

School of Fashion and Textiles

Candidate abstracts

Graduate Research Conference

and

Practice Research Symposium

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Elizabeth Anya-Petrivna - PhD

The Lost Workshop - a collection of writings and an exhibition in the Museum of Finding and Returning

The Lost Workshop is a contrivance - emerging out of the fragmented and often meagre traces found in the historic record. It is hosted within the imaginary Museum of Finding and Returning; a place that offers the PhD a material-cultural and micro-historical methodology. Without the benefit of surviving business ledgers, examples of artificial flowers made locally and extensive archival and published material, this project attempts to stitch together scant citations. Local makers are found in items such as lost and found notices and exposition photographs; directory listings logged over decades and family genealogy, surviving tools and instructions from Europe. So despite the seeming void this PhD by project can reveal the makers and the craft of a nineteenth century flower making in Melbourne.

Muhammad Asif - PhD

The impact of political disruptions on textile supply chain performance in Pakistan

Textile manufacturing firms are heavily dependent on each other for the seamless and integrated information and materials exchanges and flows within or between firms. Any disruption in the flow of information or materials could potentially lead to huge production or performance losses, such disruptions could occur due to systems failure in information flow, terrorist attacks, labor strike, natural disasters, transportation delays and political instability. Organizations are looking for promoting timely and efficient flow of information and goods, securing supply chains from external threats and mitigating vulnerability to disruptions. Political instability is usually understood as a condition under which political legitimacy, social order and governance are challenged. The purpose of this paper is therefore to investigate the relationship between political instability, supply chain disruptions and supply chain performance with particular reference to the textile industry in Pakistan.

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Sally Brindley-Mills - Masters

What is the perfect dress shoe?

The majority of ready-to-wear shoes available in Australia are currently made in South-East Asian countries, mimicking current fashion styles, but compromising on quality to reduce cost for the Western market. Contemporary bespoke and technological approaches to manufacturing could aid an improved fit, comfort and aesthetic design for dress footwear.

This research project intends to investigate the suitability of footwear within the Australia market. The objective is to investigate and define the gap between aesthetic design and comfort for affordable working women's footwear.

The project will establish a focus group of women and investigate their views, requirements and expectations in dress footwear. Co-design workshops will assist research and analysis to formulate prototypes of what might an ideal shoe look like.

Amy Carr-Bottomley - Masters

Three Dimensional Woven Structure

This Masters by project will investigate the design opportunities of weaving three dimensional textiles. Through exploring the three dimensional surface and shape-forming potentialities of woven structures, the research will establish a survey of potential weave techniques in combination with standard and atypical materials and finishing processes. To date there is little documentation, readily accessible for designers, as to the shape forming capabilities of woven structures. This area of textile innovation offers to further interdisciplinary research, opening up new design opportunities in a variety of contexts such as architecture, industrial and interior design.

Armando Chant - PhD

Imaginative Voyaging; Fashion practice as 'site' for wonder and enchantment

The practice is exploring the idea of 'wonder' in terms of a renewable and shifting 'site' where we engage with surface, space and place for creative, emotional and critical engagement, and its potential to facilitate unique and novel approaches when applied to a small scale fashion practice. The research is focusing on exploring these transitional 'sites' or potential 'encounters' that happen within the fashion design process for both practitioner and their audience, and their emotionally generative possibilities. These transitioning areas of encounter and creativity are proposed as potential 'sites' for an ever-evolving form of interpretive engagement, where nothing is necessarily clearly defined but ever-changing in response to how it is being created, contextualised and interpreted.

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Libby Cowper - PhD

Effect of fabric properties on textile damage caused by stabbing

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. 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.

Grant Emerson

An unsustainable capability

This research will evaluate the effectiveness of educational strategies employed at RMIT University, School of Fashion & Textiles, Bachelor of Fashion programs in relation to students developing graduate capability in applying sustainable practices. In addition the research will determine whether the workplace environment is either enhancing or impeding this practice. "The development of sustainability concepts within tertiary education programs remains an ongoing challenge for educational institutions due to the 'messy' nature of sustainability as a discipline and the paucity of knowledge about sustainability within the community" (Emerson & Cowlshaw 2012). Whilst the educational program development for a graduate capability in sustainability has been established, there is concern that graduates remain ill-informed and have little understanding of sustainability principles. The findings of the research will inform educationalists in developing strategies to improve sustainability knowledge, skills and practices for the Australian Fashion & Textiles industry.

Olga Gavrilenko - Masters

3D surface design continuity: Exploration of implications of digital printing technology in areas of CAD textile design and product development

Fashion industry is driven by changes in trends and consumer preferences. In order to meet the growing demand to deliver mass customisation there is a need for great efficiencies and flexibility with just-in-time manufacturing. One way of addressing this need is to improve the integration between various digital garment manufacturing processes.

This research will explore the relationship between digital garment pattern and grading processes with textile computer aided design for digital surface printing. What are the opportunities for adaptation and integration of these processes and associated technologies for an enhanced mass customisation just-in-time fashion system? The research will examine how these processes and technologies are currently set up in order to identify and develop an improved model of manufacturing.

Winnie Ha - PhD

Words for Wearing-Imagining: Poetics of Writing in Fashion Practice

Words for Wearing-Imagining articulates the potential for writing and the literary imagination to mediate the aesthetic experience and imagination of fashion. Engaging with the productive friction between practice and research, the project demonstrates the capacity of writing to express and reveal the poetics of fashion as experience, discourse and practice. It defends fashion as embodied practice, where dress, dressing and fashioning are vital to the construction of the aesthetic self through body and image. The project therefore presents a profound role for writing: to assert fashion as embodied, aesthetic experience; to express the performativity of writing; and to imagine fashion through words.

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Cecilia Heffer - PhD

Lace-scapes: windows of contemplation

Lace-scapes draws from an ongoing textile practice that explores new definitions of pattern and space in contemporary lace design. Embedded in a rich cultural history, lace is providing designers with a lineage of material production and complexity. I am interested in exploring lace metaphorically as a means to find new ways of negotiating and configuring space. How do textiles transform our relationship to different environments? Research is led by an interest in the integration of the hand made and emerging technologies. New approaches that investigate ways to generate pattern have led to an interdisciplinary project titled "Pattern Stations". The work explores how lace can be transformed into animated videos of pattern through an interactive digital technology. I am interested in looking at how different scales of moving lace pattern can potentially intervene or enhance an environment. Can these animations benefit future spaces in specialised health care environments?

Leah Heiss - PhD

Emotional Technologies: Designing wearables to re-engage the human in health and wellbeing

Through my PhD I am investigating the emotional relationship that exists between people and their health technologies and interrogating the critical role of design in the development of therapeutic artefacts. I am interested in repositioning therapeutic devices (drug delivery, monitoring and diagnostic technologies) as 'emotional artefacts' with which users may have a strong intimate connection. This 'emotional' framework is familiar when contemplating jewellery, but less so when developing therapeutic devices. It is through the merging of 'jewellery concerns' such as the intimate relationship that people have with their wearable artefacts, with 'medical concerns' that I aim to create objects and devices that connect with people on an emotional level, but also keep them alive.

Javid Jalvandi - PhD

Biodegradable electrospun nanofibres for medical application (drug delivery system)

Levofloxacin (LVF) was loaded into Mesoporous silica nanoparticles (MSNs) and then incorporated in Poly(ϵ -caprolacton) nanofibers via core-shell electrospinning. The structural characteristics of LVF-loaded MSNs were investigated by FTIR, XRD, BJH and BET. The morphology of the composite electrospun mats and MSNs were characterized by SEM and TEM. The drug release behaviour of composite electrospun mats was investigated and the results demonstrate enhanced release profile in PCL/LVF loaded MSNs composite electrospun mats to that in PCL/LVF mats. The antibacterial activity of the mats was also investigated and the results indicated that PCL/loaded MSNs has improved antibacterial activity against *Escherichia coli* bacteria compared to PCL/LVF electrospun mats. For future works drug-functionalised MSNs conjugation and drug/biodegradable polymers conjugations are being considered.

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Huda Ahmed Maghrabi - PhD

Advanced protective textiles for radiation shielding

Radiations affect the health for those who are exposed to. The current lead aprons available in the healthcare market have many problems, including causing user back pains due to the weight of these aprons. The radiation risks may also cause some serious diseases including cancer. In addition, the lead aprons used today may crack due to their inflexibility, causing radiation leakage through cracks and compromising the necessary protection. Moreover, lead material has a toxic effect on the environment. This research aims at developing a textile material for radiation protection by coating x-ray absorbing nanomaterials on fabrics, and enhancing the comfort aspects through advance garment design as well as protective materials weight reduction.

Rana Mahbub - PhD

Comfort and Stab Resistant Performance of Body Armor Fabrics and Panels

This research aims to design and engineer stab resistant fabrics, and examine their performance for protection and comfort especially for female police officers. The comfort of woven Kevlar–wool fabric was tested and evaluated against the 100% woven Kevlar fabric. Testing includes the thermal resistance, vapour 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 as a more effective method of fabric production. The female body armor was designed and knitted in 3D seamless panels by using Kevlar–wool and ballistic Nylon–wool yarns. Their stab resistance and comfort Were evaluated and optimized. The knitted fabrics produced were also coated to enhance their stab protection performance. The results show that blending Kevlar with wool perform better moisture management and water vapour resistance.

Kate Medved - Masters

love, lust, culture: the life of the shoe

How is the artefact, the shoe influenced in contemporary contexts by the investigation of mobility, communities, cultural influence of dress and the psychology of personal aesthetics and contemporary consumer behaviour?

This thesis document addresses material culture research in a valuable area of European national costume with a focus on footwear through a case study of Croatian culture. The study will contribute to the understanding of footwear as a commodity, the psychology of footwear, and the experience and practices of life, memory, culture and design. It contributes to the wealth of existing evidence of shoe design practices and traditional history of costume, by focusing on specific cultural practices, customs and beliefs.

As Clark supports, (1972) "you hope to make a valuable addition to knowledge on a subject you believe to be important" (p.10). Cultural design showcased for a consumer driven marketplace: shoes exhibiting love, lust and culture.

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Arsheen Moiz

Investigation of polyurethane coating for Chemical Protection

Military personnel on patrol are likely to face various hazards that can either kill them outright or cause them serious damage. The protection of the soldier from exposure to hazardous chemicals, such as chemical warfare agents, is essential in today's battlefield. Chemical and biological (CBR) suits are designed for emergency circumstances and are likely to cause thermal burden when worn over prolonged periods. This research is aimed at developing protective fabrics with a functional coating that is capable of preventing the penetration of certain chemical warfare agents without compromising on the fabric weight, and its comfort. The intention of this research is not to develop a replacement for CBR suits but to develop low-level threat fabrics that can either be used as combat uniforms, or form selective parts of the uniform. The advent of high performance materials for combat clothing to protect against various complex threats such as IEDs clearly emphasises the need for chemical protection.

Geethanjali N Pai - PhD

Comfort and suitability of Bio-Adaptive Textiles for Infant Sleeping Environments

Thermo regulation is the mechanism through which the human body regulates its thermo physiological homeostasis as a balance of the heat generated through metabolism and the environmental conditions. The thermoregulation of an infant is significantly different from that of an adult as it is still not fully developed. An infant is in the sleep state during the two thirds of its day and its thermoregulation is influenced by its skin permeability and its body temperature, insulation of the clothing worn, ambient humidity, temperature, and air velocity. Failure in regulating the body temperature of an infant leads to hypothermia, hyperthermia, and may lead to Sudden Infant death syndrome and Atopic dermatitis.

Wool is a natural fibre; it is a good insulator and a hygroscopic fibre. Bio-adaptive materials containing Shape Memory Polyurethane (SMP) fibres have some "smart" attributes that when combined with wool fibre, could result in superior responsive products. This research focuses on how wool fibre and SMP can be synergetically developed into a bio-adaptive fabric that will enhance the thermoregulation of an infant during sleep and aids in preventing Atopic dermatitis.

Liliana Pomazan - PhD

Beril Jents: The Development of an Independent Australian Fashion Design Practice (1934 - 1959)

The thesis investigates the development of independent Australian fashion design practices in Sydney, from the pre-World War II era through to the end of the boom years of the 1950s by way of the Beril Jents (1918 - 2013) case study. As Jents moved from suburban Sydney to its city centre, she transformed her business from a dressmaking atelier to a formal fashion design practice. Her reputation was based upon the originality and quality of her design ideation and the techniques of its creation. Simultaneously, the dissertation aims to contextualise the foundation and evolution of this fledgling design practice in-line with the city's incremental shift from a colonial parochialism to a modernist paradigm.

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Amanpreet Singh - Masters

Developing a methodology for mapping the Melbourne Maritime Cluster

The cluster concept has successfully been applied in both manufacturing and service sector. The example of few successful/well known clusters includes Silicon Valley in electronics, movie making in Hollywood, North Italian fashion and design cluster, and financial clusters in London, New York and Tokyo. The formation of cluster is a derivative of conditions generated in the area. The purpose of this research is to determine the methods to develop the creation of cluster more specifically in the case of Melbourne maritime industry. Using the census data, this research aims to quantify the levels of maritime clustering and delineate geographic boundary that represents the area from where a seaport draws its workers in different maritime-related industries.

Adele Varcoe - PhD

Fashioning Situations: Affecting Fashion and Everyday Life

Fashion is something we experience every day. It is part of our life. It affects the way we dress, behave and relate to others. We dress for people and a specific situation. Fashion is cognitive. It is beyond physical garments and material objects. Sociologist Ingrid Brenninkmeyer speaks of fashion as a 'belief that is manifested through clothing.' This research explores fashion as an experience, a collective agreement that is developed through social behaviour.

Wiah Wardiningsih - PhD

Protective Garment for Prevention of Hip Fracture in Elderly Women

The research aims to develop a protective garment for elderly women with suitable comfort attributes, and incorporating a protective pad. The research carried out to date since confirmation of candidature up to mid candidature review is based on proposed research methodology and research time line. A multitude of experiments has been completed covering the areas of pressure generation and thermo-physiological comfort of benchmark hip protective garments. The experimental result will be used for designing and producing new hip protective garment that has suitable comfort properties. In addition Human Ethics Application is being developed to conduct a survey in order to understand the wearer's experience and perception towards the use of hip protective garments.

Karen Webster

Stop the fashion system Australia; I want to get off!

This research addresses current processes embedded within the global fashion industry that impact on Australian fashion brands and their capacity to work within a considered design framework that is commercially viable. The research builds on and critiques current discourse surrounding global social issues and uses this as a base to challenge and stimulate Australian fashion designers to consider a fashion system model that addresses issues of sustainability, industry longevity, quality and veracity. By interrogating these issues the research will also consider a suite of alternative constructs that could enhance Australia's fashion's future.