

Graduate Research Conference

Brunswick campus

Tuesday 22 October 2013

Candidate abstracts

Claire Beale

Tactile Tales: craftsmanship, materiality and narratives of process & practice

This PhD project centres on the nexus of craft / design / technology. Positioning itself in reference to the New Craft movement (Neo Craft), the project considers various aspects of creative practice in order to develop a series of innovative new textile surfaces.

The project will be framed by three streams of inquiry: (1) Conversation with practitioners (2) Conversation through practice (3) Conversation amongst practitioners and practice.

Through this series of inquiries a number of themes around individual and collaborative creative practice will be explored. Themes may include notions to do with personal narratives, connectivity and meaning, materiality, digital technology and creative play.

Emma Lynas

In what ways can textile designers foster deeper connections between people and material possessions?

The underlying objective of this research project is to explore ways in which designers can encourage consumers to engage with textiles and clothing on a deeper level. The 'slow' method of design enquiry is being used to better understand my own practice, and consumer behaviour. I will continue to explore themes around the concept of; values, aspirations, heritage, emotionally durable design and connectivity. Currently I am investigating reasons for attachment and detachment between people and material possessions.

The following themes have been identified as areas to explore in the next phase of my research. They will allow me to expand upon the literature and data collected to date and explore the theoretical through practice.

Farzad Mohaddes

Bio-Friendly Fabric Functional Finishes with Green FRs and Phase Change Materials

The research objectives include introduction of green FRs and PCMs to different fibrous materials to impart flame retardancy and thermo-regulation, respectively. FRs can be added to potential substrates either physically or chemically. In the current work, chemical graft co-polymerization of potential FRs to different substrates such as Nylon and wool was investigated. Incorporating PCMs into the fibrous substrates was another aspect of the project.

Hana Nasir

Therapeutic glove for patients with rheumatoid arthritis

Rheumatoid arthritis is a chronic autoimmune disease that causes inflammation and deformity of the joints especially in knee, feet and hand. Inflammation causes the joints to become painful and swollen, thus movement may be restricted. This research intends to focus on hand rheumatoid arthritis with aim to develop a therapeutic glove that will lessen the arthritic symptoms and improve patient's hand function. The design, materials used and construction of the prototype gloves are expected to decrease the swelling of the hands hence alleviate the pain through mild targeted compression. Since the gloves are expected to be worn during day and night, the fit and comfort would be also the main focus in the development of new glove.

Javid Jalvandi

Biodegradable Electrospun Nanofibers for Medical Application (Drug Delivery System)

Electrospun nanofiber has gained much attention in the last recent years. It has been used for various applications; one is biodegradable electrospun nanofibers as a drug delivery system where the biodegradation of polymers and nanofibers characteristics play significant role in releasing behaviour of the drug. Many studies have been reported in the case of drug delivery. The main issue reported up now is burst or disorder release of drug from biodegradable nanofibers or other drug delivery systems. It is believed that using different methods of delivery systems in combination with biodegradable nanofibers would be convenient to reach a sustain release of nanofibers. Methods used in this project include Nanoparticles(MSNs, β -CD, etc) and will probably include other drug delivery systems like Microparticles (biodegradable microspheres), Grafting Functionalised SNP.

Josephine Aboagyewaa-Ntiri

Adinkra bridges the gap: innovation and sustainability in the Ghanaian clothing industry

The traditional Adinkra symbols and cloths as material culture can be examined in multi-layers. Adinkra brings beauty to artefacts which they adorn; its main role and meaning are known to only a few Ghanaian users, in particular from the Akan tribe. Throughout the research, the researcher intends to explain a sense of awareness and understanding of Adinkra symbols and cloth in Ghana, as a way to promote its usage. The pieces of contemporary Adinkra cloth to be produced will be made into bridal wear for the Ghanaian market. It is expected that this research will assist to cultivate a deeper sense of awareness of the history and tradition of Adinkra symbols for future generations by providing a significant source of information and products. This research intends to make Adinkra symbols and cloth better known and contribute to a wider knowledge and understanding of identity and Akan culture.

Leah Di Bartolomeo

An investigation into the durability, performance and functionality of knitted fabrics for medical pressure garments

The aim of this study is to evaluate and compare functionality attributes of knitted fabrics used for scar management and venous insufficiencies, in terms of their elastomeric performance and comfort elements in both single layers and as a fabric assemblies. Pressure garments used for scar management and venous insufficiencies need to provide sustainable pressure to the underlying limb from the time the garment is donned by the wearer to assist in recovery. For this study six knitted commercial fabric samples were selected. Their selection was based on currently used pressure garment fabrics for scar management and venous diseases in the industry.

Libby Cowper

Investigations into the Damage Characteristics in Common Apparel Fabrics Resulting from a Stabbing Attack

The evaluation of damage made to clothing from a stabbing can provide information of the weapon characteristics and the mode in which the damage was caused. This project investigates the behaviour of stabbed apparel fabrics from a textile technologist's perspective for forensic purposes. An emphasis has been placed on the reliability of re-creating stab events for a given range of fabrics, kitchen knives and entry conditions. A unique model for simulating human skin and tissue has been investigated. Human stabbing performance including knife penetration and withdrawal force has also been evaluated. The physical properties and construction of the fabrics have been thoroughly examined to establish fabric specific characteristics in the resultant stab damage.

Luise Adams

21st Century Bespoke Design: The Resurgence of the Hand

My research is considering the parallels & relationships that exist between the 19th Century Arts & Crafts Movement & 21st Century Arts & Crafts aided by the digital world. I am interested in how the 'hand' fits in relation to our ideas of beauty, function, form & value, with the objects that we make and the notion that the desire by contemporary designers, to create hand made & bespoke objects, is at least in part, similar to the motivation of designers in the 19th century.

Independent Art & Design Markets have been on the rise in Australia for at least the last decade. As a Designer/Maker who participates in markets, I have been investigating the views of other participants and also articulating these ideas by reflecting upon my own practice as a commercial textile designer, designer of hand made products and artist.

Rana Mahbub

Comfort Properties of Flexible Body Armour Fabrics and Panels

This research aims to design and engineer stab resistant fabrics, and examines their performance for protection and comfort especially for female police officers. The comfort of woven ballistic new Kevlar/wool fabrics has been tested and evaluated against the current 100% woven Kevlar ballistic fabric. Testing included the thermal resistance, vapor resistance, air permeability, moisture management properties and surface properties of both fabrics.

This research project also explores knitting three-dimensional (3D) preforms for female torso utilising Shima Seiki's industrial knitting technology. The female body armor was designed and knitted in respects to women body shape in 3D seamless panels by using Kevlar/wool and ballistic Nylon/wool yarns. In this way the more effective method of fabric production process (in terms of stab resistance and comfort) will be evaluated and optimized.

The fabrics produced will be coated with abrasive particles and then further tested to determine how this affects or enhances their protection performance. Multilayer flexible stab resistant panels will be assembled to assess whether layering combinations improve their effectiveness, and to what extent. The results of this research will provide a good reference for designing and engineering female body armors capable of resisting sharp object penetration, as well as developing improved comfort performance.

Salwa Tashkandi

Investigation of thermal comfort properties of abaya in hot climatic conditions

An 'abaya' is an outer black garment worn by Muslim women in Saudi Arabia that covers the whole body. In this thesis, a survey was conducted. It revealed that the current abaya with multi-layers of inner clothing was thermally uncomfortable. To understand the thermal performance of abayas, some of the commonly used abaya made from woven and knitted fabric were objectively evaluated for thermal comfort properties. It has found that woven abaya fabric is more comfortable than knitted. In order to improve the comfort properties, woven fabrics were dyed in black and treated with an Energy Reflecting Chemical which reflects heat from the environment and keep the treated fabric cooler than its untreated black fabric. It was found that the ERC treatment lowered the temperature by 0.5°C. These fabrics were characterised and evaluated to assess the thermal comfort properties. The characterisation included air permeability, moisture management properties, thermal resistance, breathability, drapability and surface roughness. Furthermore, abayas were evaluated using a thermal manikin in combination with other inner clothing to assess the thermal comfort properties. Finally abayas are being designed using the final candidate fabrics and assessed for their comfort performance.

Wiah Wardiningsih

Protective Garment for Prevention of Hip Fracture in Elderly Women

The research aims to develop hip protective garment for elderly women that have suitable thermo-physiological, skin sensorial and pressure comfort attributes. Wearing hip protectors is an effective way to prevent hip fractures, but poor compliance hip protectors' usage has been recognized as a major concern. The reason for non-acceptance is general discomfort.

Practice Research Symposium (PRS)

The Design Hub

(in collaboration with the School of Architecture & Design)

Saturday 26 October 2013

Candidate abstracts

Armando Chant

Imaginative Voyaging: Wonder and Enchantment as site for encounter in fashion practice

The research aims to explore the state of wonder within a transitional, and transformative context and its potential to inform an experimental fashion practice. The projects will explore wonder and enchantment and its emotionally generative possibilities, and consider how a design process informed by light can be interpretive, immersive and consuming. This investigation will focus on light as activator/disruptor and its potential to transform, reveal, and illuminate with the possibility to instigate an evolving and interpretive fashion experience. The state of wonder will be explored within the framework of a multi-disciplinary fashion practice whereby the transitional moments of creativity between mediums are seen as potential sites of encounter and enchantment.

Christina Cie

More than pretty: The object and the user in the creation of meaning

How can design be more than just pretty?

In scientific research, pattern is the predominant tool for record and discovery. For textile design, pattern is integral to structure and decoration. How can textiles and related disciplines use the phenomena of pattern as a record keeper to its richest potential?

This research explores pattern-based recording systems, using textile and related media in a series of health-related projects. It includes the experience of making as a means of story-making or narrative, with this also functioning as a method for meaningful communication.

Exploring the practice of record-keeping, this research considers communication in patient/doctor relationships in the developing and developed world, and the usefulness of an object-based record in the sociology of medicine.

Elizabeth Anya-Petrivna

The Lost Workshop and the Artificial Flower

The lost workshop is a contrivance - emerging out of the fragmented and meagre traces found in the historic record. Despite these voids this project reveals the workings of a 19th century flower making studio as a place that can be both written and exhibited.

Jo Cramer

The Living Wardrobe

How does a fashion design practice that takes responsibility for what it brings into being, operate? Is it enough to use 'environmentally friendly' materials and processes and instigate an ethical supply chain in the production of ever-increasing amounts of clothing? When a fashion practice asks of itself: "what will my designs design?" it invites a response that cannot do other than fundamentally redirect that fashion practice away from the accepted modes of practice towards one that prioritises sustain-ability.

Design strategies are being developed to prolong the use of the garment. This approach considers adaptable design features and participatory design processes as means to recode the garment from transient, disposable commodity to valued, personal possession. The intention of the research is to foster behavioural change in the fashion consumer and the fashion industry by demonstrating an alternative model of fashion practice that takes responsibility for the design agency of its products.

Kate Kennedy

Somatic Topography: 1st step along the Z plane

This exploration is an initial investigation in body mapping or Somatic Topography as a method to inform the development of a parametric anthropometric model for apparel design and development. From a practitioner's perspective the objective is to transition traditional flat pattern construction in a 2 dimensional (2D) Cartesian co-ordinate X-Y system into a 3D mode. It is the first step in climbing towards the Z plane.

Somatic topographical maps provide an alternate view for technical pattern design by detailing ratios, angles and levels from a top down view. The technique was applied in a workshop environment where participants drawn from a multi-disciplinary design background built full scale body models to assess somatic 2d to 3d shape perception.

Tarryn Handcock

Nostalgic Skin: Between Body and Wearable

The PhD draws on casting and moulding techniques, site study methodologies, artefact making, and writing as critical practices to take close readings of the body and skin as sites for and of design. The research studies aspects of symbolism and representation, interiority, extensity, acts of wearing, and phenomenology with a particular focus on the relationships between bodies and wearable artefacts as encounters between the material and immaterial. Projects in trans-disciplinary design allow the research to develop an expanded understanding of the body as a lived and culturally located entity enmeshed in intimate relationships with artefact and world.