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Wellbeing

'Translating Light through the Textile Medium for Health and Wellbeing'

Material properties are unique requiring technical understanding and underpinning to enable solutions and possibilities for their capabilities. The aim of the research was to incorporate aluminium and photochromic dyes within textiles for health and wellbeing outcomes relating to how light could physically and psychologically be harvested relating to the passive and active potential of smart chromic materials. The active potential of chromic dyes with light, responding on its own volition, and active smart potential requiring an external electrical circuit to prove conductivity.

In developing anodised and extruded photochromic yarn concepts to enable the potential for active and passive smart yarns simultaneously, led further to increased learning curves in textile engineering, yarn and fibre- fabric processes, colour chemistry, anodising and industrial metalising methods. In order for a combination of aluminium and photochromic systems to develop, a series of inter-disciplinary approaches were crucial to the project. (Kavanagh 2004) describes how 'inter-disciplinary relationships [form] because each discipline recognises and values a particular quality of knowledge that they wish to access in one another in order to develop and further their practice in their field' (Kavanagh, 2004; Igoe, 2010).

With regards to health and wellbeing for buildings and simultaneously for users the aspect of the UV light spectrum was instrumental. 'With such vast expanse of areas to cover and faced with legal liability resulting from unknown lifetime performance, designers and engineers have had little incentive to incorporate new material technologies into building designs. The adoption of concepts and ideas into the mainstream comes with its challenges. (Pohl).

Due to the lack of 'smart chromic materials' being available, the process of making combinations of aluminium and photochromic components extended the research into hybrid and composite materials. The potential for active and passive smart materials was realised but the outcome was not. Yarn development became the interface between design, technology and wellbeing whilst the woven textile construct provided significant colour mixing potential, enabling colour and light observation within materials. Structures were suited to enable data collection regarding light reflectance and absorption within the visible and invisible light spectrums to give evidence for health and wellbeing objectives.

Working with these processes led to discovery and potential for smart materials, with potential for further aspects to be realised from data collection and evidence.

The ways of working with materials is the focus for this proposal. The intention is to give participants an experience of this way of working, one learnt from textile design training.

This work covers making for outcomes relating to health and wellbeing and the inter-disciplinary stages taken, the discoveries in materials and their potential and the points where decisions on sticking to or letting ideals go occur.

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