

Designer, Researcher, Toolmaker | Enhancing creativity through computation

I am a human-centered product designer, philosophically-minded technology researcher and unconventional computational toolmaker. Bridging design theory, cognitive psychology and computer science, I develop digital tools and augmented environments for creative thinking that embrace purposeful ambiguity and intentional serendipity to provoke perspective-changing ideas.

EDUCATION

MIT MEDIA LAB (USA) | 2014-19

PhD in Media Arts and Sciences

Towards Digital Liminality: Computational tools for 'beyond average' creative thinking

(Advisors: Tod Machover, Daniel Cardoso Llach, Maria Yang)

MIT MEDIA LAB (USA) | 2012-14

Masters in Media Arts and Sciences (SM)

The Form of Emotive Design (Advisors: V. Michael Bove, Neri Oxman, Katherine Isbister, Henry Holtzman)

ROYAL COLLEGE OF ART & IMPERIAL COLLEGE (UK) | 2007-09

Masters in Industrial Design Engineering (MA) & Mechanical Engineering (MSc)

Spectate: A Product to Emotionally Engage Remote Sports Event Viewers (2009) & *The Material Choice: Innovations in Textile Applications* (2008) (Advisors: Tom Barker, Miles Pennington, Clare Brass)

UNIVERSITY OF BRISTOL (UK) | 2003-07

Masters in Aeronautical Engineering (MEng, First class honours)

EXPERIENCE

FACULTY | PARSONS SCHOOL OF DESIGN (USA) | 2020-

Part-time faculty in School of Design Strategies teaching Research & Development Methods and Innovation classes

VISITING SCHOLAR IN INTEGRATED DIGITAL MEDIA | NYU TANDON (USA) | 2020-

Collaborating with the IDM community to develop digitally-augmented tools and experiences for perspective change

LOOKING SIDeways | NEW YORK (USA) | 2020-

Creative consulting, executive coaching and digitally-augmented tools for 'liminal thinking' in the innovation process

RESEARCH ASSISTANT | MIT MEDIA LAB (USA) | 2012-19

PhD researcher in Object-Based Media group exploring the role of computation and AI in the creative process:

- > Developed the Looking Sideways exploration tool, Reframe creative prompt tool, Design Daydreams AR tool and Emotive Modeler CAD tool as applied explorations into how computational tools can use emotions, ambiguity and serendipity to enhance our creativity through provoking us to consider concepts in unexpected ways
- > Built discourses around design-led technologies and tools through classes and conference tracks
- > Managed and mentored small teams of students and contractors funded by acquiring various grants and awards
- > Communication and collaboration across disciplines and organisations through demos, teaching, writing and talks

RESEARCHER IN RESIDENCE | IDEO CAMBRIDGE (USA) | 2016

Residency exploring the relationship between designers and the computational tool they use in their creative process.

DESIGN ENGINEER | GILLETTE R&D (UK) | 2009-12

Explored new product and technology opportunities through upstream design research and prototype development:

- > Led design research and strategy for new products, inc. development of design language and functional prototypes
- > Conducted foundational design research into form, material and ergonomic interactions and synthesised into guidelines for product development strategy
- > Developed tools and methods to enhance creativity and quality in Gillette's internal design capability through internal system development and external collaborations

PUBLICATIONS & PRESENTATIONS

PAPERS IN CONFERENCE PROCEEDINGS

Design Daydreams: Juxtaposing Digital and Physical Inspiration | 2019

Philippa Mothersill and V. Michael Bove. In Companion Publication of the 2019 on Designing Interactive Systems Conference 2019 Companion (DIS '19 Companion).

Beyond Average Tools: On the use of 'dumb' computation and purposeful ambiguity to enhance the creative process | 2019

Philippa Mothersill & V. Michael Bove Jr. *The Design Journal* 20:sup1.

An Ontology of Computational Tools for Design Activities | 2018

Philippa Mothersill & V. Michael Bove Jr. In Proceedings of Design Research Society 2018 International Conference.

Editorial: Tools of Design | 2018

Philippa Mothersill. In Proceedings of Design Research Society 2018 International Conference

Humans, Machines and the Design Process: Exploring the Role of Computation in the Early Phases of Creation | 2017

Philippa Mothersill & V. Michael Bove Jr. *The Design Journal*, 20:sup1.

The EmotiveModeler: An Emotive Form Design CAD Tool | 2015

Philippa Mothersill & V. Michael Bove Jr. CHI Extended Abstracts.

Awakened apparel: embedded soft actuators for expressive fashion and functional garments | 2014

Laura Perovich, Philippa Mothersill, & Jennifer Brutin Farah. In Proceedings of the 8th International Conference on Tangible, Embedded and Embodied Interaction.

Prototype hacking: succinct physical communication for design and business | 2011

David Cranor & Philippa Mothersill. In Proceedings of the 2nd Conference on Creativity and Innovation in Design.

ARTICLES

Inviting Feedback | 2018

Philippa Mothersill. *Journal of Design and Science*, 3.

EmotiveModeler | 2015

Philippa Mothersill & V. Michael Bove Jr. *interactions*, 22(6).

IN THE NEWS

"MIT researcher blends engineering and art in speech" | February 2018 | Chris Butler, The Huntingdon News.

"How chance and nonsense can help the creative process of designers" | September 2017 | Murilo Roncolato, Nexo.

"In A Creative Rut? Try MIT's Mad Libs For Designers" | September 2017 | Katharine Schwab | Fast Co Design.

"Education and Design" | July 2017 | Daniel Daou, Capitel Magazine by Universidad Humanitas Mexico.

"SXSW: When Combining AI and Design, Computers Need To Get Moody" | March 2017 | Alan Melson, Art&Seek.

INVITED TALKS

Breaking the Code: Algorithms that Work for All | 2019 | Stylus Decoded Future Summit, NYC (USA)

Looking for Humanity in AI | 2019 | Technonomy, NYC (USA)

Digital tools to explore Beyond Average ideas | 2019 | Royal Society of the Arts, London (UK)

Beyond Average | 2018 | Arts and Science Salon, NYC (USA)

Designing the Future Designer's Toolbox | 2018 | Reaktor Breakpoint conference, Helsinki (Finland)

Computing Creativity: Designing tools across disciplines | 2018 | Reaktor Breakpoint conference, Helsinki (Finland)

Digitally Enabled Creativity | 2017 | Design Museum at Hubweek, Boston (USA)

Digitally Enabled Creativity | 2017 | IYRS School of Technology and Trades, Newport (USA)

Humans, Machines and the Future of Industrial Design | 2017 | SXSW Interactive conference, Austin (USA)

TEACHING & COMMUNITY LEADERSHIP

QUALIFICATIONS

Kaufman Teaching Certificate Program (KTCP) | 2016 | MIT Teaching & Learning Lab, Cambridge (USA)

CLASSES & WORKSHOPS

Research and Development Methods & Innovation classes | Spring 2020
School of Design Strategies at Parsons The New School, New York (USA)

Designing for disruptive discoveries workshop | 2019
MIT Media Lab, Cambridge (USA)

Designing the future designer's toolbox workshop: Integrating computation into tools used in the creative process | 2018
Reaktor Breakpoint conference, Helsinki (Finland)

Devices of Design class: Creating digital and analog computational design tools | Spring 2017
Global Innovation Design program at the Royal College of Art, London (UK)

Design Research for Computational Design workshop | 2016
Design Research Society conference, Brighton (UK)

Design Objects class (teaching assistant) | Spring 2016
MIT Department of Architecture, Cambridge (USA)

Embodied Potentials Salons | 2015-2018
MIT Media Lab, Cambridge (USA)

Communication Through the Language of Design workshop: How we perceive meaning in form | 2015
Solid conference, San Francisco (USA)

Prototype Hackery workshop: Rough prototyping for research | 2011-2012
MIT Media Lab, Cambridge (USA) & Procter & Gamble R&D, Reading (UK) with David Cranor

PROGRAM COMMITTEES

Royal Society of the Arts Fellow & Ambassador for Boston | 2019-20 | Boston (USA)

Festival of Learning co-chair | 2019 | MIT Media Lab (USA)

Tools of Design track chair | 2018 | Design Research Society 2018 conference, Limerick (Ireland)

Biotech and Art panel co-chair | 2016 | MIT Hacking Arts festival (USA)

Center for the Arts at MIT award selection committee | 2015-19 | MIT (USA)

EXHIBITIONS & INSTALLATIONS

Design Daydreams | 2018 | IDEO FutureFest, Cambridge (USA)

Reconceivers: Tools to Provoke & Inspire | 2018 | Harvard metaLAB + friends openLAB, Cambridge (USA)

Birds of a Feather (with Floor van de Velde) | 2013 | MIT Media Lab Links Conference, Cambridge (USA)

aireForm emotive dress (with Ryuma Niiyama, Xiao Xiao & Jennifer Jacobs) | 2013 | MIT Media Lab Other Festival

Drink, Make, Feast: Tools for an immersive, multi-sensory dining experience | 2013 | MIT Media Lab Other Festival

AFFILIATIONS & AWARDS

metaLAB (at) Harvard affiliate | 2019-20

Laya and Jerome B. Wiesner Student Art Award | 2019

Council for the Arts at MIT award to create art using Reframe & Looking Sideways tools | 2018

Kennedy Memorial Trust summer research scholarship | 2018

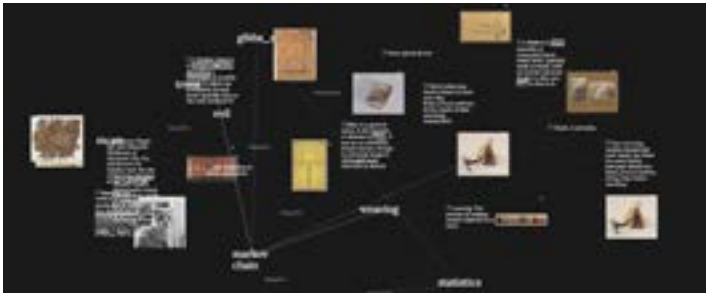
James Dyson Foundation award for Spectate project | 2009

Royal Commission for the Exhibition of 1851 Industrial Design Studentship | 2008-09

Portfolio Summary 2008-19

Computational creativity tools | Responsive materials | Emotive products

Below is a summary of selected work. More details can be found at www.pipmothersill.com



LOOKING SIDeways SEARCH TOOL | 2018-19

An online tool that draws from semi-random, loosely related, diverse sources to provide unexpected responses to search queries and provoke new associations and ideas



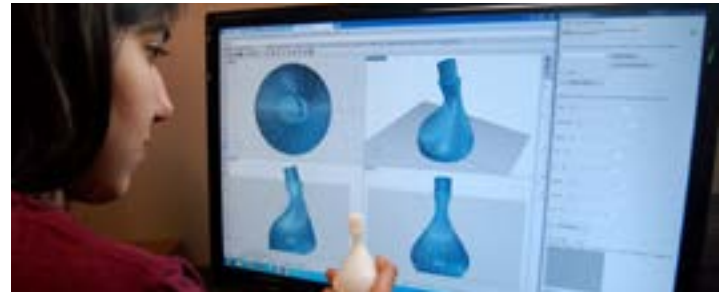
REFRAME CREATIVE PROMPT TOOL | 2016-19

An online tool that uses text from a designer's own notes and readings to generate creative prompts that juxtapose concepts in unexpected ways and provoke new ideas



DESIGN DAYDREAMS AR TOOL | 2018-19

An interactive table and low-tech AR 'post-it note' that projects digital inspiration images onto objects in the real world to provoke new associations and ideas



EMOTIVE MODELER CAD TOOL | 2013-15

A CAD tool that uses only descriptive adjectives and emotions to design objects whose forms communicate emotive character



DESIGN DATA MACHINE | 2015-16

Tools to collect data on and investigate any commonalities in our perceptual and psychological experiences of the physical design properties of objects



AWAKENED APPAREL | 2013-14

A shape-changing skirt that uses novel material technology to integrate soft actuators into clothing that can transform its functionality and emotional expression



SPECTATE EMOTIVE EXPERIENCE | 2009

A product that enhances the experience of remote viewing of live events through providing emotionally affective tactile interactions



REPLENISH PRE-CYCLING SYSTEM | 2008-09

A system and set of products designed to make reusing and refilling containers more economical for manufacturers and convenient for consumers