

Forever-Do

Dr Jill Townsley

# Forever-Do

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# Project Description

Forever-Do is a multi-faceted research project involving an interactive game installation, a large-scale sculpture, digital video animations, and short documentary film. The project draws from Carl Adam Petri's research on data flow utilising net and mesh structures as conceptual tools for understanding 'big data'.

**Project Duration:**

2018-2020

**Funder:**

The project was funded by the European Commission through its JRC SciArt initiative. (The Joint Research Centre provides independent scientific advice and support to EU policy and its SciArt project integrates art in the JRC's multidisciplinary work on an equal footing.)

**Research Partners, consultants, collaborators:**

Carlo Ferigato, Joint Research Centre of the European Commission, Ispra, Italy (researcher in computer networks).

The project was additionally supported by the MC3 research group at the Milano-Bicocca University and Otolab, Milan.



# Research Aims & Objectives

## Research Aims:

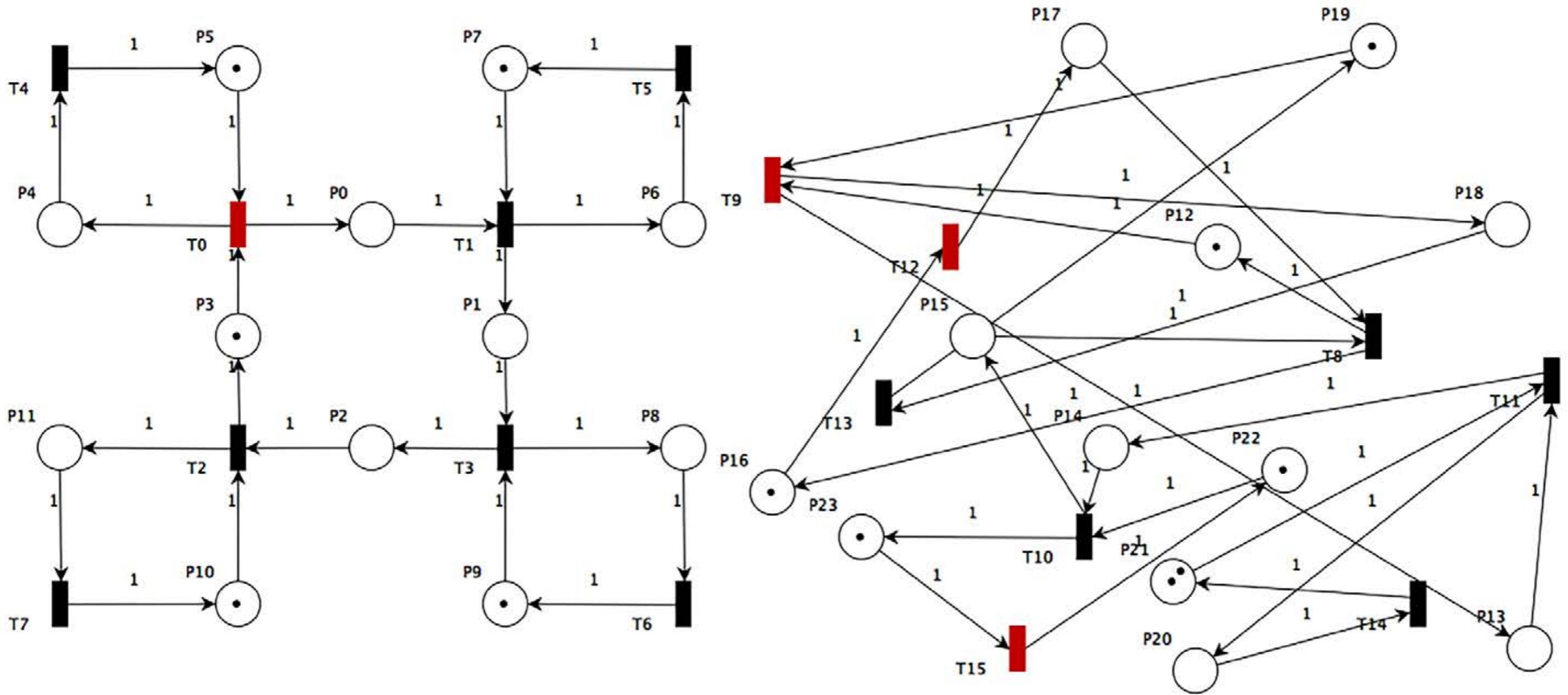
- To promote mutually supportive dialogue between scientific research and visual art research in the context of the SciArts Initiative of the European Commission;
- To collaborate with network data scientists to capture coherent patterns of data and represent them in visual artworks;
- To use sculptural processes to explore and visualise data sets generated by coordinated behaviours.

## Research Objectives:

- To utilise research into net and mesh structures as new conceptual tools for the public understanding of data science in the production of interactive and relational artworks, sculpture, and digital video animation;
- To utilise data acquired through mapping human interaction in relational artworks (games) as a procedural map or data system generator for the production of large-scale sculpture.



The FOREVER-DO Game, Townsley 2019



Scheduler Double - Ferigato and Townsley  
 PIPE drawing (PIPE is a specialist program for visualising system nets)

# Research Context

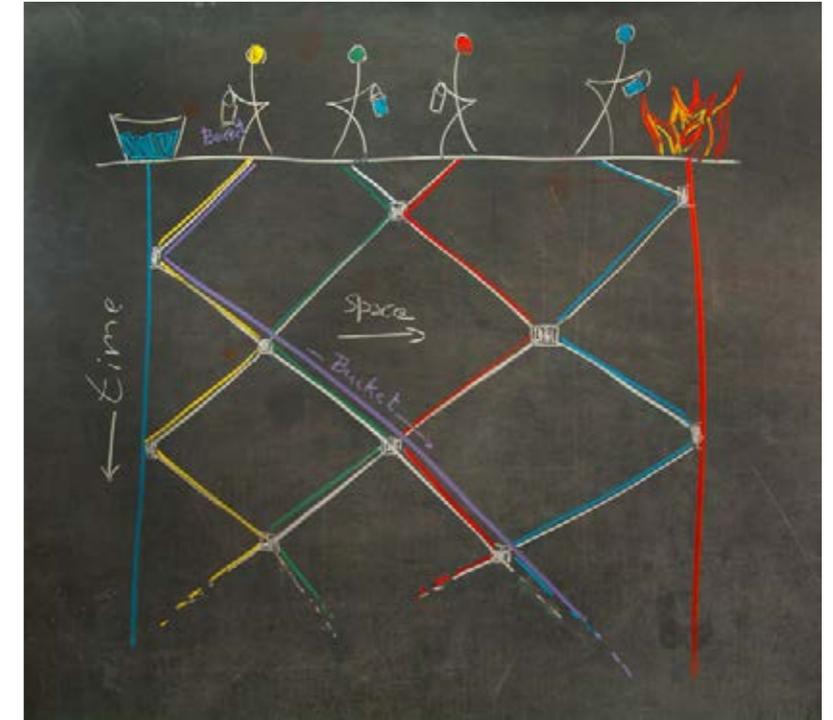
This project was developed in response to an international open call from the Joint Research Centre (JRC) of the European Commission for artists and scientists to form a collaborative partnership leading to an invitation to develop artwork for The Resonances Festival, 2019. The JRC employs scientists to carry out research to provide independent scientific advice and support to EU policy and in line with this mission the Resonances Festival brings together scientists, artists and policy makers to discuss matters of concern to the JRC and the European Commission but also more widely to society. It is the flagship programme of the Joint Research Centre's SciArt project, held every two years at the JRC in Ispra (Italy). Townsley was appointed as an 'artist expert' for the EU Commission in June 2018, and was artist-in-residence at the JRC during the first six months of 2019.

The Resonances III Festival & Exhibition (2019) explored the ramifications of our new digital life and specifically 'Big Data' under the title "DATAMI", posing dynamic, and philosophical questions as this extract from the call indicates:

"Where and how is Big Data transforming our society, our lives and even our very self for the better and the worse? Who are we going to be in the future when Big Data has enabled scientists, engineers, doctors, experts to transform our societies, our commons, our bodies, our work, our relations, our environment, the very fundamentals of our lives and ourselves?"

Nets are the link between the art and science used in the FOREVER-DO project. In theoretical computer science, nets are instruments for the analysis and design of systems, distributed in time and space. The strength of these nets is their explicit representation of fundamental situations of coordination and competition among a system's agents (agents can be computers and/or human beings). Nets were introduced as formal computer science tools by Carl Adam Petri in the 1970s and are today known as "Petri Nets". One of Petri's examples, the 'bucket chain', is a simple explanation of coordinated behaviour between firemen extinguishing a fire, carrying water from tank to fire using a chain of buckets.

Carlo Ferigato's blackboard drawing: expansion in the dimensions of time and space of the bucket chain.



FOREVER-DO explores the idea of "fishing" into data sets in order to extract coherent patterns of data and represent them as visual artworks. The bucket chain is the main source of inspiration for FOREVER-DO. It is generative of possible systems-based procedures for the process of art. There is a long tradition of rules-based art, particularly in the context of conceptual art practices in the 1960s and 70s such as, for example, Bruce Nauman ('Walking in an Exaggerated Manner Around the Perimeter of a Square', 1967-68) or Robert Morris ('Blind Time Drawings', 1973-2009). Within art history and critique primary consideration is given to the subject or object of art practice. Despite a move towards process or systems-based arts evident since the 1960s and 70s, the object and subject of art practice still holds the centre ground for critical discourse. But by thinking about art as a process or event, a societal and social place is offered for authorship and realisation. Not only the post-modern reform of authorship; deferred or shared, but authorship within the moment of a continuing process; the FOREVER-DO.

# Research Methods & Process



Collaborating in the context of the JRC with the data scientist Carlo Ferigato in response to the Big Data questions, Townsley began background research around the design of communication systems. Articulating their respective processes in a dialogue and exchange of creative thinking, they identified important key words such as: system, time, space, flow, coordinated behaviour, repetition, difference, unfolding, folding, selection and transfer. These key words offered a common language in which to articulate the possibilities of reading across our respective fields of research in order to develop an artwork that embodied and visualised research on coordination and communication. This led to the identification of fishing as a metaphor, fishing across disciplines into the sea of big data sets in order to extract coherent patterns and procedures, pertinent to Petri Net theory, that could be visualised through artworks.

The FOREVER-DO Game was developed by Townsley for Milan Digital Week as a socially relational public artwork or happening, in which people 'flow' around a physically networked space by following a set of instructions that sends participants on the path of a physical Petri Net. Big data operations functioning and controlled beyond everyday perception were visualised in analogue terms through the game, highlighting individual responsibility within the greater whole. Places of meeting within the game indicated by simple coloured mats are also nodes within a networked system. When individuals meet through random incidents a flow of data in the form of mass-produced wooden cutlery is either exchanged or offloaded onto the data pile. The piles of boxes record the incidents of two humans meeting and randomly possessing either a repeated object (deposited on the data pile) or a different object (exchanged to continue flowing through the network). This process presents, in a symbiotic relationship between scientific theory and art practice, a digital and analogue description of events through time and a visualisation of the scientific modelling that the Petri Net identifies, rationalising data flow and making visible the hidden nature of all data flowing within our big data systems.

The FOREVER-DO game, and diagrammatic representation of flow movements by participants.



The FOREVER-DO game, and diagrammatic representation of flow movements by participants.

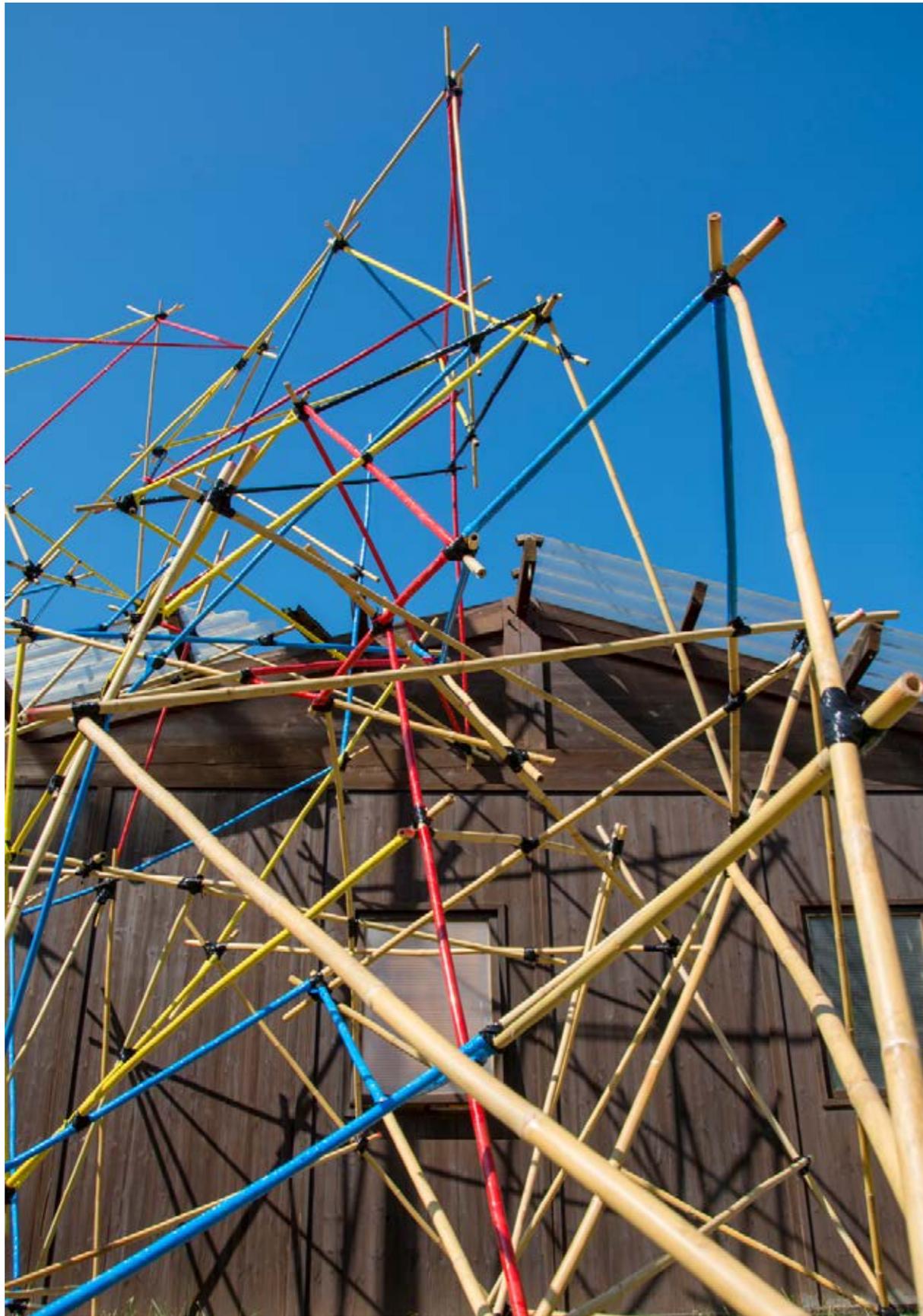
The game was extended for the Resonances Festival through Townsley's collaboration with the artist group Otolab. Intangible elements, held in the process of the game, such as the movement of the boxes, were made more visible by tracking the 'casual flow' of each box using Radio Frequency Identification (RFID).

This extended the reach of the game from its physical locality to a much larger web of connectivity, streamed on screens within the space of the game. Presented across these analogue and digital platforms, the game propels its human participants on a global journey that mirrors a 'casual flow' of data, making visible a physical link between human interaction and data flow.

The material configurations in the form of data, determined through the playing of the game was used to construct a new installation the FOREVER-DO Infestation. The consequences of individuals' participation, and the data gathered configured data into a new context as a site-specific sculpture, following the system rules of the bucket chain net in an entangled structure of meshes and knots. Colours flowing within the sculpture followed a path dictated by the binary code visible in the box piles, data that was left behind as a result of the relational interactions of participants in the game.



Digital RFID Tracking of the movements within the FOREVER-DO Game presented on 2 screens within the perimeters of the Game.



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### The FOREVER-DO Infestation

Sited at the Karl Friedrich Gauss Laboratory, the FOREVER-DO Infestation engulfed the laboratory with a physical structure whose conceptual origins represent the invisible flow of data between the tangible and intangible, and identifying the artwork with the laboratory as a space of creative experimentation. The Gauss laboratory was attributed the full title 'Institute for the Protection and Security of the Citizen, Test Facility for Humanitarian Demining Technology' in 1999, its now a decaying shed, the research unfunded by the EU Commission since 2006. It has however been deemed a site of extraordinary research into landmine detection. By placing the sculpture at this site, and utilising theoretical concepts of data flow to inform the work. The FOREVER-DO Infestation marks itself and the laboratory as a place for 'Dolce Utopia' (Catalan in Bourriaud 1998), "temporal spaces which permit for a while experimentation". In so doing the artwork in combination with the story of the Gauss laboratory's important research endeavor, highlights the temporal location of art and science in a flow of data and time.



4.

1. The Carl Fredrick Gauss Laboratory signage, JRC, Italy.

2. Looking into the FOREVER-DO Infestation, Townsley 2019.

3. & 4. The FOREVER-DO Infestation on the ground and by drone.

# Research Outcomes & Dissemination

Participation in and presentation at the JRC Resonances summer school for artists and scientists, Ispra, Italy, on 25 - 29 June 2018. (Townshley was appointed as an 'artist expert' for the EU Commission in June 2018, and was artist-in-residence at the JRC during the first 6 months of 2019.)

The FOREVER-DO Game was installed at Milan Digital Week, Palazzo Giureconsulti, Milan, Italy 13-17 March 2019.  
<https://www.milanodigitalweek.com/en/>

A second, more advanced, iteration of the FOREVER-DO Game, incorporating tracking and mapping technologies, together with a related three-channel video animation, will be installed at the JRC Resonances III 'Big Data' Festival, Ispra, Italy, 14 - 18 October 2019. Image documentation here:  
<https://resonances.jrc.ec.europa.eu/blog/forever-do-game-images>

Book chapter 1, "The FOREVER-DO Game: A big data fishing expedition", jointly authored by Townshley and Carlo Ferigato, (p.83-102) in: Earnshaw R.A. Liggett S. Excell P.S. and Thalmann D (eds) "Technology, Design and the Arts - Challenges and Opportunities", Springer, Cham, Switzerland, 2020. ISBN 978-3-030-42096-3. Web site:  
<https://link.springer.com/book/10.1007%2F978-3-030-42097-0>

Book chapter 2, "The Forever-Do" in Resonances III: DATAMI" Publications Office of the European Commission (draft publication 2019) final publication pending - April 2020, EN Book-ISBN:978-92-76-10370-7, EN Pdf-ISBN 978-92-76-10369-1 p381 - p340.

Large scale sculptural installation exhibited at the JRC Resonances III 'Big Data' Festival, Ispra, Italy, 14 October 2019 - 11 November 2019. Image documentation here:  
<https://resonances.jrc.ec.europa.eu/blog/images-forever-do-installation-gauss-laboratory>  
and video here: <https://vimeo.com/379581373>

The FOREVER-DO Infestation and Game were represented in a video wall installation exhibited at 'Datami: Resonances III' at BOZARLAB, Brussels, Belgium 11 December 2019 - 19 January 2020.  
<https://www.bozar.be/en/activities/160618-datami>

Participation in the opening and closing conferences for the 'Datami: Resonances III' exhibition at BOZARLAB, Brussels, Belgium.

The entire project is documented on the JRC Festival website here:  
<https://resonances.jrc.ec.europa.eu/documents/forever-do-project-collaboration>  
This lasting document of the game and its event links it to the research background of Petri Net systems, history and future applications.

New Documentary video of the two Forever-Do installations was presented live at the online edition of Milan Digital week 2020, with live discussion with Jill Townshley (DATAMI Artist) - Carlo Ferigato (JRC) for the Event BLUMINE Featuring JRC's Resonances III Datami. Presented 26 May 2020 Recorded contributions Jutta Thielendel Pozo (JRC), Adriaan Eeckels (JRC), Moderator Giannino Malossi - Blumine R&D, Curator Freddy Paul Grunert - DATAMI Curator:  
<https://milanodigitalweek.com/blumine-featuring-jrcs-resonances-iii-datami>



RESONANCES III  
**DATAMI**  
MILANO DIGITAL WEEK  
PUBLIC PROGRAMME of LIVE EVENTS  
26 MAY 2020 11 am - 11.30 am

**Live guests**  
**Jill Townsley** DATAMI Artist  
**Carlo Ferigato** European Commission,  
Joint Research Centre

Moderator **Giannino Malossi** Blumine R&D  
Curator **Freddy Paul Grunert** DATAMI Curator

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# References

Carl Adam Petri, Communication disciplines, in: B. Shaw (editor), Computing System Design: Proceedings of the Joint IBM - University of Newcastle upon Tyne Seminar, September 1976, pages 171-183. University of Newcastle upon Tyne, 1977.

Nicolas Bourriaud, Relational aesthetics, Les Presses Du Reel, 1998.

Boris Groys, In the Flow, Verso Books, 2018.

Jen Harvie, Fair Play: Art, Performance, and Neoliberalism, Basingstoke, Palgrave Macmillan, 2013.

Description of the EU Science Hub and the European commission's JRC: <https://ec.europa.eu/jrc/en/about/jrc-in-brief>

The call for artists to collaborate in the JRC Resonances III 'big data' festival, including selection criteria: <https://ec.europa.eu/jrc/en/event/other-event/resonances-summer-school-big-data>

TheUSMA (Università degli Studi della Repubblica di San Marino) radio broadcast in which Jill Townsley describes her work: [https://www.spreaker.com/user/usma\\_radio/jill-townsley](https://www.spreaker.com/user/usma_radio/jill-townsley)

**Output Type:**

Original artistic works, creative body of enquiry, contribution to collaborative group exhibitions, solo exhibitions, textual, visual, or aural content encountered as part of the user experience on websites, chapters in edited books, conference contribution