



**School:** School of Fine Art.

**Researcher:** Mariele Neudecker

**Project Title:** CERN

**UOA:** 32

## Research Timeline

Date	Rationale of research activities and decisions undertaken
Spring 2014	Working with the Cabot Institute and Bristol University Physics Department on ideas towards a potential commission in both Bristol and Swansea Bay. Triggered by the latter and research into gravity, the tidal cycles and influence of the moon and the sun, I was on a mini residency with "Bristol Resilience Lab" that enabled me access to these laboratories. I developed keen interest in 'macro imaging' (microscopic images applied to the top of pin heads), 'data storage', and started looking at Bristol as a harbour city that has very particular circumstances and waterways.
June 2014	It did not take long to start learning about the magnetic adjustments in CERN that are needed to keep the Large Hadron Collider moving in a perfect circuit.
spring 2015	Invitation by founding director of the Arts at CERN program, Ariane Koek, to become a visiting guest-artists at CERN's art program, alongside the 'The European Organization for Nuclear Research', that operates the largest particle physics laboratory in the world.
Nov 2015	First trip to CERN with Ariane Koek. Meeting and interviewing eight theoretical or experimental Scientists, all interviews and sound-recorded. These records helped my understanding of the difference between theoretical and experimental scientists and brought out a lot of the history and current questions being asked in CERN. I am planning to use them as fragmented recordings in my currently edited film piece for the ALICE exhibition.
2016, 2019, 2020	Three more visits to research and find methods of working. 2016 was my first visit into the depth of the LHC at the CMS detector. [The events (an event is a collision with all its resulting particles) are studied using giant detectors that are able to reconstruct what happened during the collisions - and to keep up with the enormous

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collision rates. Detectors can be compared to huge three-dimensional digital cameras that can take up to 40 million snapshots (with digitised information from tens of millions of sensors) per second. The detectors are built in layers, and each layer has a different functionality. The inner ones are the least dense, while the outer ones are denser and more compact.] To physically see the machinery was an eye-opener to digital and analog information that was talked about in the interviews, where it became clearer that the scientific knowledge revealed what seemed to go on behind all the shielding and insulated material. The knowledge surrounding Quantum Physics seemed to be either metaphorical or graphic language. On three visits with Ben Jones, we were photographing and filming in the four experiments mentioned, above and below ground in the detectors of the LHC, most of the time with tracking shots.

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April 2019-  
October 2020

Research and develop methodology for production of a work, commissioned by the PRIMAT Foundation as the first piece for the CERN Art Collection. Title :

**Everything Happens Once** Overall duration variable, 14 tracking videos, randomly programmed, mixed media including 2 aluminium tracks and 2 monitors.

Will also be part of *Broken Symmetries/Quantum*, an international touring exhibition of CERN artists curated by Mónica Bello, Head of Arts at CERN

**EHO** took a long time to develop, as I was keen to have control over the different elements, but not over which shot or when it is actually seen by the viewer, as there never is any repetition or direct programming of **Everything Happens Once**. As the title suggests, this work functions by the random settings of the algorithms and is therefore 'deciding itself' what happens, and never repeats.

**Everything Happens Once** is destined for CERN Collection which is in the process of taking shape, a process that is slowed down by the pandemic. This new collection will not only have an exhibition space in CERN in future, but is also keen to exhibit the works nationally and internationally.

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Nov 2019

An *In Conversation* during my solo show, **SEDIMENT**, with Ariane Koek, LCGA, Limerick, Ireland. We talked about the exhibition, which brought up my research about CERN, ideas around technology and materials in Quantum Physics research.

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April 2020

Development and production of a piece for Instagram, initially for Galerie Barbara Thumm during April 2020 Pandemic Lockdown, **I Can't Remember When It Started** - It was important to visualize what I was working on with the physical piece for the CERN collection, but use the digital freedom and non-physicality of the virtual space.

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April 2020	Conversations with Greer Crawley about her writings for the publication <b>SEDIMENT</b> , currently designed and published in 2021. Greer Crawley is the editor of the book and her essay looks at the role of the window in my work, as well as it draws connections to my thinking in relation to Art and Physics. She works as teacher and researcher at Royal Holloway University London and Buckinghamshire New University)
October 2020 – February 2021	Inaugural exhibition of the CERN commission: <b>Everything Happens Once</b> , (2020) in <b>Broken Symmetries</b> , KUMU Tallinn, Art Museum of Estonia, 30/10/2020 – 21/02/2021 - including 11 works by 12 Cern guest artists. <a href="https://kumu.ekm.ee/en/syndmus/broken-symmetries/">https://kumu.ekm.ee/en/syndmus/broken-symmetries/</a>
Sept 2020	Making and installation of: <b>‘Unusual But Natural Strategy 1+2’</b> 2020 (two lightboxes with CERN stills) for the Centre of Gravity exhibition in Bristol (in old dept. store building, Gardiner Haskins) It made sense to align the nature of the abandoned department store with the often chaotic looking research that happens in the CLOUD experiment.
September - October 2020	Organising Art & Science discussion panel in connection with the <b>‘Centre of Gravity’</b> and the BSoA research cluster on the 23 <sup>rd</sup> October 2020 - It took several weeks to organise the participants for event. <a href="https://www.centreofgravity.uk/scienceandartsymposium">https://www.centreofgravity.uk/scienceandartsymposium</a> “Discussing questions around developments in the Arts and Sciences, historically and today. How and where do methods of working in both fields get understood and fit into our lives? Where do the ideas in Art and Science overlap and how does the importance of our imagination help us to describe and understand the world around us.” Panel: Bergit Arends (Curator of contemporary art and researcher, University of Bristol), Jasper Kirkby (CLOUD Experiment at CERN and Goethe University Frankfurt), Ariane Koek (Founder director of Arts at CERN, independent curator and writer, London), Mariele Neudecker, Artist & Bath School of Art, James Peto, New Collections Gallery Project, Director, Wellcome Collection, London Alice Sharp as chair (Art and Science organisation Invisible Dust London and Scarborough) <a href="https://www.centreofgravity.uk/marieleneudecker">https://www.centreofgravity.uk/marieleneudecker</a>
Jan-Dec2020	Research, Development and Making of the video work for the ALICE exhibition at the V&A. The work will have A.L.I.C.E. as part of its title. This new work will consist of footage taken in the A.L.I.C.E. detector in CERN, and the sounds and interviews collected since 2015 will provide material for the sound-track. The book <i>Alice in Quantum-land</i> by Robert Gilmore is additional influence. Editing in November- December 2020. For further input I watched Svankmejer’s Alice animation. Research is clarifying what and what not to do. This new work will attempt to bring out a connection between scale, the underground, the invisible both at CERN and <i>Alice in Wonderland</i> .

<p>delayed till March 2021</p>	<p><b>Alice: Curiouser and Curiouser, CERN   ALICE Detector</b>, making funded by V&amp;A, curated by Kate Bayley, London The exhibition explores Alice's Adventures in Wonderland's origins, adaptations and reinventions over the last 157 years, this immersive and theatrical show charts the evolution of Alice's adventures from manuscript to a global phenomenon beloved by all ages. The exhibition will end with my film connected to the ALICE detector as Alice in Quantum-land.</p>
<p>delayed till May 2021</p>	<p><b>Sediment</b>, Solo-exhibition, Hestercombe Gallery, postponed: May - October 2021 UK exhibition of the installation: <i><b>Everything Happens Once</b></i>, 2020</p>