

RMIT School of Design PhD Projects and Places 2019

Important information for applicants

Prospective applicants for School of Design PhD Projects / Places are required to submit an Expression of Interest (EOI) through the [RMIT University Application Service](#).

Based on this EOI applicants will be invited to undertake a Pre-Application Interview prior to formally submitting an application (which may include Scholarship application).

The EOI will consist of:

- Personal details
- Contact details
- Program details and proposed commencement date
- Research proposal
- Qualifications including transcripts and dissertation/thesis.
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Further information about the application process can be found at [how to apply](#).

NOTE: Applicants to School of Design need to apply for Program Code DR207 (Architecture and Design). Successful candidates will be transferred to a new School of Design code in 2019.

Guidelines for prospective higher degree research applicants are available [here](#).

Enquiries can be directed to design.hdr@rmit.edu.au.

School of Design PhD Projects – commencing 2019

Pg	Project	Discipline/s	Field of Research	Supervisors
5	Co-creating publics for UNESCO Creative Cities: Design research in sustainable urban development	Communication	Strategic design	Dr Noel Waite Dr Marius Foley Dr Toni Roberts
6	New materialities in Communication Design practice	Communication	Communication design	Dr Neal Haslem Dr Andy Simionato
7	Strategic design and leadership for the health, cultural and NFP sectors and their publics	Communication	Strategic design	Dr Neal Haslem Dr Marius Foley Dr Leah Heiss
8	Engaging communities through place-based design and creative practice	Communication Digital	Place-based experience design	Dr Toni Roberts Dr Ben Byrne Dr Neal Haslem
9	Designing for experiences in museums (and other interpretive environments)	Communication Digital	Experience/interpretation design	Dr Toni Roberts Dr Noel Waite Dr LiPing Thong
10	Designing for conservation and environmental awareness	Communication Digital	Experience/interpretation design	Dr Toni Roberts Dr Ben Byrne A Prof David Carlin
11	Audiokinetic Lab: audio experiences for entertainment and health	Digital	Sound design & virtual environments	Dr Darrin Verhagen Dr Jenny Robinson
12	Future Anxieties: XR in Speculative Critical Design	Digital	Speculative critical design	Dr Ben Byrne Dr Darrin Verhagen Dr Tom Penney
13	Designing Audio Essays	Digital	Sound design & composition	Dr Ben Byrne Dr Darrin Verhagen
14	Interactive Eating: playing for wellbeing	Digital	Interaction design	Dr Florian 'Floyd' Mueller Dr Rohit Khot
15	Digital Health Play	Digital	Interaction design	Dr Florian 'Floyd' Mueller Dr Juan Sanin
16	Digital Water Play	Digital	Interaction design	Dr Florian 'Floyd' Mueller Dr Rohit Khot
17	Understanding the design of interaction exertion systems	Digital	Interaction design	Dr Florian 'Floyd' Mueller Dr Rohit Khot
18	Understanding the design of extreme sports systems	Digital	Interaction design	Dr Florian 'Floyd' Mueller Dr Rohit Khot
19	Understanding the design of interactive muscle memory systems	Digital	Interaction design	Dr Florian 'Floyd' Mueller Dr Jonathan Duckworth
20	Understanding the design of playful and mindful learning spaces	Digital	Interaction design	Dr Florian 'Floyd' Mueller Dr Jonathan Duckworth
21	Flying robotic play companions	Digital	Interaction design	Dr Florian 'Floyd' Mueller Dr Rohit Khot
22	Human Computer Integration	Digital	Interaction	Dr Florian 'Floyd' Mueller

			design	Dr Rohit Khot
23	Helping Australians understand and manage their pollen exposure indoors, outdoors and on the go	Digital	Interaction design	Dr Rohit Khot Dr Florian 'Floyd' Mueller
24	Supporting mindful eating in everyday practice through play	Digital	Interaction design	Dr Rohit Khot Dr Florian 'Floyd' Mueller
25	Designing video games for mental health	Digital	Interaction design	Dr Jonathan Duckworth Dr Renata Kokanović
26	Sonic Fields: rethinking listening environments for spatial sound composition and diffusion	Industrial	Sound design & composition	Dr Lawrence Harvey Dr Ross McLeod Mr Jeffrey Hannam
27	Design and Sexual Health Innovation	Industrial	Service Design / Product Design / Technical & Material Innovation	Dr Judith Glover Dr Areli Avendano
28	Collaborative design of multisensory stimulation experiences for dementia treatment	Industrial		Dr Juan Sanin Dr Scott Mitchell Dr Liam Fennessy Lisa Spong Francis McCormick
29	The signature pedagogy of design: Intersections with student experience and learner centred design education	Industrial	Design Pedagogy	Dr Soumitri Varadarajan Dr Larissa Hjorth Dr Helen McLean Dr Liam Fennessy
30	Design and the Third Sector: Embedded CoDesign Practice, for Product (Patents) and Product Service System (IP) creation	Industrial	Design Innovation / Product Design / Service Design	Dr Soumitri Varadarajan Dr Keely Macarow Dr Renata Kokanovic Dr Liam Fennessy
31	Grounding Sound: generative practice research in the representation and transformation of sound	Industrial	Sound design	Dr Jeffrey Hannam Dr Lawrence Harvey
32	Design for Social Impact / Social Innovation	Industrial Communication Digital	Design Innovation	Dr Areli Avendano Franco Prof Ian de Vere Dr Judith Glover Dr Ross McLeod Dr Scott Mitchell Prof Michael Trudgeon A/Prof Yoko Akama

School of Design PhD Places – commencing 2019

Pg	HDR Place	Discipline/s
33	Reflective Industry Practice in Design	Communication, Digital, Industrial
34	Generative Practice Research in Design	Communication, Digital, Industrial
35	Research in Design (Thesis Mode)	Communication, Digital, Industrial

School of Design PhD Projects

Project Title

Co-creating publics for UNESCO Creative Cities: Design research in sustainable urban development

Project Description

Melbourne is unique in having two UNESCO Creative City designations which are part of the 200-member UNESCO Creative Cities Network – Design (2017 onwards) and Literature (2008 onwards). The creative city is recognised as important to economic and social development in the United Nations Development Programme's [Creative Economy 2013 Special Edition: Widening Local Development Pathways](#). This report describes the need to encourage creativity and innovation as “urgent” to meet the challenges of urban development and sustainable, liveable cities. Bokova and Clark state, “the next frontier of knowledge generation rests on understanding interactions, specificities and policies at local levels, and how the creative economy might be practically promoted in communities, cities and regions” (p.10). The report also identifies cultural and creative industry mapping as an essential tool to inform planning and decision-making and to address the knowledge gap at the local level, and states, “a participatory methodology for knowledge production is vital” (p.157).

This research could take the form of embedded research in Melbourne’s creative and cultural organisations, such as galleries, libraries and museums; generative research which facilitates the sustainment of creative practices through design; or historical thesis research on creative practices and communities in Melbourne. The project may embed measurement and evaluation of innovation and impact; explore models for conceptualising the value created for industry and society by design and creativity; and the impact of creativity on urban economics. The overarching research question is:

What pathways might be/have been developed to encourage creativity and innovation in the pursuit of inclusive, equitable and sustainable growth and development of Melbourne, and how might these contribute to the UNESCO Creative Cities Network?

Relevant Literature

- Clark, H. & Bokova, I. ‘Foreword’ in *Creative Economy Report: Widening Local Development Pathways*. New York: United Nations Development Programme (UNDP); Paris: United Nations Educational, Scientific and Cultural Organisation (UNESCO), 2013: 9-11.
- O’Gorman, S. ‘Creative Ecologies: Flying Nun Records 1981-1997, Xpressway 1988-1993’ in *The Design Collective: An Approach to Practice*. Eds. Harriet Edquist & Laurene Vaughan. Newcastle-upon-Tyne: Cambridge Scholars, 2012: 221-247.
- [UNESCO Creative Cities Network](#)
[Geelong City of Design](#)
[Melbourne City of Literature](#)
- Waite, N. ‘Layers of Care: Co-designing a global laboratory of inter-cultural dialogue and sustaining bio-cultural diversity’ in *Designing Cultures of Care*. Ed. Laurene Vaughan. Bloomsbury, forthcoming 2018.

Supervisory Team

Primary Supervisor	Dr Noel Waite
Associate Supervisor/s	Dr Marius Foley Dr Toni Roberts

For Code

120303

Project Title

New materialities in Communication Design practice

Project Description

The recorded history of human mark-making spans thousands of years, embracing new mediums and modes of inscription at each technological turn. Recent emerging technologies and digital tools present a timely opportunity for contemporary communication design practice to test the boundaries of making (and unmaking) meaning through materiality today.

Researchers are invited to extend their studio practice with emerging systems of production such as advanced additive and subtractive manufacturing, robotics, parametric and generative design, to explore and generate new materialities with potential to expand upon and move beyond traditional distinctions of the digital and physical. This research bridges emerging and innovative technologies with established communication design practice. Examples of hybridised “post-digital” methods include laser-cutting for publication design, 3D-printed typefaces for letterpress and other relief printing applications, or 3D modelling of typography for immersive digital environments in augmented and/or virtual realities. The research may explore how communication design may engage communities; the social and cultural consequences of digital and technological transformations and innovations; and the interface of new and established practices and technologies.

The candidate’s own practice will provide a departure point for speculative experimentation leading to the development of new hybrid methodologies, informed by contemporary design theory encompassing materiality, human-machine collaboration, distributed agency, networked systems, speculative design and sustainable futures. Disrupting the pervasive dichotomy of digital vs traditional communication design, these investigations actively engage with materiality across all mediums. Investigations orient through awareness of contemporary material politics and philosophy while maintaining a practice-led methodology incorporating print, publication design, screen, time-based and audio works. This project concerns the human, the post-human, social, economic and environmental sustainability, and the transitions required to propose speculative design futures for the planet.

The outcomes of this research comprise reflection of knowledge produced, engagement with contemporary discourse, and models for innovative communication design education.

Relevant Literature

- Seymour, A. (2011). Digital Materiality Digital Fabrication And Hybridity In Graphic Design. *Design Principles And Practices: An International Journal*. 5(3), 527-533.
- Bolt, B. (2007). Material Thinking and the Agency of Matter. *Studies in Material Thinking*. 1(1).
- Downton, P. (2003). *Design research*. Melbourne: RMIT Publishing.
- Ludovico Alessandro (2012). *Post-Digital Print: The Mutation of Publishing since 1894*. Eindhoven, NL: Onomatopee.

Supervisory Team

Primary Supervisor	Dr Neal Haslem
Associate Supervisor/s	Dr Andy Simionato

FoR Code

120307

Project Title

Strategic design and leadership for the health, cultural and NFP sectors and their publics

Project Description

Design research has an active role to play in how society changes the ways people access and experience services and engagements, from the organisational level through to the fuller economy and social-political implications. This project will research the way human centred design (HCD) research builds capacity within groups and organisations – specifically in the health, cultural and not-for-profit sectors – to implement and deliver services and experiences. The foci for this study is through the lenses of design leadership and strategic design. The project can explore the deployment of creative practice to reimagine health, resilience and care; to shape and engage communities; and to shape social and cultural opportunities.

The project will draw on generative and applied practice research approaches, mirroring the research and process within HCD. Human centred design puts emphasis on design research through ethnographic observation and interactions; attention to the manner in which people experience services and activities, as well as product and other outcomes; prototypes that generate iterative interrogation of the thing being designed; co-creative practices where possible; and critical reflection at all stages of the design.

The transdisciplinary nature of this type of design will warrant research into disciplinary/practice languages and assumptions to build common understanding within the project. The type of re-envisioning and redesign of engagement between organisations and their publics requires an ethical approach, contributing to the way industry practices are shaped. The inquiry will explore the synergies between the three sectors, as well as the novel ways they engage their publics.

Relevant Literature

- Gesmer, G., Calabretta, C., Karpan, I. 2016. *Strategic Design: 8 Essential Practices Every Strategic Designer Must Master*. Melbourne: RMIT Press.
- Hill, D. 2014. *Dark Matter and Trojan Horses: A Strategic Design Vocabulary*. Moscow: Strelka Press.
- Ibarra, H. 2015. *Act Like a Leader, Think Like a Leader*. Boston: Harvard Business Press.
- Verganti, R. 2009. *Design-Driven Innovation*. Boston: Harvard Business Press.
- Verganti, R. 2017. *Overcrowded*. Boston: MIT Press.

Supervisory Team

Primary Supervisor	Dr Neal Haslem
Associate Supervisor/s	Dr Marius Foley Dr Leah Heiss

FoR Code

120303

Project Title

Engaging communities through place-based design and creative practice

Project Description

This project examines design's contribution to creating a sense of 'place' within the public spaces in the urban environment. The project examines the practices of placemaking, site-specific design and situated interpretation, using material, digital and ephemeral methods. How can place-based design contribute to community building, identity and social cohesion? How can indigenous and diverse voices be heard within the fabric of the city? The project will use design thinking to engage community and business to explore social identity and liveable future cities.

Applicants from any design or fine art discipline may apply. Research modes include: Practice research (Reflective Industry Practice, Generative Practice, and Applied Practice); research by thesis (including case study); or a combination.

Research partners may include: City of Melbourne, Queen Victoria Market, Koorie Heritage Trust, Parks Victoria, local councils, regional centres, Koorie Heritage Trust, Ngarara Willim Centre and Heritage Victoria.

Relevant Literature

- Pink, S. (2008). An urban tour. *Ethnography*, 9(2), 175-196.
- Sepe, M. (2013). *Planning and Place in the City : Mapping Place Identity*. Florence, GB: Routledge. ProQuest ebrary. 26 July 2016. Copyright© 2013. Routledge. All rights reserved.
- Silberberg, S., Lorah, K., Disbrow, R. & Muessig, A. (2013). *Places in the Making: How placemaking builds places and communities*. 63.
- Vaughan, L. (2007). Material thinking as Place Making. *Studies in Material Thinking*, 1(1), 1-2.

Supervisory Team

Primary Supervisor	Dr Toni Roberts
Associate Supervisor/s	Dr Ben Byrne
	Dr Neal Haslem

For Code

120307

Project Title

Designing for experiences in museums (and other interpretative environments)

Project Description

This project examines design's contribution to creating experiences for visitors at museums, zoos, national parks and other interpretive contexts. The project seeks to better understand the methods and impact of designing material, digital, conceptual and communicative aspects of the visitor experience. This under-researched field of design practice is central to the multibillion dollar GLAM sector, at the heart of the experience economy. This project engages communities and business in a process of collaborative design to inform cultural business innovation.

Applicants from any design discipline, museum studies and social science may apply. Research modes include: Practice research (Reflective Industry Practice, Generative Practice, and Applied Practice); research by thesis; or a combination.

The project can be undertaken with a range of research partners, from larger institutions (Museums Victoria, ACMI, NGV, Zoos Victoria, Parks Victoria) to smaller museums.

Relevant Literature

- Lake-Hammond, A. & Waite, N. (2010). Exhibition Design: Bridging the Knowledge Gap. *The Design Journal*, 13(1), 77-98.
- McKenna-Cress, P. & Kamien, J. (2013). *Creating exhibitions: collaboration in the planning, development, and design of innovative experiences*. John Wiley & Sons.
- Roberts, T. (2014). Interpretation Design: an integrative, interdisciplinary practice. *Museum and Society*, 12, 191 - 209.
- Roberts, T. (2015). Factors affecting the role of designers in interpretation projects. *Museum Management and Curatorship*, 30, 379 - 393.

Supervisory Team

Primary Supervisor	Dr Toni Roberts
Associate Supervisor/s	Dr Noel Waite Dr LiPing Thong

FoR Code

120307

Project Title

Designing for conservation and environmental awareness

Project Description

This project examines the methods and impacts of designing interpretation to promote environmental awareness and conservation actions in museums, zoos, aquariums and national parks. With millions of visitors to these institutions each year, this under-researched field of design practice is highly influential in shaping social attitudes and actions. The project draws on post-humanist perspectives on human/nature relations, the notion of the 'artificial' prevalent in design discourse, and current research on values-based interpretation (Ballantyne and Packer, in press). It seeks to understand how design can contribute to changing public attitudes and behaviours in relation to conservation and environmental sustainability without perpetuating the conceptual human/nature division. These questions have particular urgency in the current era of climate change and entanglement between human actions and environmental impacts. The project engages community and business to explore pathways to a sustainable future; and takes a collaborative design approach to potential innovation in business and promotion practices.

Applicants from a wide range of design and related disciplines may apply. Research modes include: Practice research (Reflective Industry Practice, Generative Practice, and Applied Practice); research by thesis; or a combination.

Research partners may include Museums Victoria, Zoos Victoria and Parks Victoria, Queenscliff Marine Education Centre, Ricketts Point Marine Care, CoastCare, St Kilda Ecocentre, Ceres and others.

Relevant Literature

- Ballantyne, R. & Packer, J. (2011). Using Tourism Free-choice Learning Experiences to Promote Environmentally Sustainable Behaviour: The role of post-visit "action resources". *Environmental Education Research*, 17:2(June), 201-215.
- Morton, T. (2011). Zero Landscapes in the Time of Hyperobjects. *Graz Architectural Magazine*, 7, 78-87.
- Roberts, T. (2013). *Interpretation design: building knowledge from practice*. Doctoral thesis.
- Smith, J.K. (2014). *The museum effect: How museums, libraries, and cultural institutions educate and civilize society*. Rowman & Littlefield.

Supervisory Team

Primary Supervisor	Dr Toni Roberts
Associate Supervisor/s	Dr Ben Byrne Professor David Carlin

FoR Code

120307

Project Title***Audiokinetic Lab: audio experiences for entertainment and health***

Project Description

As consumption of media continues to morph towards more embodied experiences (AR, VR, XR, 4D, vibrotactile music) the need for a more sophisticated understanding of sound within inhabited multisensory environments deepens.

This project brings together established sound theory from cinema, music psychology, perceptual studies and sound art as a means of better describing and understanding the subtle experiences of audio and how it interacts with and can modulate other senses. Informed by these principles, but ultimately driven by empirical evidence, this research will generate stimuli through creative practice and assess responses with a range of measures including self-report and biometric data. Stimuli will include sound, vibration, movement and light and will explore how these modalities can be creatively integrated. As well as in art, design and entertainment, this exploration has potential application in wellness and therapy fields, fostering health and wellbeing through creative practice with implications for a growing, ageing and stressed population.

Some of the research outputs would be covered by Field of Research Codes 1904 (music composition), 190408 (music therapy) and 1902 (digital media), with clear alignments to 1701 (psychology) and 1702 (cognitive science) as well.

Ideal candidates for this position would be supported by a significant sonic practice (whether soundtrack, sound design, composition or installation), and a deep curiosity about the role of sound in the psychophysiology of aesthetic experience. This would require an interest in a wide variety of media and an openness to scientific as well as philosophical enquiry.

Relevant Literature

- Augoyard, J.F. & Torgue, H. (2014) *Sonic Experience: A Guide to Everyday Sounds*. McGill-Queen's Press.
- Chion, M. (1994) *Audiovision*. Columbia University.
- Huron, D. (2006) *Sweet Anticipation: Music and the Psychology of Expectation*. MIT Press.
- Levitin, D. (2006) *This is Your Brain on Music*. Penguin Publishing.
- Starr, G. (2013). *Feeling Beauty: The neuroscience of Aesthetic Experience*. MIT Press.

Supervisory Team

Primary Supervisor	Dr Darrin Verhagen
Associate Supervisor/s	Dr Jenny Robinson

FoR Code

120304

Project Title***Future Anxieties: XR in Speculative Critical Design***

Project Description

This is an opportunity for a PhD candidate with a digital design or art practice looking to submit by project and dissertation, following a generative practice mode of research.

“XR” or “Cross Reality” refers to technologically mediated experiences that combine biological and digital realities. This encompasses augmented, virtual and mixed reality approaches. As social media evolves, major corporations like Facebook and Google sprint to develop platforms that engage users through their digital identities with these techniques.

Given we are faced with a society experiencing profound anxiety around the use of these platforms politically, ethically and socially (Nash, 2017), there is an opportunity to develop critical work that extrapolates issues around their use and impact into designs that propose future scenarios. This is so we can reflect in the present on how to navigate the proposed futures represented by the candidate’s outcomes. This project investigates material tensions between digital and biological reality, exploring the consequences of digital transformations on economics and social identity, and opportunities for digital inclusion.

Speculative Critical Design (Dunne & Raby, 2013) is therefore the key method the candidate will use to generate such artefacts. Other theoretical frameworks that will likely be key to their research include affect theory, internet criticism, intersectional perspectives, and philosophies of digital identity. They may also wish to include, either as informative to their research or in their actual contribution, psychological or therapeutic approaches to XR that offer constructive solutions or futures rather than purely dystopic or critical ones.

The ideal candidate would be versed in digital creative practice and have a proficient body of work in the fields of digital design, new media art, augmented reality, virtual reality and/or mixed reality.

Relevant Literature

- Dunne, A. & Raby, F., 2013, *Speculative Everything: Design, Fiction and Social Dreaming*, Massachusetts: MIT Press.
- Malpass, M., 2017, *Critical Design in Context: History, Theory and Practices*, London: Bloomsbury Academic.
- Nash, A., 2017, ‘Affect, People and Digital Social Networks’ in Tettegah, S.Y. (Ed.) *Emotions, Technology, and Social Media: Communication of Feelings for, with, and through Digital Media*, 3-23, London: Elsevier.

Supervisory Team

Primary Supervisor	Dr Ben Byrne
Associate Supervisor/s	Dr Darrin Verhagen
	Dr Tom Penney

FoR Code

120304

Project Title***Designing Audio Essays***

Project Description

Designing Audio Essays is a generative practice based HDR project seeking to develop the nascent concept of the 'audio essay' and articulate how such work can be produced, drawing on the principles of digital design, especially sound design and composition. Specifically, the project is intended to support exploration of the communicative affordances of audio employed in service of the essay form, particularly online and in concert with other digital elements in the context of digital transformation.

The emergence of the field of sound studies has been followed by concern about how to communicate research around auditory culture and practices, traditional paper and visually based communication having obvious limitations for recording and disseminating sonic experiences.

A number of artists, designers and researchers around the world have explicitly attempted to produce scholarly work in audio formats. Sanne Krogh Groth and Kristine Samson, for instance, have defined what they refer to as the 'audio paper', convening a conference, *Fluid Sounds*, at the University of Copenhagen in 2015 that tasked participants to produce such documents before listening back to them together and publishing them online in an issue of the peer reviewed online creative journal *Seismograph/PEER*. Artists too have sought to develop approaches to employ the essay form with audio. For example, Anja Kanngieser and Polly Stanton with their Prix Ars Electronica nominated piece for ABC Radio National's Soundproof, *And then the Sea Came Back*. There has been little work to date, however, on the practice of designing audio essays, as this project seeks to undertake.

Relevant Literature

- Byrne, B. (2016). "Place Time (Sounds): Hearing Manfred Werder's 2005(1)", *Seismograph/PEER – Fluid Sounds*, accessed 24 April 2018, <<http://seismograf.org/fokus/fluid-sounds/place-time-sounds>>
- Kanngieser, A. & Stanton, P. (2016). "And then the Sea Came Back", *Soundproof Podcast*, ABC Radio National, Friday 2 December 2016, accessed 24 April 2018, <<http://www.abc.net.au/radionational/programs/archived/soundproof/and-then-the-sea-came-back/8082192>>
- Groth, S. K. & Samson, K. (2016). "Audio Papers – A Manifesto", *Seismograph/PEER – Fluid Sounds*, accessed April 24 2018, <http://seismograf.org/fokus/fluid-sounds/audio_paper_manifesto>
- Stanley, J. (2018). "Native/Foreign", *Kynton Contemporary Art Triennial – Force Fields*, 14-22 April 2018, accessed 21 April 2018, <<http://kyntoncontemporary.com/programs-events/jessie-stanley-audio-tour>>

Supervisory Team

Primary Supervisor	Dr Ben Byrne
Associate Supervisor/s	Dr Darrin Verhagen

FoR Code

120304

Project Title

Interactive Eating: playing for wellbeing

Project Description

“Interactive eating” explores the role of technology in facilitating playful eating experiences, developing a novel understanding of how interactive technology can – and should – be designed to promote positive eating experiences. The candidate will engage with prototyping equipment (laser-cutters, carvers, 3D food printers, etc) around food to invent a series of future playful eating experiences and study the associated user experiences. The result will be generative research as well as a thesis in the field of interaction design, contributing to our understanding of experiencing the human body as play. This project uses “the playful” as a creative solution to reimagine wellbeing, focusing on novel information technologies and physical systems.

Examples of prior works relevant to this project are available at <http://exertiongameslab.org>.

Relevant Literature

- Mueller, F., Byrne, R., Andres, J., Patibanda, R. *Experiencing the Body as Play*. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems. Long paper. ACM.
- Arnold, P. *You Better Eat to Survive! Exploring Edible Interactions in a Virtual Reality Game*. Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems. 206-209.
- Khot, R., Aggarwal, D., Pennings, R., Hjorth, L. & Mueller, F. *EdiPulse: Investigating a Playful Approach to Self-monitoring through 3D printed Chocolate Treats*. Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems. Long Paper. 6593-6607.

Supervisory Team

Primary Supervisor	Dr Florian ‘Floyd’ Mueller
Associate Supervisor/s	Dr Rohit Khot

FoR Code

120304

Project Title***Digital Health Play***

Project Description

Digital Health Play explores the development of interactive playful experiences which can support and facilitate health interventions, such as therapy. The design of novel digital health play might engage, for example, meditative and psychosocial approaches to healthcare treatment, utilising the latest game design and human-computer integration thinking. The candidate will implement a series of digital health designs through rapid prototyping, evaluating all components of the digital play experience, using a combination of physical modelling equipment (3D printers, microcontrollers and CNC machinery), digital experience developing platforms (modelling software, game engines and delivery systems) and testing methodologies (interviews, field studies, etc.). This project explores playful responses and transformations to health practice.

Through experimenting with multiple interactive media, development centred around complementing and expanding upon health approaches, and experiences which improve the method, process or efficacy of treatment can be facilitated. By drawing on human-computer integration designs, particularly those within the health-context, a series of playful systems can provide opportunities for experiences for those suffering from specific health disorders. These systems could be implemented alongside structured training with therapists for detailed trialling and further refinement of both prototype and methods.

Relevant Literature

- Patibanda, S. (2017). Life Tree: Understanding the Design of Breathing Exercise Games.
- Dankbaar, M. et al (2014). Gaming as a training tool to train cognitive skills in Emergency Medicine: how effective is it?
- Friess, R. (2014). Game Design of a Health Game for Supporting the Compliance of Adolescents with Diabetes.

Supervisory Team

Primary Supervisor	Dr Florian 'Floyd' Mueller
Associate Supervisor/s	Dr Juan Diego Sanin Santamaria

FoR Code

120304

Project Title***Digital Water Play***

Project Description

Digital Water Play explores the role of technology in facilitating playful water experiences, developing a novel understanding of how interactive technology can – and should – be designed to promote engagement "in, on, and under" water. The candidate will engage with prototyping equipment around water (such as motion capture systems) to invent a series of future playful water experiences and study the associated user experiences. The result will be generative research as well as a thesis in the field of interaction design, contributing to our understanding of experiencing the human body as play. With its focus on digital and physical interface with water, this exploration has potential for design in sustainability.

Examples of prior works relevant to this project are available at <http://exertiongameslab.org>.

Relevant Literature

- Raffe, W.L., Tamassia, M., Zambetta, F., Li, X., Pell, S.J. and Mueller, F. Player-Computer Interaction Features for Designing Digital Play Experiences across Six Degrees of Water Contact. CHI PLAY'15. ACM, 295-305.
- Mueller, F., Pell, S.J. Technology meets Adventure: Learnings from an Earthquake-Interrupted Mt. Everest Expedition. Ubicomp16. ACM. 817-822.

Supervisory Team

Primary Supervisor	Dr Florian 'Floyd' Mueller
Associate Supervisor/s	Dr Rohit Ashok Khot

FoR Code

120304

Project Title

Understanding the design of interaction exertion systems

Project Description

The candidate will prototype interactive exertion systems and study their use in order to understand what designers can learn from novel augmented experiences that involve the active human body in regards to designing interactive systems. This project will utilize the Exertion Games Lab's prototyping equipment, including a Qualisys motion capture system and Xsens motion capture suits (amongst others).

The candidate will engage with prototyping equipment to invent a series of future playful exertion experiences and study the associated user experiences. The result will be generative research as well as a thesis in the field of interaction design, contributing to our understanding of experiencing the human body as play and with potential application in the space of health and wellbeing.

Examples of prior works relevant to this project are available at <http://exertiongameslab.org>.

Relevant Literature

- Mueller, F., Byrne, R., Andres, J., Patibanda, R. Experiencing the Body as Play. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. CHI 2018. ACM.
- Mueller, F., Young, D. *Five Lenses for Designing Exertion Experiences*. CHI 2017. 2473-2487.

Supervisory Team

Primary Supervisor	Dr Florian 'Floyd' Mueller
Associate Supervisor/s	Dr Rohit Ashok Khot

FoR Code

120304

Project Title

Understanding the design of extreme sports systems

Project Description

The candidate will prototype extreme sports systems and study their use in order to understand what designers can learn from extreme sports activities when it comes to designing interactive systems. This project will utilize the Exertion Games Lab's Qualisys motion capture system and the Xsens capture suits (amongst others).

The candidate will engage with prototyping equipment to invent a series of future playful extreme sports experiences and study the associated user experiences. The result will be generative research as well as a thesis in the field of interaction design, contributing to our understanding of experiencing the human body as play and with potential application in the space of health and wellbeing.

Examples of prior works relevant to this project are available at <http://exertiongameslab.org>.

Relevant Literature

- Mueller, F., Byrne, R., Andres, J., & Patibanda, R. Experiencing the Body as Play. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems. CHI 2018. ACM.
- Mueller, F. & Muirhead, M. Jogging with a quadcopter. CHI 2015. 2023-2032
- Mueller, F. & Pell, S.J. Technology meets Adventure: Learnings from an Earthquake-Interrupted Mt. Everest Expedition. Ubicomp'16. ACM. 817-822

Supervisory Team

Primary Supervisor	Dr Florian 'Floyd' Mueller
Associate Supervisor/s	Dr Rohit Ashok Khot

FoR Code

120304

Project Title

Understanding the design of interactive muscle memory systems

Project Description

The candidate will prototype interactive muscle memory systems and study their use in order to understand what designers can learn from remembering activities that involve the active human body in regards to designing interactive systems. This project will utilize the Exertion Games Lab's Qualisys motion capture system and the Xsens capture suits (amongst others).

The candidate will engage with prototyping equipment to invent a series of future playful muscle memory experiences and study the associated user experiences. The result will be generative research as well as a thesis in the field of interaction design, contributing to our understanding of experiencing the human body as play and with potential application in the space of health and wellbeing.

Examples of prior works relevant to this project are available at <http://exertiongameslab.org>.

Relevant Literature

- Mueller, F., Byrne, R., Andres, J. & Patibanda, R. Experiencing the Body as Play. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems. CHI 2018. ACM.
- Van Den Hoven, E. et al. (2012). Introduction to this special issue on designing for personal memories. HCI, 27(1-2), 1-12.

Supervisory Team

Primary Supervisor	Dr Florian 'Floyd' Mueller
Associate Supervisor/s	Dr Jonathan Duckworth

FoR Code

120304

Project Title

Understanding the design of playful and mindful learning spaces

Project Description

The design of learning spaces is gaining more and more pedagogical attention, as they influence the learning climate and learning results in multiple ways. There is substantial research on play and mindfulness and its effect on learning, however there has been little effort to study how the two constructs relate to one another. This work explores the relationship between playful and mindful in the context of learning spaces to develop an understanding of the design of playful and mindful learning spaces. This project uses 'the playful' as a lens or practice for innovation in the business of education.

Examples of prior works relevant to this project are available at <http://exertiongameslab.org>.

Relevant Literature

- Langer, E.J., 2000. Mindful learning. *Current directions in psychological science*, 9(6), pp.220-223.
- Langer, E.J. and Moldoveanu, M., 2000. The construct of mindfulness. *Journal of social issues*, 56(1), pp.1-9.
- Patibanda, R., Mueller, F., Leskovsek, M. & Duckworth, J. Life Tree: Understanding the Design of Breathing Exercise Games. Proceedings of the Annual Symposium on Computer-Human Interaction in Play. CHI PLAY 2017. ACM. 19-31.
- Huerga, R.S., Lade, J. & Mueller, F. Designing Play to Support Hospitalized Children. CHI PLAY 2016. ACM. 401-412

Supervisory Team

Primary Supervisor	Dr Florian 'Floyd' Mueller
Associate Supervisor/s	Dr Jonathan Duckworth

FoR Code

120304

Project Title*Flying robotic play companions*

Project Description

The candidate will prototype interactive play systems with flying robotic companions and study their use in order to understand what designers can learn from designing interactive systems with quadcopters to support physical play. These projects will utilize the Exertion Games Lab's Qualisys motion capture system, the Xsens capture suit and Crazyflie mini quadcopters (amongst others).

The candidate will engage with prototyping equipment around quadcopters to invent a series of future playful flying experiences and study the associated user experiences. The result will be generative research as well as a thesis in the field of interaction design, contributing to our understanding of experiencing the human body as play.

Examples of prior works relevant to this project are available at <http://exertiongameslab.org>.

Relevant Literature

- Mueller, F., Byrne, R., Andres, J., & Patibanda, R. Experiencing the Body as Play. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems. CHI 2018. ACM.
- Mueller, F. & Muirhead, M. Jogging with a quadcopter. CHI 2015. 2023-2032

Supervisory Team

Primary Supervisor	Dr Florian 'Floyd' Mueller
Associate Supervisor/s	Dr Rohit Ashok Khot

FoR Code

120304

Project Title***Human Computer Integration***

Project Description

The rise of technology that supports partnership between user and computer highlights an opportunity for a new era of “human-computer integration”, contrasting the previously dominant paradigm of computers functioning as tools. This project focuses on embodied integration, where a computer tightly integrates with the person’s body. Although an increasing number of systems are emerging, a thorough understanding of how to design such systems is notably absent. The reason for this is the limited knowledge about how such embodied partnerships unfold, and what underlying theory could guide such developments. This project can draw on a recent Dagstuhl Seminar (organized by Grudin (Microsoft), Maes (MIT Media Lab) and Mueller (RMIT)) that brought together leading experts from industry and academia, including those who are central to the development of products and ideas such as wearables, on-body robotics, and exertion systems (<https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=18322>). The goal is to address key questions around the design of embodied integration and to jump-start new approaches for a human-computer integration future. This project is connected to conversations around digital transformation, inclusion and rights, and the digital/physical interface.

Examples of prior works relevant to this project are available at <http://exertiongameslab.org>.

Relevant Literature

- Mueller, F., Byrne, R., Andres, J. & Patibanda, R. Experiencing the Body as Play. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems. CHI 2018. ACM.
- Farooq, U. & Grudin, J. Human-Computer Integration. Interactions 23, 6 (2016), 26-32. <http://dx.doi.org/10.1145/3001896>
- Dagstuhl Seminar Human-Computer Integration: <https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=18322>

Supervisory Team

Primary Supervisor	Dr Florian ‘Floyd’ Mueller
Associate Supervisor/s	Dr Rohit Ashok Khot

FoR Code

120304

Project Title

Helping Australians understand and manage their pollen exposure indoors, outdoors and on the go

Project Description

Located within the Human Computer Interaction tradition, this research explores the design, development, and evaluation of an innovative pollen monitoring and feedback system. The aim is to understand how individuals experience, understand and reflect on their daily pollen exposure, and how the gained understanding leads to effective management of possible pollen allergies (i.e. hayfever and thunderstorm asthma). This research fits within the domain of persuasive health technologies and self-monitoring systems that have shown significant benefits in raising awareness and in supporting self-management of different conditions. It draws on game design principles that bring elements of exploration, curiosity and play together to offer rich perspectives on individuals' relationship with environmental pollen exposure.

Asthma and pollen allergies are significant health burden in Australia with over 3 million sufferers and costing Australian community over \$700 million annually. This research aims to reduce the burden on health economy by actively engaging individuals in monitoring and managing their daily pollen exposure with an innovative personal pollen monitoring system. This research will contribute to improved population health and health promotion practice by improving the decision-making abilities of Australian citizens in managing their conditions effectively, which in turn, will also ease the demand on hospital services and address Victorian government's priority goal of "safe and well" community.

Relevant Literature

- Hew, M., Sutherland, M., Thien, F. and O'hehir, R., 2017. The Melbourne thunderstorm asthma event: can we avert another strike? *Internal medicine journal*, 47(5), pp.485-487.
- Khot, R.A., Aggarwal, D., Pennings, R., Hjorth, L. and Mueller, F.F., 2017, May. Edipulse: investigating a playful approach to self-monitoring through 3D printed chocolate treats. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, pp. 6593-6607. ACM.
- Silver, J.D., Sutherland, M.F., Johnston, F.H., Lampugnani, E.R., McCarthy, M.A., Jacobs, S.J., Pezza, A.B. and Newbigin, E.J., 2018. Seasonal asthma in Melbourne, Australia, and some observations on the occurrence of thunderstorm asthma and its predictability. *PLoS one*, 13(4), p.e0194929.
- Vedanthan, R., Bansilal, S., Soto, A.V., Kovacic, J.C., Latina, J., Jaslow, R., Santana, M., Gorga, E., Kasarskis, A., Hajjar, R. and Schadt, E.E., 2016. Family-based approaches to cardiovascular health promotion. *Journal of the American College of Cardiology*, 67(14), pp.1725-1737.

Supervisory Team

Primary Supervisor	Dr Rohit Ashok Khot
Associate Supervisor/s	Dr Florian 'Floyd' Mueller

FoR Code

120304

Project Title

Supporting mindful eating in everyday practice through play

Project Description

This project aims to develop and test augmented eating interfaces that address the apparent contradiction between the concept of mindful eating (no distractions) and the realities of everyday dining and prevalence of screen culture (eating with screens). This project expects to generate new knowledge in the field of Human-Food Interaction by presenting the first socio-technological studies of the lived experiences of the proposed interfaces in Australian households. By proposing an innovative approach of augmented eating, this project will contribute new knowledge on the potential of interactive technology to support mindful eating in everyday eating practices to address the pressing global concern of overeating and unhealthy eating behaviours. The technical merits and expected outcomes of the project include: (1) development and evaluation of unobtrusive sensing technology for monitoring eating behaviour; (2) insights into how people eat while consuming screen-based media; (3) a design framework to guide further development of interactive technologies that encourage mindful eating without compromising the pleasures of screen-based media; and (4) a greater understanding of how to support mindful eating in everyday practice.

Relevant Literature

- Keesman, M., Aarts, H., Häfner, M., & Papies, E.K. 2017. Mindfulness Reduces Reactivity to Food Cues: Underlying Mechanisms and Applications in Daily Life. *Current addiction reports* 4, 2: 151–157.
- Khot, R.A., Aggarwal, D., Pennings, R., Hjorth, L. & Mueller, F. 2017. EdiPulse: Investigating a Playful Approach to Self-monitoring Through 3D Printed Chocolate Treats. In *Proc. (CHI '17)*, ACM, 6593–6607.
- Khot, R.A, Lupton, D., Dolejšová, M. & Mueller, F. 2017. Future of Food in the Digital Realm. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA'17)*. ACM, New York, NY, USA, 1342-1345. DOI: <https://doi.org/10.1145/3027063.3049283>
- Spence, C. 2017. *Gastrophysics: The New Science of Eating*. Viking.

Supervisory Team

Primary Supervisor	Dr Rohit Ashok Khot
Associate Supervisor/s	Dr Florian 'Floyd' Mueller

FoR Code

120304

Project Title***Designing video games for mental health***

Project Description

Designing Video Games for Mental Health is a generative practice based project proposal that will explore how video games can be designed to foster player empathy for mental health illness such as depression and anxiety. According to the World Health Organisation, more than 450 million people suffer from mental illness, with more than half remaining undiagnosed and untreated due to stigma and discrimination. This project will focus on the development of serious games that aim to raise awareness of mental health and de-stigmatize mental illness. Serious games are a type of video game developed for purposes other than entertainment, such as for education, skills development or training for high-risk situations in a safe environment. They are particularly suited to supporting educational programs that foster empathy as a key method and goal.

This project will include an investigation into the characteristics of existing video games that are designed to improve wellbeing, and apply those concepts in the design of a video game that may benefit people suffering from mental illness. The proposed project will draw upon theoretical approaches from game design thinking, agile methods of prototyping, co-creation through community participation (interviews and field studies), and consider mental health treatments, such as Cognitive Behavioral Therapy to develop frameworks for game design. The candidate will experiment with a range of interactive media and software tools as a means to develop engaging game experiences that promote mental health, well-being and resilience. The outcomes may be implemented as additional educational and therapeutic interventions within allied-health disciplines.

Relevant Literature

- Kharrazi, H., Lu, A. S., Gharghabi, F. & Coleman, W. (2012). A scoping review of health game research: past, present, and future. *Games Health J*, 1(2).
- Belman, J. & Flanagan, M. (2010). Designing games to foster empathy. *International Journal of Cognitive Technology*.
- Turner, W., Thomas, B. & Casey, L. (2016). Developing Games for Mental Health: A Primer. *Professional Psychology: Research and Practice*. 47.
- Fleming, T., Bavin, L., Stasiak, K., Hermansson-Webb, E., Merry, S., Cheek, C., Lucassen, M., Lau, H., Pollmuller, B. & Hetrick, S. (2017). Serious Games and Gamification for Mental Health: Current Status and Promising Directions. *Front. Psychiatry*, 7:215

Supervisory Team

Primary Supervisor	Dr Jonathan Duckworth
Associate Supervisor/s	Dr Renata Kokanović

FoR Code

120304

Project Title

Sonic Fields: rethinking listening environments for spatial sound composition and diffusion

Project Description

Developments in spatial sound technology from the mid-to-late 20th Century enabled the creation, delivery and research of complex acoustic environments. Never before in history could sounds be composed into space in complex spatial arrangements. Whereas music and concert halls were once the privileged location of advanced human auditory experience, digital technology has greatly expanded the potential for new types of auditory experiences beyond traditional sites. Human aural experience is continuous, which means the milieu where sound design might be practiced via digital technology is extensive.

In the spaces of lived daily life we are continually surrounded by sounds. Marshall McLuhan acknowledged this immersive character of the soundscape, saying, "Auditory space has no point of favoured focus. It's a sphere without fixed boundaries, space made by the thing itself, not space containing the thing...always in flux, creating its own dimensions moment to moment" (Carpenter & McLuhan, 1970). In most traditional listening settings, such as concerts or media in the home, we are presented not with a surrounding of sounds, but with something more visually influenced. Something in front and static. We usually only experience music through loudspeakers placed before us or musicians on a stage. Alternative approaches exist, usually for cinema or visual media, but require significant expertise to meet the demands of live performance.

Using SIAL Sound Studios' speaker orchestra, the PhD candidate will research and design a range of listener-technology relationships for non-visual listening. The candidate will have access to the RMIT Sonic Arts Collection, opportunities to design new audience settings for concerts, installations and other events produced by the Studio, and collaboration with students in the Master of Design Innovation and Technology.

Relevant Literature

- McLeod, R. 2011, *Between field and form*, Doctor of Philosophy (PhD), Architecture and Design, RMIT University.
- Harvey, L. 2008, *The auditory centre : research and design of acoustic environments and spatial sound projects*, Doctor of Philosophy (PhD), Architecture and Design, RMIT University.
- Leitner, B. 1998 *Sound:Space*, published by Cantz Verlag, Germany.
- See other speaker orchestra systems via online searching: BEAST (Uni of Birmingham) Acousmonium (GRM, Paris), MOTUS (Paris), HYDRA (Harvard).

Supervisory Team

Primary Supervisor	Dr Lawrence Harvey
Associate Supervisor/s	Dr Ross McLeod Mr Jeffrey Hannam

FoR Code

120304

Project Title***Design and Sexual Health Innovation***

Project Description

Sexual health is increasingly seen as a right, part of healthy ageing and life-long wellbeing. Sexual health and practice is a life-long journey with many stages and many ways that people become affected by changes to life circumstances and physical health. Solutions to major sexual health issues have been affected by the same socio-sexual taboos as the sex toy industry. Historically there has been a lack of research and innovation around these issues and a lack of solutions to common problems. This sub-field of Industrial Design looks at Sexual Health and Wellbeing issues as an adjunct to the research and design capabilities Industrial Design offers in the health, disability and ageing sector. Research questions maybe approached through design thinking and intervention, playful interactions, citizen engagement, service design and product design.

DaSHI supervisors are interested in projects involving Sex and (Dis)ability, Sex and Ageing, Vaginismus, Prostrate Cancer (and sexual rehabilitation from cancer in general), Pelvic Pain, Pre and Post natal, Erectile Dysfunction and innovative new forms of sexual arousal. DaSHI supervisors advocate for rigorous analysis and research into these problems and the application of the full scope of creative and technical design research methods. Approaches could range from Service Design and Social Innovation through to Product Design, Technical or Material Innovation. DaSHI supervisors advocate for designers and researchers to collaborate with medical, health professionals and clinicians in cross disciplinary projects targeting issues affecting men's and women's sexual health.

Relevant Literature

- Glover, J. (2013). Taboo to mainstream: an industrial design solution to sex toy production. PHD Thesis.
- Hinchliff, S, et al. (2018). "Older adults' experiences of sexual difficulties: Qualitative findings from the English Longitudinal Study on Ageing (ELSA)." *The Journal of Sex Research* 55.2: 152-163.
- Fileborn, B, et al. (2018). "Safer sex in later life: Qualitative interviews with older Australians on their understandings and practices of safer sex." *The Journal of Sex Research* 55.2: 164-177.
- Design and Sexual Health Innovation Website (2018). Lists current and past research projects and HDR students, <http://dashi.rmitidsites.net.au/>

Supervisory Team

Primary Supervisor	Dr Judith Glover
Associate Supervisor/s	Dr Areli Avendano

FoR Code

120302, 120305, 120399

Project Title

Collaborative design of multisensory stimulation experiences for dementia treatment

Project Description

This project is part of an ongoing partnership between RMIT University and Bendigo Health aimed at improving quality of life of people living with dementia through design interventions based on multisensory stimulation principles. The project responds to increasing numbers of people affected by dementia and the need for innovative and personalised forms of treatment, based on rehabilitation and occupational therapy (rather than cognition-enhancing medications) and involving relatives and carers. Multisensory stimulation is an effective non-pharmacological treatment based on the stimulation of the senses through ludic activities and the use of sensory tools.

HDR places (Masters and PhD) within this project are expected to be informed by theoretical frameworks from fields of design for health and mental healthcare, and to be developed through design interventions based on methodological frameworks from Participatory Design, Design Anthropology and other collaborative and future-oriented approaches to the design process. HDR projects will combine these theoretical and methodological frameworks to design, prototype and implement product-service systems that will assist the delivery of multisensory stimulation therapies in Bendigo Health Psychiatric Services. The projects are expected to challenge traditional preconceptions of dementia treatment and reimagine a personalised and participatory form of mental health care through design interventions in one of these areas: virtual experiences, interactive objects, and sensory games, building on the notion of 'the playful' and play therapy for adults.

Candidates will be hosted at Bendigo Health, where they are expected to run their projects as living-labs and to embed their design research practice in the everyday routines of Psychiatric Services. Ethics applications and approval process will be assisted by the supervisory team.

Relevant Literature

- Vaughan, L. (Ed.), 2017, *Practice Based Design Research*, Bloomsbury, United Kingdom.
- Simonsen, J. and T. Robertson (2013). *Routledge international handbook of participatory design*. New York, Routledge.
- Hendriks, N., et al. (2015). "Codesign with people living with cognitive or sensory impairments: a case for method stories and uniqueness." *CoDesign*: 70-82.
- Jakob, A. and L. Collier. "Sensory enrichment for people living with dementia: increasing the benefits of multisensory environments in dementia care through design." *Design for Health* 1(1): 115-133.

Supervisory Team

Primary Supervisor	Dr Juan Sanin
Associate Supervisor/s	Dr Scott Mitchell Dr Liam Fennessy Lisa Spong and Francis McCormick (Bendigo Health)

For Code

120305, 120303

Project Title

The signature pedagogy of Design: Intersections with student experience and learner-centred design education

Project Description

Within higher education, especially large universities like RMIT, a significant and persistent gap exists in how learning and teaching is expected by leadership to occur and how it is practiced by academic staff. Administrative areas of a university expect that pedagogical practices in the classroom are progressive, i.e. learner-centred, and informed by contemporary research in L&T. Learning and teaching staff are charged with supporting teachers to adopt new ways of teaching that accord with contemporary literature in pedagogy. Answering this call for reform, to address the gap, requires agility, and thus research in how teaching is imagined in a discipline, and how teaching is enacted in the classroom by individual teachers.

Academic staff within Industrial Design have been proactive in undertaking initiatives half focussed upon a specific form of Pedagogy – Learner Centred Education or Pedagogy. This work, this team of people, has received grants and awards validating the progressive nature of how the teaching staff is contributing to Design Pedagogy discourse.

Design education is deeply teacher centred, and authoritarian (Davis) in the way assessment is conducted. The social nature of the studio model hides the deep-rooted project of enculturation (Davis again), while appearing to privilege the learner. Learners in design education rarely define the structure and theme of the studio, and criteria of assessment, much less conduct the assessment. Yet outside of (industrial) design progressive values are actively allowed play and have led to the development of unique student enacted practices.

Aspirations for change – focussed upon method, i.e. pedagogy – exist within senior leadership and teaching staff. The actions (visions translated into new ways and new built environments) of senior leadership in the university constitute a very particular discourse – of reimagining the university as a future proofed, or future-anticipatory, progressive and resilient enterprise. This constitutes one significant research program (1). While another research program (2) is the fact of reimagining of the agency of the student, a recurring theme in contemporary L&T literature, and echoed within the discourses of alternative forms of university.

Relevant Literature

- Tovey, M. 2015. *Design Pedagogy: developments in art and design education*. Routledge.
- Davis, M. 2017. *Teaching Design: A guide to curriculum and pedagogy for college design faculty and teachers who use design in their classrooms*. Allworth Press.
- Powers, M.N. 2017. *Self-regulated design learning: a foundation and framework for teaching and learning design*. Routledge.
- Orr, S. & Shreeve, A. 2018. *Art and Design Pedagogy in Higher Education: Knowledge, Values and Ambiguity in the Creative Curriculum*. Routledge.

Supervisory Team

Primary Supervisor	Dr Soumitri Varadarajan
Associate Supervisor/s	Dr Larissa Hjorth
	Dr Liam Fennessy
	Dr Helen McLean (GUSS), Dr Sandra Jones (Business)

FoR Code

120399, 130201, 130313

Project Title

Design and the Third Sector: Embedded codesign for practice, for product (patents) and product service system (IP) creation

Project Description

Outside of the producer consumer economy exist the ecology of communities of experts working with communities in need. Characterised by the absence of interest from the private sector (Industry) and the potential for profit, the poor, wasted (Bauman) and the remote become the focus of agencies capable of partnering with and activating communities towards social change. Referred to as the Third Sector, these agencies work with communities of the unserved. The researchers are currently partnering with agencies, in Australia and overseas, that seek new technical and social formulations to enhance resilience within local and micro communities.

One Third sector partnership focuses upon new patent orientated, Solar Energy based technologies for water purification, lighting and processing equipment (for income generation enterprises). A key focus of this third sector organisation is upon remote, poor, and non-literate women. The second, partnership focus is upon the development of a social formulation that supports forensic patients adjusting to community living. The challenge in this area of work is the changing social climate, and an intolerance of deviance, which has seen a progressive withdrawal of funding. The third partnership focus is upon a social formulation that supports people at the end of treatment, to transition from treatment to self-care.

Relevant Literature

- Pilloton, E. & Chochinov, A. *Design Revolution: 100 Products That Empower People*.
- Scgwartz, B. & Drayton, B. *Rippling: How Social Entrepreneurs Spread Innovation Throughout the World*.
- Tomczak, P. *The Penal Voluntary Sector*. Routledge Frontiers of Criminal Justice).

Supervisory Team

Primary Supervisor	Dr Soumitri Varadarajan
Associate Supervisor/s	Dr Keely Macarow (GUSS) Dr Renata Kokanovic (GUSS) Dr Liam Fennessy

FoR Code

120305, 111708, 120499

Project Title

Grounding Sound: generative practice research in the representation and transformation of sound

Project Description

This HDR project will investigate the intersection of Sound and Astronomy, and the design of sound-based morphological processes for describing complex systems. This project is highly suited for candidates looking to establish mastery and expand their creative practice by engaging with sound as a multidimensional material – shaping how we perceive our physical environment, but also, how sound is intertwined with many other systems relating to human activity; social, behavioral and cultural. Today, the turn to Sound is becoming more evident in the expanding fields of Science and Social sciences and this is due to the potential for sound to be mapped to more than one parameter, or meaning, revealing temporal and movement-based qualities where more traditional, visual techniques are limited.

Grounding Sound explores the role of sound design technologies for facilitating the turn towards sound, in particular, as an emerging field of study within Astronomy, but also for questioning the very nature of representation for developing new perspectives, techniques and innovative approaches for designing sound morphologies. In this research the candidate will undertake generative creative practice research, contributing to our understanding of sound representation and the techniques that lead to its transformation using spatial sound production and reproduction techniques.

Applicants from a wide range of design and related disciplines may apply, and, even though this particular project is situated within Astronomy, other systems of representation may be used.

Relevant Literature

- Dubus, G. & Bresin, R. (2013). A systematic review of mapping strategies for the sonification of physical quantities. *PloS one*, 8(12), e82491.
- Edwards, A., Hunt, A., Hines, G., Jackson, V., Podvoiskis, A., Roseblade, R. & Stammers, J. (2010). *Sonification strategies for examination of biological cells*. Georgia Institute of Technology.
- Hannam, J. & Harvey, L. (2018). *Walk with me* (forthcoming).
- Strauss, A. & Corbin, J. M. (1997). *Grounded theory in practice*. Sage.

Supervisory Team

Primary Supervisor	Dr Jeffrey Hannam
Associate Supervisor/s	Dr Lawrence Harvey

FoR Code

120304

Project Title**Design for Social Impact / Social Innovation****Project Description**

Social impact relates to the capacity to create positive social change on communities and individuals. Designers and engineers have a responsibility to “envision and give form on material and immaterial products that can address human problems on broad scale and contribute to social well-being” (Margolin 2002). In recent years designers have been moving beyond engaging with consumer culture, instead exploring new forms of practice, for example social innovation. “The sustainable development agendas are providing an opportunity to ask fundamental questions of design itself” (Chick 2012).

In response to these informed narratives, it is evident designers and engineers must realise the potential of design as an agent of change to make a broader contribution to society, rather than to enhance marketability by influencing consumer behaviour. Product design should be seen as a value adding activity extending far beyond aesthetics, usability and manufacturability, towards a model where social impacts and design intervention are key agendas. “Designers can play a significant role as ‘shapers’ of society” (Tromp et al 2011) through design interventions that encourage behaviour change, and social impact.

Fuad-Luke (2009) identified ‘design activism’, an emerging practice where designers are using “the power of design for the greater good.” He defined a practice of ‘design thinking, imagination and practice applied knowingly or unknowingly to create a counter-narrative aimed at generating and balancing positive social, institutional, environmental and/or economic change’ (Fuad-Luke 2009). In this, he is both advocating a reform of design practice, and the pursuit of social change through the practice of design. Design for Social Impact necessitates new definitions of practice, placing the designer at the centre of a new paradigm where design is an enabler of societal change.

Relevant Literature

- Brown, B.T. & Wyatt, J. 2010. ‘Design thinking for social innovation’. Stanford Social Innovation Review, Winter: 30–5.
- Chick, A. 2012. ‘Design for social innovation: emerging principles and approaches’. Iridescent: Icoграда pp.52-64. ISSN 1923-5003.
- Kimbell, L., & Julier, J. 2012. *The social design methods menu*. Fieldstudio.
- Tromp, N., Hekkert, P., Verbeek, P-P. 2011. ‘Design for Socially Responsible Behaviour: A Classification of Influence Based on Intended User Experience’. Design Issues, 27(3) pp.3-19.

SupervisorsPrimary Supervisors

Dr Areli Avendano Franco
Prof Ian de Vere
Dr Judith Glover
Dr Ross McLeod
Dr Scott Mitchell
Prof Michael Trudgeon
A/Prof Yoko Akama

Associate Supervisors

Dr Juliette Anich
Dr Juan Diego Santamari
Dr Frank Feltham

For Codes

120302, 120305

School of Design PhD Places

HDR Place Title

Reflective Industry Practice in Design

Project Description

A Reflective Industry Practice mode of research involves practitioners operating in a professional or commercial context, with an esteemed and substantive body of work developed over 10+ years and/or design leadership activities critical to the realisation of innovations in the expanded field of Design. Making claim of a mastery of practice in their field, candidates in this mode reflect upon the nature of that mastery within a critical framework, review the nature of their mastery, define its enabling structures, its knowledge bases, and the implications of the nexus between these for emerging forms of research-led practice. Undertaken through combinations of reflective action research, design research and critical modes of representation, candidates arrive at a contribution of praxis to their field and identify future paths for their practice. They demonstrate their finding publicly, through an exhibit, a presentation to the examiners, and a written dissertation.

Two kinds of knowledge are created by the research. One concerns the ways in which designers marshal their intelligence, to construct the mental space within which they practice design. The other reveals how public behaviours are invented and used to support design practice. This mode of research extends and develops the knowledge base of their profession, and thus its ability to serve society.

Research proposals are encouraged to explicitly address the research priorities of [RMIT's Enabling Capability Platforms](#).

Relevant Literature

- Vaughan, L. (Ed.), 2017, *Practice Based Design Research*, Bloomsbury, United Kingdom.
- Van Schaik, L. 2011, *Architecture and Design by Practice, by Invitation Design Practice Research at RMIT*, Six Point Six One, Australia.
- Koskinen, I., Zimmerman, J., Binder, T., Redstrom, J., & Wensveen, S., 2011, *Design research through practice: From the lab, field, and showroom*, Elsevier, Waltham USA.

Supervisors

Communication Design

A/Prof Yoko Akama
Dr Neal Haslem
A/Prof Bradley Haylock
Dr Toni Roberts
Prof Laurene Vaughan
Dr Noel Waite

Digital Design

Dr Adam Nash
Dr Ben Byrne
Dr Darrin Verhagen
Dr Douglas Wilson
Prof Jules Moloney
Dr Li Ping Thong

Industrial Design

Dr Areli Avendano Franco
Prof Ian de Vere
A/Prof Mick Douglas
Dr Liam Fennessy
Dr Judith Glover
A/Prof Lawrence Harvey
Dr Scott Mayson
Dr Ross McLeod
Dr Scott Mitchell
Prof Michael Trudgeon
A/Prof Soumitri Varadarajan
A/Prof Karli Verghese
Dr Malte Wagenfeld
Dr Juliette Anich
Dr Joshua Batty
Dr Juan Diego Santamari
Dr Frank Feltham
Dr Simon Lockrey

FoR Codes

120303, 120304, 120305,
120307

HDR Place Title

Generative Practice Research in Design

Project Description

A Generative Practice mode of creative research blurs the lines between creative professional practice and academic research approaches, and often crosses boundaries between disciplines. This practice research approach enables the practitioner-researcher to generate new knowledge to augment or transform codified disciplinary practice, or indeed to generate new kinds of practice in response to challenges and concerns emerging in a changing world.

Undertaken through, and for, design practice, candidates might be early career, seeking to enter a period of deep enquiry that transforms a set of practice-based interests into a more developed practice with a well-articulated emphasis, set of agendas and approaches. They might equally be mid- or later-career practitioners seeking to generate a new practice trajectory through a transformation of their established mastery. They demonstrate their findings publicly in ways most appropriate to the particularities of their practice research. This is often through the multiple means of an exhibit, a written dissertation, and a presentation to examiners, but may also be conveyed through only a thesis.

This mode of research seeks to make cogent emergent fields of design knowledge that respond to societal, technological and methodological challenges; and offers new knowledge in the form of previously unarticulated approaches to practice. Charged to both reveal and tackle socio-technical and environmental concerns, this mode positions design practice as a particular form of critical and creative citizenry key to the production of new and useful knowledge. Candidates are invited to contribute to the broad and expanding fields of Communication, Digital and Industrial Design, to our research clusters/laboratories, or to emerging communities of design and creative practice.

Research proposals are encouraged to explicitly address the research priorities of [RMIT's Enabling Capability Platforms](#).

Relevant Literature

- Vaughan, L. (Ed.), 2017, *Practice Based Design Research*, Bloomsbury, United Kingdom.
- Koskinen, I., Zimmerman, J., Binder, T., Redstrom, J., & Wensveen, S., 2011, *Design research through practice: From the lab, field, and showroom*, Elsevier, Waltham USA.
- Nelson, R., 2014, *Practice as Research in the Arts: Principles, Protocols, Pedagogies, Resistances*, Palgrave, Basingstoke and New York.

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 Dr Frank Feltham
 Dr Simon Lockrey

FoR Codes

120303, 120304, 120305,
 120307

HDR Place Title**Research in Design (Thesis mode)**

Project Description

This generic project provides an opportunity for those wishing to undertake research in thesis mode. Thesis Research is based upon the critical analysis of a question, issue or problem within or across a field of design knowledge and seeks to make new and original contributions to ways in which design may be understood. This may include a degree of creative practice, but is distinguished from reflective and generative practice modes by the expectation that the substantial contribution to knowledge will reside in the text, independent of the creative work.

Candidates wishing to undertake research by thesis are invited to contribute to the broad and expanding fields of Communication, Digital and Industrial Design, to our research clusters/laboratories, or to emerging communities of design and creative practice.

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