

DR TUCK WAH LEONG

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EDUCATION

PHD INTERACTION DESIGN | 2005 – 2009

The University of Melbourne, Australia

Thesis: Understanding of experience of serendipity when interacting with personal digital content

MASTER of MULTIMEDIA | 2000 – 2002

Swinburne University of Technology, Australia

GRADUATE DIPLOMA of EDUCATION | 1999

The University of Melbourne, Australia

BACHELOR of SCIENCE (HONS) | 1983 – 1989

Monash University, Australia

PROFESSIONAL STUDIES

LICENTIATE DIPLOMA OF MUSIC (pianoforte) | 1983 – 1984

EXPERIENCE

SENIOR LECTURER | OCT 2012 – PRESENT

Faculty of Engineering and IT, University of Technology Sydney (UTS), Australia

- Director of the Interaction Design and Human Practice lab (IDHuP) at UTS
- Programme Coordinator for Interaction Design, Games, and Multimedia
- Core role is to strengthen the areas of Interaction Design and Human-Computer Interaction (HCI) at UTS in terms of research quality and output as well as teaching in these areas.

Teaching & Curriculum Development

I teach technology-design related subjects. I am the coordinator and lecturer-in-charge of all the design subjects at the School of Software of FEIT. They include Interface Design, Interaction Design, and Human-Computer Interaction. I have supervised many student projects and currently supervise two Honours, three Master and three PhD students.

- Consistently received high student feedback scores. My efforts have often been cited by the Head of School as being exemplary.
- Highly engaging and inspiring teaching style. Many students have personally written to the Dean and the Head of School to commend my teaching and strong grasp of domain knowledge. This has inspired many students to want to pursue design related studies.
- Many postgraduate students working in the IT industry have found my teaching to be very useful in their work, shaping how they approach and think about designing commercial IT systems
- Successfully led a team to propose, design and implement a new Interaction Design major for undergraduate IT students at UTS for 2016. This innovative major is designed to strategically build graduate skills that align with current industry demands for positions such as UX consultant, UX designer, usability consultant, etc.

Research

Since arriving at UTS in 2012, I have worked very closely with Professor Toni Robertson to develop joint research, especially in the domain of ageing. Besides Professor Robertson, I have on-going research and publication collaborations with two international colleagues:

- Professor Ann Light (Sussex University, UK) to deepen understandings of designing technologies to support people to achieve their aspirations to live, learn, care, share, contribute and connect.
- Professor Ole Iversen (Aarhus University, Denmark) to develop a theoretical framework for Values-led Design and Participatory Design practices.
- Dr David Kirk and Dr Abigail Durrant (Newcastle University, UK) to continue research on sociality through mobile music listening and technologies to support long distance relationships.
- Dr Santi Phithakkitnukoon (Chiangmai University, Thailand) and Dr. Teerayut Horanont (Thammasat University, Thailand) to investigate sociality through the use of human behavioural data mining.

My current research programme can be broadly grouped into **three trajectories**:

1. *Research to intervenes in or to solve real-world problems through design.* Using iterative design process, such as User-Centred Design or Participatory Design, this approach is informed by extensive user research that produces deep understandings of the problem space. Examples include:
 - Designing IoT (networked) technologies to enhance Active Ageing in Australia and also in Saudi Arabia
 - Designing technologies to encourage/support children's play in urban natural environments (with Bronwyn Cumbo, PhD student)
 - Exploring ways to design digital technologies to support identity work amongst Australian Indigenous people (with Associate Professor Christopher Lawrence, UTS)
 - Understanding the role of digital music in shaping people's social relationships and designing technologies to better support or enhance social relationships (with colleagues in the UK)
2. *Research through Design.* Designed artefacts (acting as 'probes') are given to people to use in order to deepen our understandings of specific phenomenon, in this case, *sociality*. Designs generated for this research include:
 - A mobile music listening app that allows listeners to anonymously 'peep' into other people's listening history, anonymously share one's favourite tracks, and to allow users to get a sense of the 'recent history' of music listened to in particular physical locations (with colleagues in the UK)
 - A pair of pendants (that acts as a music player) and jewellery box that allow couples to personalise and gift to each other (Master student project)
 - A mobile app that presents visualisations of people's communication patterns on their phones, to understand aspects of social reciprocity (Master student project)
3. *Design research.* Research to advance design knowledge, such as design approaches, processes, design tools or to develop design frameworks. Recent (and ongoing) research include:
 - Co-designing probes with participants to support remembering (with Dr Joe Tsai at UTS)
 - Developing a theoretical framework for Values-led Design and Participation in design activities (with collaborator in Denmark)
 - Advancing mix-methods for studying gaming experiences (with colleague at UTS)
 - Developing approaches to support mutual learning during the co-design of emergent technologies (with Professor Toni Robertson)

Engagement with broader research community

- Editorial Board of the academic journal, Digital Creativity, published by Routledge since 2012
- Senior and Associate Chair with national and international conferences such as OZCHI, CHI, DIS, NordiCHI, PDC and British HCI
- Committee member of CHISIG - the Australian HCI organisation since 2012
- Chaired OZCHI 2014 conference, at UTS, giving it a strong design focus with the theme of Designing Futures: The Future of Design
- Chaired OZCHI Doctoral Consortium from 2011 -13, to mentor the next generation of researchers
- Program Committee member for the Designing Interactive Design Conference, 2012 -2016

Engagement at UTS

I am known at UTS for my expertise in Human-Centred technology design. I am also one of Australia's top experts in Participatory Design and User Experience. This has led to many opportunities for engaging and contributing to the University:

- invitations to speak to different research groups at UTS about human-centred design
- conducting Design Thinking workshops at the UTS Hatchery
- panel member of the public UTS public forum on the Human Face of Big Data
- User Experience strategy advisor for the IT Division (ITD) at UTS
- developing and conducting human-centred design training sessions for ITD staff in order to help improve the quality (usability and usefulness) of UTS-designed digital systems
- leading a team of six ITD staff member on a longitudinal study to better understand first year students' experiences of digital systems at UTS. The findings will inform the redesign of current systems and the design of future systems

Engagement beyond UTS

My research work with ageing people in Sydney has led to various engagement with communities beyond UTS:

- Presenting at the 2014 Australian Seniors Computer Clubs Association (ASCCA) Conference
- Co-design workshops to explore Internet of Things technologies with older adults at Narrabeen's Computer Pals for Seniors Northern Beaches

Research income

- Member of the team that was awarded \$150k grant for 'Big Data, Big Impact – stage 2'
- Successful recipient of two \$5k competitive research grants from UTS to support my research
- I currently receive approximately \$40k annually for my ongoing consulting activities with the ITD at UTS.

Awards

- Member of the team that won the **2006 Premier's Awards for Outstanding Cancer Research**
- **UTS Teaching Citation award 2016** for *facilitating authentic learning experiences for Interaction Design students with an emphasis on developing well-rounded IT professionals who can design useful, usable and thoughtful technologies.*

SENIOR DESIGN RESEARCHER | OCT 2010 – SEP 2012

Culture Lab, School of Computing Science, Newcastle University, UK

Core Role: Research

I was seconded to the position to lead and conduct research that contributes to the remit of the SiDE (Social inclusion in the Digital Economy) hub (www.side.ac.uk). Professors Peter Wright and Patrick Olivier, my immediate supervisors, gave me significant freedom to formulate my research programme.

I tackled 'social inclusion' by conducting research that sought to understand how we could encourage, foster, and support social connections between people or greater participation through the digital economy through design. I led various teams in research and design activities. Through working with a highly diverse group of people that included hardware engineers, software engineers, artists, industrial designers, graphic designers, computer scientists, and so on, I was able to seek out and produce interesting research outputs, and artefacts. The research material generated from my time here continues to be used in current publications.

The projects I led were:

- Understanding how music shapes social relationships in households;
- Designing mobile technologies for music consumption in order to support new expressions of sociality in the urban space, and
- Understanding how technologies can be better designed to support audience experiences and engagement during live performances
- Designing technologies to support long-distance relationships
- Understanding the nature of participation in technology design

As a Design Researcher, my time at the Culture Lab helped deepen my engagement with Design Thinking. I was able to apply Design Thinking to rethink the notion of Social Inclusion, and formulated a number of opportunities to design technologies to support sociality.

Teaching and Mentoring

Although I was employed as a researcher, I was keen to increase my teaching experiences. This included

- Regular guest lecturer at the University of York
 - A series of lectures on Designing User Experience in the Master's level subject of Advanced Topics in Interactive Technologies
- Mentoring three PhD students within the Culture Lab. Two students are from the School of Computing Science and one from the Fine Arts department. My responsibilities included discussions of research methods, advising on the developing of research tools, acting as an external coder during data analysis, and advising on ways to evaluate design

POSTDOCTORAL RESEARCHER | MAY 2009 – SEP 2010

Centre for Digital Urban Living (DUL), The Department of Information and Media Studies, Aarhus University, Denmark

Core Role

My primary responsibility was to contribute to research on Designing Urban Technologies within the interdisciplinary DUL group that consisted of computer scientists, designers as well as media & aesthetics theorists. The projects included:

- Exploring people's views about climate change through the use of 'public confessions'
- Designing a mobile phone app to support lay people to reflect about climate change
- Generating design prototypes that could support more meaningful and engaging ways to interact with news

Teaching

I coordinated, planned, developed the materials and taught three subjects offered within the Human-Computer Interaction and Interaction Design stream. I was involved in all aspects of the courses –developing its structural and pedagogical aims and objectives, assessment items, and course materials; lecturing, running design labs, mentoring design workshops, organising field trips, and supervising/training teaching assistants. The subjects were:

- Urban Interactions (Masters level)
- Digital Experience Design (Masters level)
- Design Methods and Processes (Undergraduate level)

INTERN | JAN - APR 2008

Microsoft Research Cambridge, UK

I was supervised by Professor Richard Harper to conduct a design-led research project to study serendipitous experiences. I designed all the desired interactions of a novel digital photo presentation system with a dice-led input device. This was deployed in three households in the UK to study people's experiences of serendipity when interacting with personal digital photos.

COORDINATOR, LECTURER, MENTOR | 2004 – 2007

Department of Information Systems, the University of Melbourne, Australia

Teaching

Industrial Project - a final year capstone undergraduate subject where students work in groups on a real-life project with an external client and supervised by an academic who acted as a mentor. I developed and regularly revised all the teaching and learning materials for project management. I also developed resources to support teams to work successfully on technology development projects. My biggest achievement was developing a website that helped with advertising, securing and liaising with new industry contacts and a point of contact for existing industry partners.

Coordinating

I coordinated up to 50 student groups (5 per group) in Industrial Project, the capstone subject for undergraduate Information System students. My responsibilities included:

- Advertising, meeting, discussing, negotiating, managing and liaising with up to 60 industry partners to offer real-world projects for the student groups
- Preparing and delivering lecture and project management materials to students
- Leading teaching teams of up to 10 academics who supervised each student group as a 'mentor'

- Leading, coordinating and managing assessment moderation meetings with the mentors
- Mentoring new ‘mentors’ and holding regular meetings to ensure that students received consistent and high quality mentoring

Engagement:

- Contacted and met with many industry members to engage them as partners in the department’s Industrial Project subject
- Travelled with the University to Singapore to promote courses and to talk about Interaction Design to potential students
- I have participated in various meetings at different levels across the university and have been involved in committees at the departmental level, such as the Curriculum Review Committee, and Ethics Committee

ASSOCIATE LECTURER | 2002 – 2004

Department of Information Systems, the University of Melbourne, Australia

Core Role

Under the supervision the subject coordinator, I was the primary teaching interface for students with the subject. I was involved in teaching two subjects, where I delivered some lectures, worked as a tutor and laboratory demonstrator. The subjects were:

- Multimedia & Communications (2nd year undergraduate)
- Introduction to Information Systems (1st year undergraduate)

In 2003, I was also responsible for designing all the tutorials for the Multimedia & Communication subject.

SENIOR HIGH SCHOOL TEACHER & HEAD OF DISCIPLINE | 1994 – 2001

Marian College, West Sunshine, Victoria, Australia

Over the 8 years as a high school teacher, I was appointed the Head of Department in various disciplines. This is due to my rather diverse education (and linguistic) background. I was the Head of Department for Science, Performing Arts and LOTE (Languages other than English).

Subjects taught were: Biology, Mathematics, Music and the Indonesian language.

Grant

In 1998 and 2000, I successfully won two grants, totalling \$32k from the Catholic Education Office, Melbourne. I led a team of 3 Indonesian teachers to put together two grants to fund research to improve the quality and impact of teaching Indonesian. The grants were to conduct Action Research at Marian College with a view to improve approaches and effectiveness of teaching Indonesian in the classroom as well as developing enrichment activities for teaching.

AWARDS

- Member of the team that won the **2006 Premier’s Awards for Outstanding Cancer Research**
- **UTS Teaching Citation award 2016** for *facilitating authentic learning experiences for Interaction Design students with an emphasis on developing well-rounded IT professionals who can design useful, usable and thoughtful technologies.*
- Microsoft Research Cambridge internship award, UK (Jan – March 2008). Selected as an intern with the Socio-Digital Systems Group
- Doctoral Consortium Travel Scholarship (June 2006) to present at the Designing Interactive Systems (DIS) conference at Pennsylvania State University. I was one of the ten graduate students chosen out of a pool of 53 international applicants
- Award for Excellence in Teaching (2005) from the University of Melbourne. Selected from amongst all teaching staff in the department in recognition of my contribution to teaching in the department

PUBLICATIONS (peer reviewed)

Journal

1. Light, A., Pedell, S., Robertson, T., Waycott, J., Bell, J., Durick, J., & **Leong, T.W.** (2016), What's special about aging, *Interactions* 23, (2), 66-69
2. Horanont, T, Phithakkitnukoon, S, **Leong, T.W.**, & Shibasaki, R (2013). Weather Effects on the Patterns of People's Everyday Activities: A study using GPS traces of mobile phone users. *PLoS ONE*. 8(12)
3. Phithakkitnukoon, S, **Leong, T.W.**, Smoreda, Z, & Olivier, P (2012), Weather effects in mobile social interaction: A case study of mobile phone users in Lisbon, Portugal, *PLoS ONE*. 7(10)
4. Iversen, O.S., **Leong, T.W.**, & Halskov, K (2012). Values-led Participatory Design, *Journal of CoDesign* 8 (2-3), 87-103
5. **Leong, T.W.**, Vetere, F., & Howard, S. (2012) Experiencing Coincidence during Digital Music Listening, *Transactions of Computer-Human Interaction (ToCHI)*, 19 (1), Article 6, 19 pages
6. **Leong, T.W.**, Vetere, F., & Howard, S. (2008). Abdicating Choice: The Rewards of Letting Go, *Digital Creativity*, 19(4), 233-243
7. **Leong, T.W.**, Howard, S., & Vetere, F. (2008.) Take a Chance on Me: Using Randomness for the Design of Digital Devices, *Interactions* 15(3), 16-19

Conference

1. Nasser, S & **Leong, T.W.** (2017) Traversing Boundaries: Understanding the Experiences of Ageing Saudis, in *Proceedings of CHI 2017*, Denver Colorado (nominated for Best Paper award).
2. **Leong, T.W.** & Robertson, T. (2016) Voicing values: laying foundations for aging people to participate in design, in *Proceedings of the 14th Participatory Design Conference (PDC)*, Aarhus, Denmark.
3. **Leong, T.W.** & Johnston B (2016) Co-design and robots: a case study of a robot dog for aging people, in *International Conference of Social Robotics*, p.702-711. Springer International Publishing
4. Kirk, D., Durant, A., Wood, G, **Leong, T.W.**, & Wright, P (2016) Understanding the sociality of experience in mobile music listening with Pocketsong, in *Proceedings of Designing Interactive Systems (DIS)*, Brisbane, Australia.
5. **Leong, T.W.** & Iversen, O (2015) Values-led Participatory Design as a pursuit of meaningful alternatives, in *Proceedings of OZCHI*, Melbourne, Australia, p314-323, ACM Press
6. Nassir, S, **Leong, T.W.**, & Robertson, T (2015) Positive Ageing: Elements and factors for design, *Proceedings of OZCHI*, Melbourne, Australia, p264-468, ACM Press.
7. Cumbo, B. & **Leong, T.W.** (2015) Wearable audio-video recorders as a tool for investigating child play experiences in nature, in *Proceedings of OZCHI*, Melbourne, Australia, p.618-622, ACM Press.
8. Tan, C.T., **Leong, T.W.**, Chen, S., Dubravs, C. & Chen, S (2015) Exploring gameplay experiences on the Oculus Rift, in *Proceedings of CHI Play*, London, UK, p.253-263, ACM Press. (**Honorable Mention award**)
9. Light, A., **Leong, T.W.**, & Robertson, T (2015) Ageing well with CSCW, in *Proceedings of ECSCW*.
10. Cumbo, B., Jacobs, B., **Leong, T.W.**, & Kanstrup, A. (2014) What motivates children to play outdoors: Potential applications for interactive digital tools, in *Proceedings of OZCHI*, Sydney, Australia, p.168-171, ACM Press.
11. Robertson, T., **Leong, T.W.**, Durick, J. & Koreshoff, T (2014) Mutual learning as a resource for research design, in *Proceedings of Participatory Design (PDC)*, Namibia. p.25-28, ACM Press.
12. Tan, C.T., **Leong, T.W.**, & Shen, S (2014) Combining think-aloud and physiological data to understand video game experiences, in *Proceedings of CHI*, Toronto, Canada, p. 381-390, ACM Press.
13. Harrold, N., Tan, C.T., Rosser, D. & **Leong, T.W.** (2014) CopyMe: a portable real-time feedback expression recognition game for children, in *Proceedings of CHI*, Toronto, Canada, p.1195-1200, ACM Press.
14. Harrold, N., Tan, C.T., Rosser, D. & **Leong, T.W.** (2014) CopyMe: an emotional development game for children, in *Proceedings of CHI*, Toronto, Canada, p. 503-506, ACM Press.
15. **Leong, T.W.** & Wright, P (2013). Understanding 'Tingle' in Opera Performances, in *Proceedings of OZCHI*, Adelaide, Australia, p.43-52, ACM Press.
16. Koreshoff, T.L., **Leong, T.W.**, & Robertson, T. (2013). Approaching a human-centred Internet of Things, in *Proceedings of OZCHI*, Adelaide, Australia, p.363-366, ACM Press.

17. Koreshoff, T.L., Robertson, T & **Leong, T.W.** (2013). Internet of Things: a review of literature and products, in *Proceedings of OZCHI*, Adelaide, Australia, p.335-344, ACM Press.
18. **Leong, T.W.**, & Wright, P (2013). Revisiting Social Practices Surrounding Music, in *Proceedings of CHI*, Paris, France. p.951-960, ACM Press.
19. Iversen, O., & **Leong, T.W.** (2012). Values-led Participatory Design: Mediating the Emergence of Values, in *Proceedings of Nordic Conference on Human-Computer Interaction (NordiCHI)*, Copenhagen, Denmark. p.468-477, ACM Press
20. Ploderer, B., **Leong, T.W.**, Ashkanasy, S & Howard, S (2012). A process of engagement: Engaging with the process, in *Proceedings of Designing Interactive Systems (DIS)*, Newcastle upon Tyne, UK. p.224-233, ACM Press.
21. **Leong, T.W.** & Wright, P (2011) Music in Households in the Digital Economy, *Digital Engagement Conference*, Newcastle upon Tyne, UK
22. Brynskov, M, **Leong, T.W.**, & Fritch, J. (2011) Bridging the affective gap to make news felt: Civic engagement in the climate debate, in *Proceedings of the Conference on Communities and Technologies (C&T)*, Brisbane, Australia, ACM Press.
23. **Leong, T.W.**, Harper, R. & Regan, T (2011) Nudging towards Serendipity: A case with personal digital photos, in *British Computer Society HCI Conference (BCS HCI)*, Newcastle upon Tyne, UK. British Computer Society, p. 385-394
24. **Leong, T.W.** & Gram, N (2011). The creative listeners and their iPods: their music, their activities and their listening experiences. *International Symposium on Electronic Arts (ISEA)*, Istanbul, Turkey.
25. Iversen, O.S., Halskov, K., & **Leong, T.W.** (2010). Rekindling Values in Participatory Design, in *Proceedings of Participatory Design (PDC)*, Sydney, Australia, p.91-100, ACM Press.
26. **Leong, T.W.**, Wright, P, Vetere, F & Howard, S (2010). Understanding experience using dialogical methods: The case for Serendipity, in *Proceedings of OZCHI*, Brisbane, Australia, p.256-263, ACM Press
27. **Leong, T.W.** & Brynskov, M (2009). CO²nfession: Engaging with values through urban conversations, in *Proceedings of OZCHI*, Melbourne, Australia, p. 209-216, ACM Press.
28. **Leong, T.W.**, Howard, S & Vetere, F. (2008). Choice: Abdicating or Exercising, in *Proceedings of CHI*, Florence, Italy, p.715-724, ACM Press.
29. **Leong, T.W.**, Vetere, F. & Howard, S. (2006) Randomness as a Resource for Design, in *Proceedings of Designing for Interactive Systems (DIS)*, University Park, PA, USA, p.132-139, ACM Press.
30. **Leong, T.W.**, Vetere, F. & Howard, S. (2005). The Serendipity Shuffle, in *Proceedings of OZCHI 1-4*, ACM Press.

Online articles

1. Newell, C, Howard, D, **Leong, T.W.**, Main, G, Reed, D & Wright, P, the "Tingle Factor": what makes a winning voice? *The Opera Critic* (8 Nov 2011)
<http://theoperacritic.com/toarticles.php?article=cntingle1011.htm>
2. "Chaos theory: what happens when Amazon buys you random stuff?" Interviewed by Russel Brandom (<http://www.theverge.com/2012/12/4/3728500/amazon-random-shopper-recommendation-engines>).

Peer-reviewed workshop papers and organising of workshops

1. Shen, S, Tan, C.T., and **Leong, T.W.** (2014) Towards Better Tools to Support Mixed Methods in Game User, in *Proceedings of CHI Workshop on Game User Research*, Toronto, Canada.
2. Robertson, T., Durick, J., Brereton, M., **Leong, T.W.**, Vetere, F., Howard, S. and Nansen, B (2013) Investigating Sociophysical Interaction in the Domain of Ageing Well, in *Proceedings of the Workshop on Explorations in Social Interaction Design, CHI*
3. Vines, J., Clarke, R., **Leong, T.W.**, Wright, P., Light, A., & Iversen, O.S. (2012) Workshop on Perspectives on Participation: Evaluating cross-disciplinary tools, methods and practices, in *Proceedings of Designing Interactive Systems (DIS) 2013*, Newcastle upon Tyne, UK. p.799-800, ACM Press.
4. Iversen, O.S., **Leong, T.W.**, Wright, P., Bowker, G., & Gregory, J. (2012) Workshop on Working with human values in design, in *Proceedings of Participatory Design Conference (PDC) 2012*, Roskilde, Denmark, p. 143-144, ACM Press.

5. Vines, J., Clarke, R., **Leong, T.W.**, McCarthy, J., Iversen, O., Wright, P., & Olivier, P. (2012) Participation and HCI: Why involve people in design? Special Interest Group Session, in *Proceedings of CHI 2012*, Austin, Texas, USA, p. 1217-1220, ACM Press.
6. Kannabiran, G., Light, A., & **Leong, T.W.** (2012) Workshop on Identity, Performativity and HCI, in *Proceedings CHI 2012*, Austin, Texas, p. 2763-2766, ACM Press.
7. Phithakkitnukoon, S., Mascolo, C., Horanot, T., & **Leong, T.W.** (2011) Workshop on Social Connections in the Urban Space 2011, at *SocialCom 2011*, MIT Boston.
8. **Leong, T.W.**, Tanaka, A., Wright, P., Gaye, L., & Taylor, R. (2011) Workshop on the User in Flux: Bringing HCI and Digital Arts Together to Interrogate Shifting Roles in Interactive Media, in *Proceedings CHI 2011*. Vancouver, Canada: 45-48.
9. **Leong, T.W.**, (2010), Broadening the inspirations of heritage inquiries, in *Proceedings of Designing Interactive Systems Conference*, Aarhus, Denmark
10. Brynskov, M, & **Leong, T.W.** (2010), Between engagement and information: Experimental urban media in the climate change debate, in *Proceedings of Interact*, Uppsala, Sweden
11. **Leong, T.W.**, (2009), Reflexivity as a means to engaging urban citizens in sustainable food culture, in *Proceedings of OZCHI*, Melbourne, Australia