Digital laser dyed textiles
[Intertactions: Collaboration in textile design research]

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Additional Information:

- The exhibition was entitled Intersections: Collaboration in textile design research. It was held at Loughborough University London on 13-14th September.

Metadata Record: https://dspace.lboro.ac.uk/2134/33246

Version: Published

Publisher: Loughborough University

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Digital Laser Dyed Textiles

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This research has identified the capability and potential of laser technology as both a creative and a manufacturing device. The Digital Laser Dye process proposes an alternative coloration and patterning tool for synthetic fibres compared to traditional and conventional textile printing and dyeing methods. Instead, digital laser-dyeing utilised laser beam energy as an image creation tool to modify surface fibres with high-resolution, engineered patterns and dyed surface effects. The process enables and promotes design innovation; design flexibility; enhanced textile finishing and customisation possibilities; and on demand processing in terms of: pre-laser modified fabric or apparel; and post-construction dye-on-demand finishing for textiles and whole/complex garments.

Role of Collaboration: The project was an Arts and Humanities Research Council (AHRC) Collaborative Doctoral Award (2010-2013) and an interdisciplinary study between Loughborough University [School of the Arts, English and Drama; Wolfson School of Mechanical, Electrical and Manufacturing Engineering; Chemistry, School of Science; and industry partner the Society of Dyers and Colourists, UK. This collaborative framework facilitated the qualitative and quantitative aspects of the experimental study. Experimental methods and procedures were rigorous leading to reliable, industry relevant results explored from a textile design perspective.