Future Sessions

The Air of Turbulence

8 July 2019

Science and Industry Museum

A one-day Symposium as part of
Future Sessions: Atmospheric Memory

futuresessions.org #FutureSessions

Welcome

Hello and a very warm welcome to *Future Sessions - The Air of Turbulence*.

We're so pleased you can join us for a day of conversation and collaboration; coming together to debate, unravel and respond to themes inspired by Rafael-Lozano-Hemmer's breathtaking new work, *Atmospheric Memory*.

Atmospheric Memory was, in part, inspired by the words of computing pioneer Charles Babbage. 180 years ago, Babbage proposed that the air is a 'vast library' of every word ever spoken and that we need only 'rewind' the air to recreate long lost voices. It's a fascinating idea — and one not too far away from today's digital age of 'absolute recollection' where so much of what we say and do is imprinted forever in an ever-growing 'atmosphere' of data. But if our actions and voices are truly forever impressed in the air, will we ever be able to 'escape', be forgotten or set free? And whose voices or histories will be preserved for the future?

Not only are we pleased to welcome all of our guests today, but also our speakers – the artists, researchers and industry leaders who are shaping and challenging the path of emerging technology, and creating space for other voices to be heard.

Thank you for joining us, we hope you enjoy the day.

Irini Papadimitriou
Creative Director, FutureEverything

About Future Sessions

Future Sessions: Atmospheric Memory

The Air of Turbulence is part of *Future Sessions: Atmospheric Memory*, a programme of talks, tours and conversations exploring the themes and technologies of Rafael Lozano-Hemmer's breathtaking new work, *Atmospheric Memory*.

Future Sessions: Atmospheric Memory is curated and produced by FutureEverything, in partnership with the Greater Manchester Combined Authority (GMCA).

What is Future Sessions?

Future Sessions is FutureEverything's new event model, moving away from our large-scale annual festival to a series of curated and facilitated 'sessions' throughout the year. Exploring the spaces where art and tech collide, Future Sessions include workshops, walks, presentations, living labs, hacks, presentations and showcases. Using art as a lens to help people reflect on and understand the world around them, Future Sessions is an inclusive space to explore, experiment and expand on visions for the future, together.

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Above: Future Sessions (Photo: Richard Tymon)

About Atmospheric Memory

The Future Sessions programme has been specially curated around the themes of Rafael Lozano-Hemmer's *Atmospheric Memory.*

Atmospheric Memory
By Rafael Lozano-Hemmer
Saturday 6 - Sunday 21 July

Science and Industry Museum

Experience a breathtaking interactive art environment where you can see, hear and even touch the sounds that travel through the atmosphere.

Rafael Lozano-Hemmer's *Atmospheric Memory* scours the sky for the voices of our past. Inspired by computing pioneer Charles Babbage's 180-year-old proposal that the air is a 'vast library' holding every word ever spoken, *Atmospheric Memory* asks: was Babbage right? Can we rewind the air to recreate long-lost voices? And if so, whose would we want to hear?

An array of 'Atmospheric Machines' mine the air for turbulence caused by speech, then transform it into trails of vapour, ripples on water, epic 360-degree projections. These artworks are presented alongside a section of a Babbage Analytical Engine, a rare object in the prehistory of computing from the Science Museum Group's collection.

Staged in a custom-built chamber, *Atmospheric Memory* explores the beautiful tumult of the air we breathe – and ultimately celebrates the transience of the sounds that fleetingly live within it.

To book tickets, visit **mif.co.uk/memory atmosphericmemory.com #AtmosphericMemory**

Above and cover image: Atmospheric Memory, Rafael Lozano-Hemmer (photo: Richard Tymon)

Schedule

9.30am | Welcome note

Irini Papadimitriou, Creative Director, FutureEverything

From technological histories to machine learning, facial and voice recognition, and their implications, how do historical ideas and inventions relate to emerging digital technologies, and how can we survive a future increasingly driven by algorithms? Today we are bringing together artists, researchers, technologists, scientists and the public to debate and unravel emerging technological advances and challenges looking through the past, present and future, and exploring the traces we leave behind.

9.50am | A Brief History of *Atmospheric Memory*

José Luis de Vicente, Curator, FutureEverything

A cartography of the ideas, precedents, traditions and hypothesis presented in *Atmospheric Memory*, a highly ambitious project by Rafael Lozano-Hemmer, five years in the making, commissioned by Manchester International Festival, Science and Industry Museum, FutureEverything, ELEKTRA / Arsenal Contemporary Art, Montreal and Carolina Performing Arts – University of North Carolina at Chapel Hill.

Keynote

10am | Rafael Lozano-Hemmer

Artist, Atmospheric Memory

Rafael Lozano-Hemmer creates media art using technologies such as robotic lights, digital fountains, computerized surveillance, interactive walls and telematic networks. His ambitious new project, *Atmospheric Memory*, invites visitors to explore an immersive space that materialises voices, transforming them into something we can see and touch. In this opening keynote, Rafael will take us on a journey from the time of Victorian pioneers Charles Babbage, Ada Lovelace and historical work related to voice reproduction, to today's technological

and engineering advancements and their implications.

Panel

11am | Digital Heritage and Future Voices

Speakers: Anna Ridler, Sam Burton, Marcus Hadfield | Chair: Dr David Jackson

A conversation about bias, digital inclusion, control and the implications of machine learning and training data sets.

If we could access all of Babbage's 'vast library', we might be able to identify the qualities of the voices allowed to contribute loudly to our heritage and those made to whisper. Today, as algorithmic technologies allow machines to sound more and more human, we explore the digital voice as a testing ground for increasingly gendered and biased forms of machine interaction, and how this blurring of human/machine affects attitudes to diversity and privacy.

12pm | Short break

Participatory Session

12.10pm | A critical exploration of voice technologies

Led by Elvia Vasconcelos

Interactive session on collectively exploring and mapping bias and oppressive systems embodied in technology today.

'This call may be recorded for training purposes.' Sound familiar? Where are these records being kept, who owns them and how are they used? And can you opt out? This participatory session will explore the ways in which our voices are being captured by products and services we use daily. We'll develop a critical understanding of voice technologies by mapping out things we may or may not know about these systems and how they operate, teasing out the structures of power embodied in voice technologies,

and making them visible, tangible and accessible to all.

1.30pm | Lunch break

2.30pm | Unintended Consequences

Katriona Beales and William Tunstall-Pedoe in conversation

Digital technologies have offered us tools and possibilities never imagined before: huge advancements in health, design, architecture, engineering and other fields; access to information, knowledge and new skills; connecting people and communities; and giving us a voice. influence and ways to take action. But these same tools that bring new developments and empowerment can also have inhibitive effects and open up new challenges. Artist Katriona Beales talks to William Tunstall-Pedoe, entrepreneur and founder of Evi (now Amazon Alexa) about questions of social justice, rising inequality and accountability in relation to the development of AI.

Panel

3.30pm | Environmental Memory

Speakers: Dr Sarah Mander, Joana Moll, Prof Vladan Joler | Chair: José Luis de Vicente

On data, cloud computing and the material impact of digital communications technologies.

Most of us think of 'digital' as code, electrical signals or data. We perceive it as something intangible, without physical presence. For a very long time we have been thinking about the tech industry as an environmentally neutral and clean agent, as it dealt in activity that we considered mostly immaterial. Artists, activists and academics have been key in shifting this perception in the last decade. We now know that our devices have a geological origin and are entangled in the

planetary scale systems at the root of the ecological crisis. What are the implications of these technological traces that we leave behind?

4.30pm | Closing note

Walking Tour (optional)

5pm | Voices in the Air, Ghosts in the Machine

(Pre-booking required)

In this specially commissioned 90-minute walking tour, we'll trace the history of 'mechanical manifestation' in Manchester, discovering how inventors, engineers and performers have materialised otherwise invisible worlds. We'll follow the journey from the mechanical stage illusions of the Victorian era via early computing and on to the contemporary experiential technologies found in *Atmospheric Memory*. Join us as we explore the moments when the mystical and alchemical evolved into contemporary science and engineering and ask: whose voices persist, as ghosts in the modern machine, through the influence of their ideas?

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Above: Future Sessions (photo: Richard Tymon)

Speakers

Rafael Lozano-Hemmer
Artist, Atmospheric Memory @errafael

Rafael Lozano-Hemmer is an award-winning, internationally renowned artist developing interactive installations at the intersection of architecture and performance art. He creates platforms for public participation using technologies such as robotic lights, digital fountains, computerised surveillance, media walls and telematic networks. Lozano-Hemmer's work is held in collections at MoMA, Guggenheim, TATE and Manchester Art Gallery, among many others.

Anna Ridler
Artist | @annaridler

Anna Ridler is an artist and researcher interested in working with collections of information or data, particularly self-generated data sets, to create new and unusual narratives in a variety of mediums, and how new technologies, such as machine learning, can be used to translate them to an audience. Anna has shown her work at a variety of cultural institutions, including the Barbican, Ars Electronica, Sheffield DocFest and the V&A.

Marcus Hadfield
Chief Strategy Officer | @apadmi

Marcus Hadfield is Chief Strategy Officer at Apadmi. After 20 years' experience in digital and brand marketing, Marcus jumped from advertising into mobile in 2017, excited (and a bit scared) about the relationships people were forming with their devices. He splits his time between leading on mobile and voice strategy for Apadmi's clients, and working with Apadmi Ventures to support the highly-scalable tech start-ups they invest in.

José Luis de Vicente
Curator | @macroscopist

José Luis de Vicente is a cultural researcher and curator working in the space between culture, technology and innovation. Since 2012 he has been an associated curator for FutureEverything. He is also the curator for Sónar +D, the digital culture and creative technologies conference and exhibition in Barcelona. In the last 15 years he has developed multiple exhibitions, projects and internationally touring shows.

Sam Burton
Director of Insights, Mozilla Foundation | @thesamburton

Sam Burton is a writer, researcher, and activist who works at the intersections between culture, technology, and human rights. She is currently the Director, Insights at the Mozilla Foundation where her team leads projects like the Internet Health Report, which help us better understand our relationships with technology and build a digital world that puts people first.

Dr David Jackson
Researcher in Narrative and AI, School of Digital Arts, Manchester Metropolitan University @storyjacker

Dr David Jackson is a researcher exploring relationships between artificial intelligence, narrative media and bias. He is a founding member of AMP research unit, a cross-disciplinary team of media and machine learning specialists working with marginalised audiences to reflect their perspectives and create tools to combat AI bias.

Elvia Vasconcelos
Design Researcher | @elviavasc

Elvia Vasconcelos is a design researcher, sketchnoter and visiting practitioner at the London College of Communication, as well as a researcher with the UK Government. Her work explores the human impact of technology and the role practitioners play in exposing and challenging the power structures embodied in them. Her recent work has focused on how how the structures of oppression that exist in real life are being mirrored, reinforced and amplified by the digital structures we create.

Katriona Beales
Artist | @katrionabeales

Katriona Beales is an internationally exhibited sculptor who makes digital artefacts, moving image and installation. Her work responds to the social implications of new technologies and particularly experiences of information overload, the technological sublime, online behavioural addictions and notions of a Digital Baroque.

Vladan Joler
Professor | @thecreatureslab

Vladan Joler is SHARE Foundation co-founder and professor at the New Media department of the University of Novi Sad. He is leading SHARE Lab, a research and data investigation lab for exploring different technical and social aspects of algorithmic transparency, digital labour exploitation, invisible infrastructures, black boxes, and many other contemporary phenomena on the intersection between technology and society.

William Tunstall-Pedoe
Artificial Intelligence entrepreneur @williamtp

William Tunstall-Pedoe is an entrepreneur and investor with a focus on Artificial Intelligence. He founded the AI start-up Evi which built a voice assistant with the same name. After seven years, Evi was acquired by Amazon, and William was a leader in the team that defined, built and launched Alexa and Echo. Since leaving Amazon in 2016, William has been involved with 100s of other start-ups as a mentor and angel investor.

Dr Sarah Mander
Climate Change Researcher @sarahlmander

A former chemical engineer and welder, Sarah Mander joined the Tyndall Centre for Climate Change Research in 2000. Sarah's research integrates public and stakeholder perspectives with technical and modelling assessments to build an understanding of the deployment of renewable energy technologies and social responses to these. Passionate about climate change engagement, Sarah is increasingly exploring innovative approaches to reaching audiences.
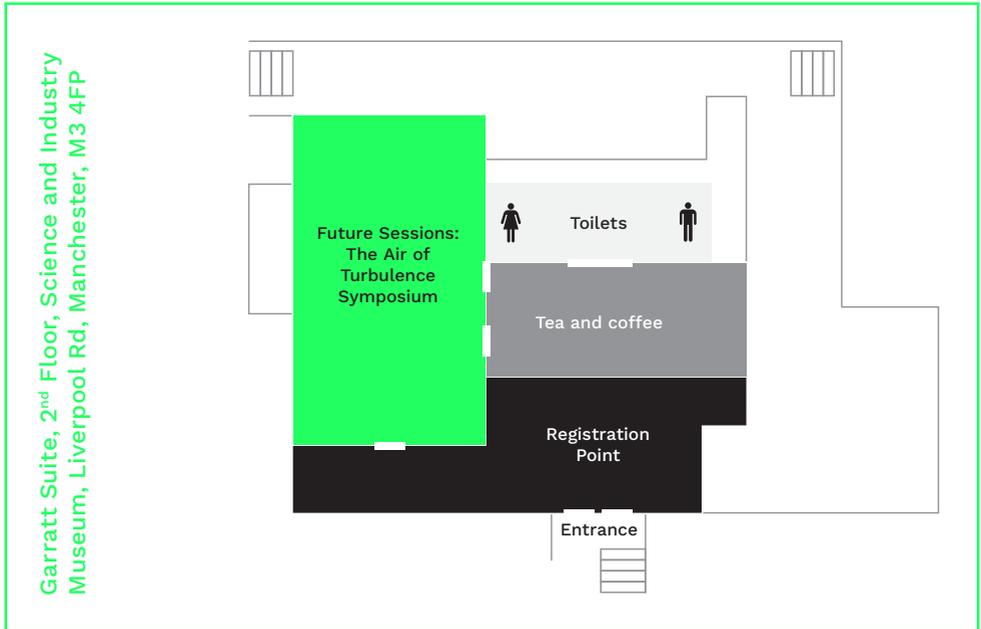

Joana Moll
Artist | @joana_moll

Joana Moll is an artist and researcher whose work critically explores the way post-capitalist narratives affect the alphabetisation of machines, humans and ecosystems. Her main research topics include Internet materiality, surveillance, social profiling and interfaces. She is the co-founder of the Critical Interface Politics Research Group at HANGAR (Barcelona) and co-founder of The Institute for the Advancement of Popular Automatisms.

Detailed speaker and artist biographies are available at **futuresessions.org**

Venue Map

Future Sessions: The Air of Turbulence Symposium

Toilets

Tea and coffee

Registration Point

Entrance

At-a-glance Schedule

9am | Registration and refreshments

9.30am | Welcome note
Irini Papadimitriou

9.50am | A Brief History of *Atmospheric Memory*
José Luis de Vicente

10am | Keynote: Rafael Lozano-Hemmer

11am | Panel: Digital Heritage and Future Voices
Speakers: Anna Ridler, Sam Burton, Dr David Jackson and Marcus Hadfield

12pm | Break

12.10pm | Participatory session: A critical exploration of voice technologies
Led by Elvia Vasconcelos

1.30pm | Lunch break

2.30pm | In Conversation: Unintended Consequences
With Katriona Beales and William Tunstall-Pedoe

3.30pm | Panel: Environmental Memory
Speakers: Dr Sarah Mander, Vladan Joler, José Luis de Vicente and Joana Moll

4.30pm | Closing note

5pm | Optional walking tour
(Pre-booking required)

Please note: timings may be subject to change.

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