

E-mail: [katejanemccallum@gmail.com](mailto:katejanemccallum@gmail.com)  
2220 Main St Apt 3, Forest Grove 97116  
(920) 550 1598  
[www.katemccallum.com](http://www.katemccallum.com)

# Kate McCallum

## Summary

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I recently completed a practice-based PhD in linguistics (communicative ethnography) and fine art at the University of Brighton, studying with the prestigious former Brighton School of Art (founded 1858); my PhD was funded by the Arts and Humanities Research Council TECHNE consortium. My work consists in fine art practice-led ethnographic research that uses art as a method of enquiry and presents its outcomes through a variety of interactive digital presentations. Work from this inter- and cross-disciplinary research project has been disseminated through several journal publications including an interactive online exposition in the *Journal for Artistic Research*, and a number of group exhibitions.

Originally trained in sculpture, the themes of my practice and curatorial work have included AI, art as a form of (ethnographic) inquiry, encounters between artists and the mathematical world and communicating mathematical concepts to a lay audience. My art-theoretical work has been published in *Philosophy of Science* and *Review of Philosophy and Psychology*. I am currently coordinating international collaborative projects for an art gallery in the Pearl District of Portland, and looking to teach.

## Education

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2020 – PhD (May 2020) – University of Brighton – Linguistics and fine art with practice-based component  
Projected title: *Situating Mathematical Communication: An Artist's Ethnography of Research Mathematics*. An ethnographic study of communication in research mathematics, informed by Relevance Theory and ideas from the situated cognition paradigm and using fine art practice as a research method.  
Advisors: Tim Wharton, Ole Hagen and Andrew Fish

2016 – Masters in Research, Arts and Cultural Research – University of Brighton (Distinction)  
2010 – BA, Fine Art Sculpture– University of Brighton (First Class Honours)  
2006 – Foundation Diploma, Art & Design – University of Hertfordshire - (Distinction)

## Selected Work Experience

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### Professional Appointments

*Art Projects Coordinator, Elisabeth Jones Art Center, 2020*. I coordinate two international projects exploring long-distance collaboration: the International Mural by Mail, which is a long-running project in which artists collaborate remotely on 8ft x 16ft murals, and The View from Here, a response to COVID-19 in which artists share their experiences of the shutdown. As well as liaising with artists and exhibition planning I handle publicity and print and digital exhibition publications.

*Digital Intern, Royal Institution, 2018*. I carried out an internship funded by the Arts and Humanities Research Council at the prestigious Royal Institution, an organisation world-famous for science communication and the Christmas Lectures, developing media for public engagement. This had me develop podcasts and YouTube videos with the Digital Team, developing ideas from the ground up and putting together exciting multimedia presentations to engage a diverse audience with developments in science and technology.

## Selected Teaching

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*Lecturer, University of Brighton, 2017-2018*. Paid lecturer position as research dissertation supervisor for third-year students on Fine Art Critical Practice at the University of Brighton, giving individual tutorials to help students to develop their final research essay for assessment. I also had responsibility for marking these dissertations and taking part in the committee moderation process. I supervised one student through a prize-winning essay on the intersection of art and quantum theory.

## Visiting teaching

**Representation and Abstraction: When Artists and Mathematicians Meet**, University of Brighton centre of CEM, Brighton, January-March 2018. I directed and curated this project and exhibition to bring undergraduates in different disciplines together in collaboration, with an emphasis on experimental and exploratory approaches.

“To the nth Degree”, experimental workshop in working with representations and digital interactive environments, Pacific University, 13th November 2019

Field trip with Pacific University to see various aspects of professional practice beyond education. Visit to an artists' warehouse with a group of art majors, including studio visits with artists working in various analogue and digital media, followed by a visit to a prominent commercial gallery specialising in selling virtual art with a talk from the gallery manager about curation, commercial aspects of the art world and careers in arts organisations. 20th September 2019

“Diagramming: Medium and Message”, exploratory diagramming workshop with students in the ‘Concepts’ studio arts seminar at Pacific University, 3<sup>rd</sup> April 2018

“Art Practice as Research”, workshop with third-year students of Fine Art Sculpture at the University of Brighton, 28<sup>th</sup> December 2017

“Artists’ Diagramming and the Problem of Representation”, workshop with first-year students of Fine Art Sculpture at the University of Brighton, 3<sup>rd</sup> December 2017

“Curating a Gallery Show”, talk and seminar for first-year undergraduates in Fine Art Sculpture at the University of Brighton, 11<sup>th</sup> March 2015

## Selected Publications

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### Peer-reviewed journals

“The Aesthetics of Theory Selection and the Logics of Art”, co-authored with Ian O’Loughlin, *Philosophy of Science*, 2019.

“Cognition, emphasis, and the viewer's experience of fine art”, co-authored with Scott Mitchell and Thom Scott-Philips, *Review of Philosophy and Psychology*, 2019

“FanFutures”, *Journal for Artistic Research*, an experiment in AI writing as a tool to make sense of troubled times, co-authored with Kate Monson and Majed Al-Jefri 17, 2019

“Untangling Knots: Communication, and Practice in Knot Theory Diagramming”, *Journal for Humanistic Mathematics*, 19 (1), 2019

“Strange Tools Indeed: Alva Noë and Art as Reorganisation.” *Essays in Philosophy* (on-line), 19, 2018.

“Mathematics, manifest: a review of *Mathematics: the Winton Gallery*”, *Bulletin for the British Society for the History of Mathematics*, 2017

### Book chapters

“Hushed Tones: Art and Ceremony as a Perspective Shifter”, co-authored with Scott Mitchell, *Beyond Meaning*, forthcoming.

### Peer-reviewed conference proceedings

“Making Sense of the Incomprehensible: A Serendipitous Encounter with Naivety as a Tool for Telling Tales in Troubled Times”, *AISB 2018 Symposium: Cybernetic Serendipity Reimagined*, University of Liverpool, Liverpool, United Kingdom, April 4<sup>th</sup>-6<sup>th</sup> 2018, co-authored by Majed Al-Jefri and Kate Monson. **Winner of Best Paper award.**

“Reimagining the Mathematical Paper”, *Proceedings of Bridges 2018: Mathematics, Music, Art, Architecture, Culture* (2018), Pages 651–658

## Catalogues edited

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*Bridges Art Exhibition Catalog*, edited alongside Conan Chadbourne, Robert Fathauer, and Nathan Selikoff, Tessellations Publishing, 2014-2018.

## Selected Talks

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### Conference presentations

“FanFutures”, *Artificial Lives*, University of Sussex, 1<sup>st</sup>-2<sup>nd</sup> December 2017—co-presenting with Majed Al-Jefri and Kate Monson

“Hushed Tones: the Modern Art Gallery as Intensifier”, *Beyond Meaning*, Athens, Greece, 13<sup>th</sup> – 15<sup>th</sup> September 2017—co-presenting with Scott Mitchell

“Gestalt and Anomaly: the aesthetics of theory selection and the logics of art”, *International Conference for the Philosophy of Science*, Lisbon, Portugal, 14th-16th December 2016—co-presenting with Ian O’Loughlin

### Invited talks

“Thinking out loud: A situated account of collaborative sense-making”, invited talk at *Mathematics and the Imagination*, Tallinn University of Technology, Estonia, 28<sup>th</sup> August 2019

“Art as Inquiry”, invited talk at Boise State University, Idaho, 7<sup>th</sup> December 2018

“Materials and Practices in Mathematical Communication: An Artist's Ethnography of Research Mathematics”, invited talk at the University of Hamburg, 18<sup>th</sup> June 2018

Invited panellist at *Knots in Science and Art*, a Leverhulme-funded event with Sir Michael Atiyah filmed for online public broadcast, at the University of Edinburgh, 30th November 2016

## Selected Exhibitions and Curation

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### Curation

**Making Representations**, Phoenix Gallery, Brighton, March 2019

Interactive diagramming workshop exploring themes of representation and description. Part of a three-day project at Phoenix Gallery Brighton, including a one-day symposium and exhibition opening, organised with four other TECHNE artist-researchers whose work touches on questions of representation.

<https://www.phoenixbrighton.org/events/making-representations/>

For the last four years I have co-curated the **Annual Exhibition of the Bridges Conference for Mathematics and the Arts** ([bridgesmathart.org](http://bridgesmathart.org)), which has taken me to Canada, Finland, the United States and South Korea.

**A Conjecture on Space**, the Rose Hill, Brighton, January 2018, subsequently exhibited at Newhaven Fort for the prestigious sound art and music event *Fort Process*, September 2018 <https://fortprocess.co.uk/>

In collaboration with Karl M. V. Waugh, an interactive audio-visual installation exploring attitudes to mathematics and the limits of control

**Surface and Knowledge**, ONCA Gallery, Brighton, August 2016

A collaboration with Jesse Benjamin, showing work that has played a part in practice-based research projects. A showcase of practice-based methods brought to bear on research into the hidden structures of social media and on abstracted communication.

<https://infiltratemathematics.wordpress.com/2016/08/28/surface-knowledge/>

**CORRESPONDENCE**, Prestamex House, Brighton, February 2015

A large show of 14 emerging artists that took place across real and virtual platforms, exploring accessibility and the arts and the politics of representation on different platforms. Awarded £500 funding from IdeasTap. This exhibition took over an entire floor of the Prestamex building in Brighton with a large-scale show that was mirrored by a component in Second Life.

<https://correspondencearchived.wordpress.com/>

**Scale**, Art Nouveau, Brixton, February 2013

Co-curated exhibition and short film night exploring scale and relativity, curated with Jacob V Joyce, an emerging artist whose work explores queerness and de-colonisation.

## Projects

*Fan Futures* - interdisciplinary collaborative project using AI and natural language processing in the creation of art objects that grapple with the question of the future of humanity. Winner of the Opposites Attract competition at the University of Brighton, with Majed Al-Jefri and Kate Monson. April 2017-

*Speculative Fictions workshop series*, ONCA gallery, Brighton. Workshop series exploring climate change, sustainability and collaborative writing, developed by the University of Brighton in collaboration with the One Network for Conservation and the Arts gallery. This year-long, five-workshop series explores collective imaginings of possible futures in a damaged environment, inspired by the work of Donna Haraway and Anna Tsing. October 2017-2018

## Exhibitions and participatory artworks

“Reimagining the Mathematical Paper”, workshop held at **Bridges Conference for Mathematics and the Arts**, July 2018 in Stockholm. This workshop consisted of exercises designed to encourage new and experimental engagements with mathematical papers and reconsider the possibilities in their presentation. Participants were given a number of prompts for creative engagements with existing published papers, physically taking the texts apart and finding new ways to put them back together.

**Imaginative Objects: Reading the Image in Research**, University of Brighton, May 2019. Exhibiting photographs of the workspaces of mathematics, taken from my PhD research. Part of the Brighton Fringe Festival. <https://www.brightonfringe.org/whats-on/imaginative-objects-reading-the-image-in-research-exhibition-135980/>

**Marks Make Meaning**, University of Brighton main gallery, March 2018. Exhibiting chalkboard animations investigation the role of diagramming in thought, in an exhibition featuring work by Anthony Gormley and Rachel Whiteread <http://arts.brighton.ac.uk/whats-on/gallery/gallery-exhibitions-2018/marks-make-meaning-drawing-across-disciplines>

**Fort Process**, Newhaven Fort, 22 September 2018. Collaboration with mathematician Karl M V Waugh. Generative sound and light installation exploring chalkboard communication in mathematics, at a one day sound art and music event that utilises the extraordinary resonant spaces of Newhaven Fort. <https://fortprocess.co.uk/>

**Flow and Flux: TECHNE exhibition**, Chelsea College of Art, February 2018. Participatory sculpture exploring the nature of the mathematical paper.

## Funding and awards

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Awarded a 3-month AHRC-funded placement at the Royal Institution in London, the foremost institution for the communication of science and home of the famous Christmas Lectures. This placement will see me joining the existing media team at this prestigious organisation and working on evening events, YouTube content and podcasts communicating complex contemporary scientific advances to a public audience. April – July 2018 worth £6200

Highly competitive AHRC funding from the TECHNE consortium for my PhD research, an art practice-led approach to diagramming and mathematics communication, awarded June 2016, worth £60,000

Awarded funding by IMAGINARY.org for the IMAGINARY conference, Berlin, July 2016, worth £500

Awarded the first ever McLaren Bursary from the University of Brighton to pursue my MRes research, September 2015, worth £3000

June and Sidney Crown University-Wide Dissertation Prize 2010 awarded to “Art and the Mathematical Theorem: When Parallel Lines Meet”, worth £1000. Also the subject of a feature in Spindle magazine.

## Service to the field

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Student representative member of the College Research and Ethics Committee 2016 – 2017

Reviewer for the *Journal for Mathematics and the Arts* and *Journal of Visual Art Practice*

## Volunteering and Sustainability Work

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*Brighton Women's Centre* - volunteer supporting women to access information about services and the law, including a paid role with the Financial Inclusion project. This role involved training in ethical practice, sensitivity to many aspects of diversity, and active listening as a support method.—September 2013 - January 2015

I lived and worked in a small reoccupied village in Aragón, Spain, from 2011-2013, with a small group living off-grid, growing food, and working toward complete self-sufficiency. During this time I learned a lot about sustainability and collaborative small-scale organic cultivation, as well as engaging in several building projects using sustainable and recycled materials and working on off-grid infrastructure such as water collection and solar power setups. My proudest achievement was a large mud and bottle wall partitioning off a new room in a house.