ananas Anam Ltd to bring to market the new and sustainable textile which can fill the gap between leather and petroleum-based textiles and that is good value for money. Companies including Puma are making prototypes. Piñatex™ is now selling to selected companies from furniture to shoes to accessories.

INNOVATION THROUGH CRAFT

INVEST IN OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

BJS blend craftsmanship with technology. Their expertise as electroplaters and silversmiths extends into the biotechnology, medical and counter-terrorism industries.

Biotech and genetics High value manufacturing

BJS is a third generation family business working in copper, nickel, silver, gold and rhodium. Intensely proud of their Royal Warrant, the company make silver and gold props for the film industry. They also produce heat exchange systems used in terrorism and bio-warfare detection as well as in medical testing, forensics and to research new cures for genetic conditions. BJS still use their electroforming skills, working with Formula One and many major international artists.

INNOVATION THROUGH CRAFT

INVEST IN OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

DAVID POSTON designs and makes jewellery. For a medical research company he invented an original cortical catheter.

Agriculture and engineering Healthcare and biotech

David's focus on creating functional elegance in tactile jewellery developed his design skills and practical creativity. These problem-solving skills have proved useful internationally in agricultural engineering, technology transfer and small enterprise development. Working with research and start-up companies in the US, Europe and the UK, his inventions include a patented clinical informatics system and a catheter to deliver drugs directly into the cortex.

INNOVATION THROUGH CRAFT

OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

INVEST IN

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

INNOVATION THROUGH CRAFT: ROUTES TO GROWTH

Crafts Council's innovation cards show how craft can catalyse innovation in science, technology and engineering.

Innovation through craft is accelerating. Advances in materials and technologies stimulate collaboration between makers and other sectors. The results are improved productivity and new products and services.

'Craft skills and knowledge have a strong economic impact and significant potential to drive further growth and innovation in other sectors,' says KPMG. To seize this potential, and reap the social and economic benefits, we must invest in opportunities for open innovation and collaboration.

www.craftscouncil.org.uk

INNOVATION THROUGH CRAFT

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

OPPORTUNITIES

INVEST IN

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

GREGORY EPPS uses origami techniques and robotics to create new ways of folding and constructing in metal.

Digital technology

Robotics and engineering

Gregory Epps is the founder of RoboFold and one of the first people to appropriate robotics for applications in design and architecture. He uses origami techniques and robotics to create new ways of folding and constructing in metal. Greg's industrial robotics consultancy, Robots.IO, develops bespoke robot simulation software and solutions enabling clients in the manufacturing, medical, entertainment, architecture and design industries to create their own robotic solutions without expert knowledge of robotics programming. Greg's clients include Zaha Hadid Architects, Foster and Partners and BMW.

INNOVATION THROUGH CRAFT

OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

INVEST IN

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

PROFESSOR JULIAN ELLIS is a technical textiles specialist who uses machine embroidery to engineer automotive components and medical implants.

Healthcare and biotech High value manufacturing

Julian Ellis is a UK leader in technical textiles who has worked with Ford and Airbus. His firm developed aircraft wing components. Using carbon fibre to reduce the weight of the wing, the components were laid down using embroidery techniques to optimise their structural efficiency. He has also developed a wide range of soft tissue implants, such as embroidered implant systems for spinal disc replacement.

INNOVATION THROUGH CRAFT

INVEST IN OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

LAUREN BOWKER is a 'textile alchemist' whose colour-changing materials led to designs for devices that can monitor body and environment.

Healthcare and biotech Wearable technology

Trained in chemistry and textiles, Lauren Bowker began work as a material innovator, making environment-responsive compounds that would change colour in response to heat, ultra violet rays, friction, moisture, chemicals and air pollution. Commissions from her company, The Unseen, include tracking car aerodynamics for Formula One and, in healthcare, creating bandages and soft devices that monitor patient conditions.

INNOVATION THROUGH CRAFT

INVEST IN OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

Glass maker **MATT DURRAN** developed glass moulds leading to the first tissue engineered tracheotomy.

Healthcare and biotech

Matt Durran collaborated with researchers at the Royal Free Hospital on a breakthrough that led to the world's first tissue engineered tracheotomy. He played a crucial role in developing the technology behind the operation, creating glass moulds for the tissue engineering. Glass can be sterilised, it is inert and its transparency helps make visible the cell growth. Matt's breakthrough came because, collaborating with scientists, he approached the problem from a different, craft-based perspective. His moulds are now being used to develop tissue engineered noses and other organs.

INNOVATION THROUGH CRAFT

OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

INVEST IN

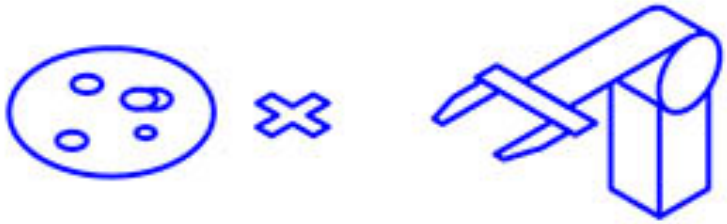
Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk

SARAT BABU is a maker, engineer and materials scientist who has created synthetic tissue replacements for medical use.



Healthcare and biotech Robotics and engineering

Sarat Babu has developed materials for applications from orthopaedic implants to aerospace. Combining materials science, engineering, design and craft, Sarat has founded a company that develops a diverse range of materials capable of changing their physical property due to their macroscopic structures. These companies rely on innovation, through the understanding and manipulation of materials, to generate value added in the economy.

INNOVATION THROUGH CRAFT

INVEST IN OPPORTUNITIES

Improved productivity

Development of new ideas, products and services

Differentiation of UK output in existing markets

Raising awareness

Training and education

Creating opportunities for collaboration

www.craftscouncil.org.uk